APRIL 2019
VOLUME 1

CITY OF COVINA

Covina Town Center

Draft Environmental Impact Report

Prepared for:

City of Covina

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City of Covina Draft EIR for the Covina Town Center Specific Plan Update

Draft Environmental Impact Report

SCH 2018081009
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City of Covina

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Draft Environmental Impact Report Page

Appendices

1.0 Introduction

The City of Covina (Lead Agency) is preparing the Covina Town Center Specific Plan Update (Project) to guide the long-term growth and development of the City's "Downtown" district (Planning Area). The proposed Specific Plan Update constitutes a "project" that is subject to review under the California Environmental Quality Act (CEQA) (California Public Resources Code, Division 13, Section 21000, et seq.), and the State CEQA Guidelines (Title 14 of the California Code of Regulations, Division 6, Chapter 3, Section 15000, et seq.). The City, as the Lead Agency, has already determined that an Environmental Impact Report (EIR) is clearly required for the proposed Project. Therefore, in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15060(d) (Preliminary Review), the City did not prepare an Initial Study for the Project.

An EIR is a public document designed to:

- provide decision makers and the public with an analysis of the environmental effects of a proposed project,
- indicate possible ways to reduce or avoid environmental damage, and
- identify alternatives to a project.

This EIR has been prepared to assess the short-term, long-term, and cumulative environmental impacts that could result from the long-term implementation of the proposed Specific Plan Update. Furthermore, this EIR has been prepared in accordance with the CEQA statutes and Guidelines and was prepared by professional planning consultants under contract to the City of Covina. The content of this document reflects the independent judgment of the City of Covina.

The controlling law is CEQA, which was originally enacted in 1970 and has been amended a number of times since then. The legislative intent of these regulations is established in Section 21000 of the California Public Resources Code:

> The Legislature finds and declares as follows:
>
> a) The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern.
> b) It is necessary to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man.
> c) There is a need to understand the relationship between the maintenance of high-quality ecological systems and the general welfare of the people of the state, including their enjoyment of the natural resources of the state.
> d) The capacity of the environment is limited, and it is the intent of the Legislature that the government of the state take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached.
> e) Every citizen has a responsibility to contribute to the preservation and enhancement of the environment.
> f) The interrelationship of policies and practices in the management of natural resources and waste disposal requires systematic and concerted efforts by public

and private interests to enhance environmental quality and to control environmental pollution.

g) It is the intent of the Legislature that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian.

Furthermore, Section 21001 states that the Legislature further finds and declares that it is policy of the State to:

a) Develop and maintain a high-quality environment now and in the future, and take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state.

b) Take all action necessary to provide the people of the state with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise.

c) Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of major periods of California history.

d) Ensure that the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian, shall be the guiding criterion in public decisions.

e) Create and maintain conditions under which man and nature can exist in productive harmony to fulfill the social and economic requirements of present and future generations.

f) Require governmental agencies at all levels to develop standards and procedures necessary to protect environmental quality.

g) Require governmental agencies at all levels to consider qualitative factors as well as economic and technical factors and long-term benefits and costs, in addition to short-term benefits and costs and to consider alternatives to proposed actions affecting the environment.

A concise statement of legislative policy, with respect to public agency consideration of projects for some form of approval, is found in Section 21002 of the Public Resources Code, quoted below.

The Legislature finds and declares that it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects. The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual project may be approved in spite of one or more significant effects thereof. This EIR was prepared in accordance with the applicable CEQA Statutes.

1.1 PURPOSE AND TYPE OF EIR

The purpose of an EIR, under the provisions of CEQA, is "to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." (Public Resources Code Section 21002.1[a])

The proposed Specific Plan Update is a long-term planning program to guide growth and development within the Planning Area. It is intended to communicate the City's vision of the future for the Planning Area and to establish design guidelines and policy framework. The Plan would govern decision-making concerning the physical development of the Planning Area including assurances that the community at large would be supported by an adequate range of public services and infrastructure systems.

The Specific Plan would not authorize any specific development project or other form of land use approval or any kind of public facilities or capital facilities expenditures or improvements. As such, a Program EIR is the appropriate type of document to identify the geographic extent of sensitive resources and hazards, along with existing and planned services and infrastructure support systems that occur in the Planning Area. Further, the Program EIR is described in Section 15168 of the CEQA Guidelines as the appropriate analytical framework to assess the cumulative environmental effects of the full plan, in a first tier level of analysis, to identify broad concerns and sets of impacts, and to define/develop regulatory standards and programmatic procedures that reduce impacts and help achieve environmental goals and objectives.

Later activities proposed pursuant to the Specific Plan would be reviewed in light of this EIR and may focus on those site-specific and localized environmental issues that could not be examined in sufficient detail as part of this EIR. If a subsequent project or later activity would have effects that were not examined in the certified Program EIR, or not examined at an appropriate level of detail to be used for the later activity, an Initial Study would need to be prepared, leading to a Negative Declaration or an EIR. If the Lead Agency (the City of Covina) finds that, pursuant to Section 15152 (Tiering) of the CEQA Guidelines, no new effects could occur or no new mitigation measures would be required on a subsequent project, the Lead Agency can approve the activity as being within the scope of the project covered by a certified Program EIR, and no new environmental documentation would be required.

This EIR serves as an information document for use by public agencies, the general public, and decision makers. This EIR is not a City of Covina policy document. It does, however, discuss the impacts of development pursuant to the Covina Town Center Specific Plan Update, and analyzes project alternatives. This Program EIR will be used by the City of Covina City Council in assessing impacts prior to consideration and possible adoption of the Specific Plan.

1.2 ORGANIZATION OF THE EIR

The EIR contains the primary analysis of potential environmental impacts discussed in the following nine sections:

Section 1 Introduction
Section 2 Executive Summary
Section 3 Project Description
Section 4 Environmental Impact Analysis
Section 5 Alternatives to the Proposed Project
Section 6 CEQA Mandated Sections

Section 7 Preparation Team

Appendices are also provided which include the Notice of Preparation as well as several technical reports and data used in the analysis of potential environmental impacts.

In compliance with Public Resources Code Section 21081.6, a mitigation monitoring reporting program (MMRP) will be prepared as a separately bound document that will be considered in conjunction with the certification of the Final EIR. The MMRP, responses to public comments, any revisions to the Draft EIR, and findings will be identified as Volume 3.

1.3 APPROACH TO EIR ANALYSIS

This EIR's approach is programmatic in nature given the geographic scope and timeframe of the proposed Specific Plan. Each environmental issue is analyzed in the same manner, starting with a discussion of the existing environmental setting (physical conditions and pertinent planning and regulatory framework). Thresholds of significance are defined and are used to measure the proposed Specific Plan's potential impact to the environment. Thresholds of significance are based on a broad list of questions and impact topics set forth in Appendix G of the State CEQA Guidelines. The impact analysis, including cumulative impacts, examines potential environmental impacts for future development within the Planning Area and the consideration of those impacts over the long-term development of the Planning Area. Although current regional and national vehicle miles traveled data shows a flattened trend, the City requested a conservative annual increase that will account for future unknowns. A cumulative projects list was not utilized while assessing cumulative impacts from future projects in the vicinity of the Planning Area. This is because it is not possible to know all projects that would occur within or outside the Planning Area over the twenty year life of the Plan. As such, future buildout conditions were analyzed assuming a 1 percent annual increase in existing traffic volumes. The 1 percent annual increase in existing traffic volumes represents an increase in all traffic volumes in the study area over the life of the Plan. An annual increase of 1 percent in all study area traffic volumes over the life of the Plan represents a greater increase in cumulative traffic volumes than would be expected from specific cumulative projects in a given year. Since it is not possible to know all projects that would occur over the twenty year life of the Plan, this method represents a conservative approach to assessing cumulative growth.

1.3.1 Program- and Project-Level Analysis

Using the CEQA-provided exemption and streamlining tools, future development proposals within the Planning Area may not require additional environmental review assuming the future proposed project is consistent with the Specific Plan. For those projects that would not qualify for exemptions or streamlining, some level of future environmental review would be required. This EIR is a Program EIR as defined in the Guidelines Section 15168. Section 15168 et seq. of the State CEQA Guidelines describes a Program EIR as "… an EIR which may be prepared on a series of actions that can be characterized as one large project and are related … as logical parts in the chain of contemplated actions … [where] subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared." Analysis of the Specific Plan at the program level was conducted as described in Section 15146(b) of the State CEQA Guidelines.

An EIR on a project such as the adoption of an amendment to a comprehensive zoning ordinance or local general plan should focus on the secondary effects that can be expected to follow from the adoption, or amendment, but the EIR need not be detailed as an EIR on the

specific construction projects that might follow. Those environmental issues that can be examined in enough detail at the program level would allow for tiering in the future environmental review of projects in the Planning Area. Those environmental issues that cannot be evaluated at the program level would need to be evaluated on a project-by-project basis.

1.4 GREENHOUSE GAS EMISSIONS

The greenhouse gas emissions analysis and supporting technical data in this EIR meet the requirements of Guidelines Section 15183.5 allowing for the tiering and streamlining of greenhouse gas emissions analysis in future projects within the Planning Area.

1.5 SCOPING AND PUBLIC REVIEW

1.5.1 Scoping Meeting

A scoping meeting was held on August 14, 2018 at Covina City Hall to receive agency and public input regarding the content of this Draft EIR. Pursuant to CEQA Guidelines Sections 15082 (c) and 15083, the scoping meeting helps to consult directly with agencies and the community regarding concerns related to the environmental effects of the proposed project. Notice of the scoping meeting was published the Covina City News. Four individuals attended the meeting and commented on the project at this scoping meeting. Notes were taken to record attendee questions and comments. Table 1-1 (Scoping Meeting Comments) summarizes the comments received at the meeting.

Table 1-1
Scoping Meeting Comments

Environmental Topic	Issue
Land Use	Proposed uses noted in the Covina Town Center Specific Plan Update.
Land Use	Residents concerned about changes in uses in the proposed Front Street/TOD/F.A.I.R. zone.[1]
Land Use	Residents concern about existing uses remaining in place in the proposed Front Street/TOD/F.A.I.R. zone.
Land Use	Planning Commissioners asked for clarification on compatibility of uses proposed in the Front Street/TOD/F.A.I.R. zone.
Land Use	Residents question what will happen with existing businesses in the proposed Front Street/TOD/F.A.I. R. zone.

1.5.2 Notice or Preparation

The City of Covina distributed a Notice of Preparation (NOP) on August 1, 2018 to surrounding cities, Los Angeles County, other public agencies and interested private organizations and individuals and the State Clearinghouse for distribution to State agencies. The purpose of the NOP was to identify agency and public concerns regarding potential impacts of the proposed project and to request suggestions concerning ways to avoid significant impacts (Section 15082, CEQA Guidelines). As previously mentioned, the City has already determined that an Environmental Impact Report (EIR) is clearly required for the proposed Project. Therefore, in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15060(d) (Preliminary Review), the City did not prepare an Initial Study for the Project. Copies of the NOP and associated distribution list, and written comments received during the public review period

[1] Acronyms are Transit Oriented Development (TOD) and Food, Art, Industrial, Residential (F.A.I.R.).

for the NOP are included in Appendix A of this EIR. Five comment letters were submitted in response to the NOP and have been summarized in Table 1-2 (NOP Comments).

Table 1-2
NOP Comments

Commenter	Summary
Los Angeles County Metropolitan Transportation Authority ("Metro")	• References the "Metro Adjacent Development Handbook which provides an overview of common concerns for development adjacent to Metro right-of-way. • Strongly recommend that the City use the "transit-supportive planning Toolkit. • Recommend that the Specific Plan Update include language that requires future developers to coordinate with Metrolink for projects in close proximity to the station and/or right-of-way.
Native American Heritage Commission	Notes that the Project is subject to the requirements of SB 18 and AB 52 will respect to Native American Tribal Consultation and further outlines the requirements for such consultation.
Southern California Regional Rail Authority (Metrolink)	• Expressed support for the Project for promoting transit-oriented development, increasing rail ridership opportunities, and revitalizing Covina's downtown area. • Noted that 38 Metrolink Commuter trains serve the Covina station during weekdays. • Requested that the Project Description include the Metrolink San Bernardino commuter rail line as a mode of regional access. • Suggested that noise mitigation could include petitioning the Federal Railroad Administration (FRA) to apply for quiet zone status. • Mentioned the need for safe access to the Metrolink Station and that new developments along the rail line must preclude trespassing with the rail corridor.
California Public Utilities Commission (PUC)	• Notes that the CPUC has jurisdiction over rail crossings in California and is responsible for ensuring crossing area safely designed, constructed, and maintained. • Notes that any development adjacent to or near the railroad or light rail transit right-of-way should be planned with the safety of the rail corridor in mind. • Notes that traffic impact studies should analyze rail crossing safety and potential mitigation measures. • Notes safety improvement measures may include the planning for grade separations or improvement measures may include the planning for grade separations or improvements to existing at-grade crossings. • Examples of improvements may include, but are not limited to: addition or upgrade of crossing warning devices, detectable warning surfaces and edge lines on sidewalks, and pedestrian channelization. • Notes pedestrian and bicycle routes should be designed to clearly prohibit and discourage unauthorized access (trespassing) onto the tracks, except at authorized crossings. • Notes modifications to existing public crossings require authorization from the Commission, and requests consultation.
Gabrieleno Band of Mission	• Provides a written request for consultation pursuant to Public

Commenter	Summary
Indians, Kizh Nation	Resources Code §21080.3.1(d). • Notes the Project/Planning Area lies within the Tribe's ancestral territory, meaning belonging to or inherited from, which is a higher degree of kinship than traditional or cultural affiliation. • Notes that the NAHC, ethnographers, historians, and professional archaeologists can only provide limited information that has been previously about California native tribes. • Requests consultation with City Staff to avoid adverse effects to tribal cultural resources and to provide City Staff with a more complete understanding of the prehistoric use(s) of the project area and the potential risks for causing a substantial adverse change to the significance of the Tribe's cultural resources. • Provides recommended mitigation measures for incorporation.

1.6 NOTICE OF COMPLETION AND PUBLIC REVIEW OF THE DRAFT EIR

Pursuant to Section 15085 of the State CEQA Guidelines, a Notice of Completion (NOC) was filed with the State Office of Planning and Research (OPR) on August 19, 2019, and the Draft EIR (DEIR) circulated for public and agency review for a period of 45 days. Printed copies of the DEIR were posted at the City of Covina and Covina Public Library. Electronic copies of the DEIR were sent to responsible agencies, local agencies, and concerned agencies and individuals, as requested.

1.7 RESPONSE TO COMMENTS ON DEIR

Comments from all agencies and individuals are invited regarding the information contained in the DEIR. Such comments should explain any perceived deficiencies in the assessment of impacts and identify the information that is purportedly lacking in the DEIR or indicate where the information may be found. All comments on the DEIR are to be submitted to:

Nancy Fong, Planning Consultant
City of Covina
Planning Department
125 East College Street
Covina, California 91723
nfong@covinaca.gov

Following a 45-day period of circulation and review of the DEIR, all comments and the responses to the comments shall be incorporated into a Final EIR prior to certification of the document by the City of Covina.

1.8 AVAILABILITY OF EIR MATERIALS

All materials related to the preparation of this EIR are available for public review at the following locations:

City of Covina
Planning Department
125 East College Street
Covina, California 91723

City of Covina
Covina Public Library
140 Covina Avenue
Covina, California 91741

1.9 CITATION

Preparation of this EIR relied on information from many sources including the appendices materials previously listed and numerous other references. Pursuant to Section 15148 of the State CEQA Guidelines, citations from the appendix materials and other sources are provided throughout the EIR. Citations listed in Section 9.0 References, at the end of this EIR. Resources are referenced in the following manner:

Government Resources
Agency. Document Title. Prepared by [Author]. Publication City: Publisher, Publication year.

State Laws
"Title of Act/Bill/Etc" (AB/SB #, Approval Date), Code Reference, P. ##.

Books and Technical Reports
Author. Agency. Department. Document Title. Publication Date

Internet Resources
Author. Agency. Department. Webpage Title, Access Date. Web Address

Persons Consulted
Name. Agency. Department. "Personal Communication". Date Consulted

2.0 EXECUTIVE SUMMARY

This chapter provides a summary description of the Covina Town Center Specific Plan Update, a list of associated environmental issues to be resolved, a summary identification of significant impacts and mitigation measures associated with the Specific Plan, and a summary identification of possible alternatives to the Specific Plan (pursuant to CEQA Guidelines section 15123, Summary). This summary should not be relied upon for a thorough understanding of the details of the project, its individual impacts, and related mitigation needs. Please refer to Chapter 3 for a complete description of the project, and Chapters 4.1 through 4.17 for complete descriptions of environmental impacts and associated mitigation measures.

2.1 PROJECT LOCATION

The City of Covina is in the San Gabriel Valley region of Los Angeles County, approximately 22 miles east of downtown Los Angeles. The Town Center Specific Plan area ("Planning Area") is in the central portion of the City, in the City's "Downtown" district, which is an area with well-established neighborhoods, a charming downtown, and access to the nearby Covina Metrolink station. The Plan Area is irregularly shaped and generally bounded by Barranca Avenue and 1st Avenue to the east, 4th Avenue and Valencia Place to the west, the alley south of Center Street to the south, and one to three parcels deep north of the rail tracks (north of Front Street) on the north. Exhibit 2-1 shows the location and boundaries of the Planning Area.

2.2 PROJECT SUMMARY

The Covina Town Center Specific Plan Update (also referred to as "Project") identifies the long-term vision and objectives for private development and public improvements within the boundaries of the Project (Planning Area). The Specific Plan Update establishes land use, transportation, infrastructure, and urban design strategies to promote transit-oriented development, provide increased opportunities for rail ridership, improve first/last mile opportunities, and revitalize and reinvigorate Covina's town center. The Specific Plan Update provides new development standards and incentives for high density/transit-oriented housing, and for the redevelopment/rehabilitation of existing structures, particularly regarding underutilized buildings and properties. Streetscape featuring pedestrian and bicycle enhancements will link the Metrolink station to Covina's historic shopping district, the local hospital/medical area, and the envisioned "maker district" known as the F.A.I.R (Food, Arts, Industrial, Residential) district. These will further the vision of the Project.

The Town Center Specific Plan Update establishes a new boundary for the Plan Area, adding both sides of the residential Center Street, and expanding the northeastern boundary to include the Metrolink adjacent Kelby Park and the vacant Vita Park site. The proposed increased Plan Area is 236 gross acres (an increase of 66 gross acres). Exhibit 2-2 shows the territory added as part of the Specific Plan Update.

The City GIS estimated that there are 487 housing units and 1.89 million square feet of nonresidential uses within the proposed Project boundaries. The City's population was approximately 47,800 persons in 2010 (US Census). According to Southern California Association of Governments (SCAG), the City's population is projected to grow to 51,600 persons by 2040, representing a 7.9% increase over the 30-year period from 2010 to 2040.

Based on (1) the SCAG projections, (2) the Specific Plan's proposed components, (3) an analysis of existing underutilized sites that are likely to be redeveloped, and (4) the Specific Plan's market analysis, a projected capacity has been determined through the 2040 horizon year. The City estimates that the Specific Plan will support total gross development of a little over 2.3 million square feet of retail, office, industrial, and public facility building space and 746 units through 2040, or a total net increase of approximately 448,800 square feet of non-residential uses and 259 residential units.

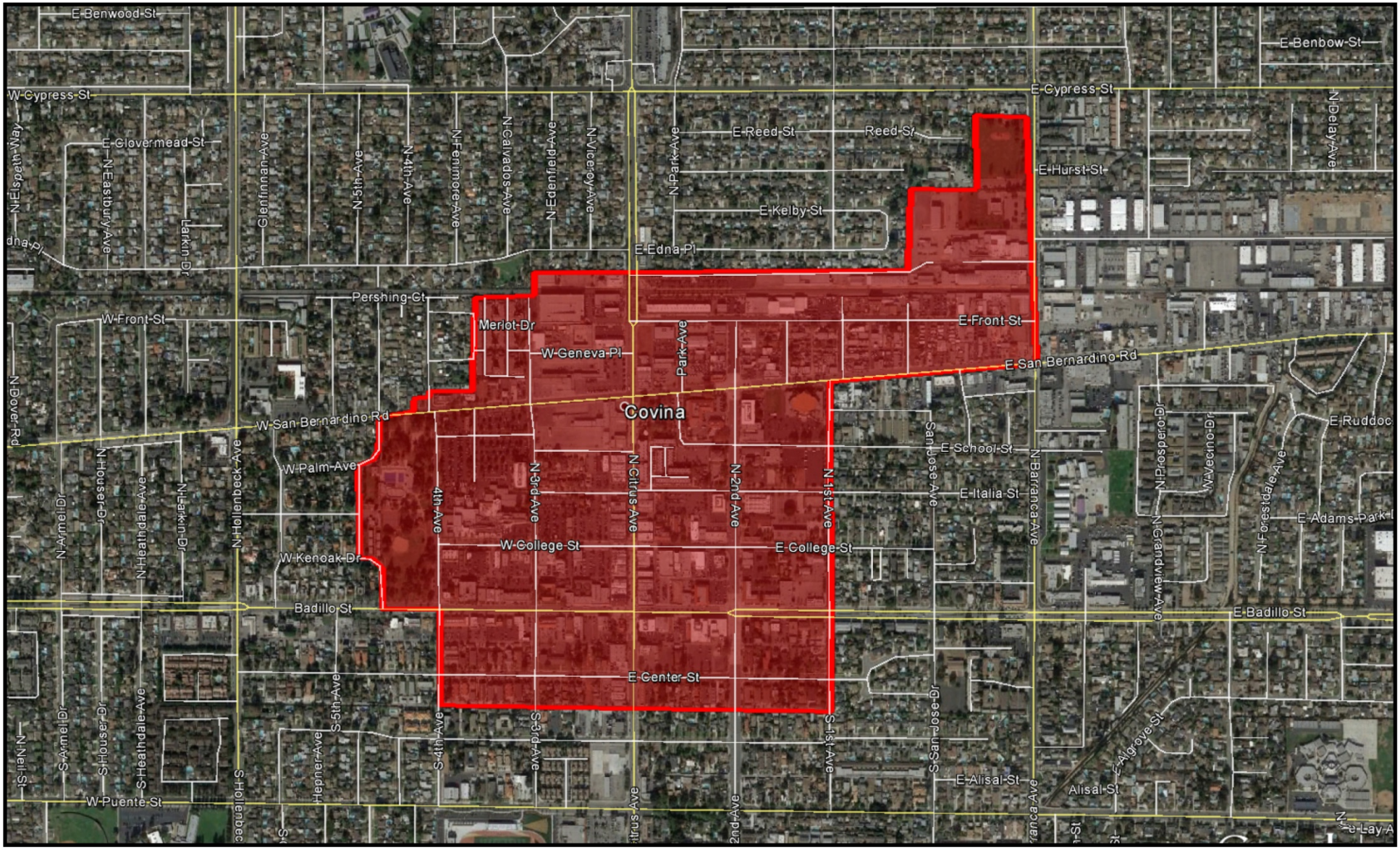

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Exhibit 2-1 Planning Area Map

Covina Town Center Specific Plan Update
Covina, California

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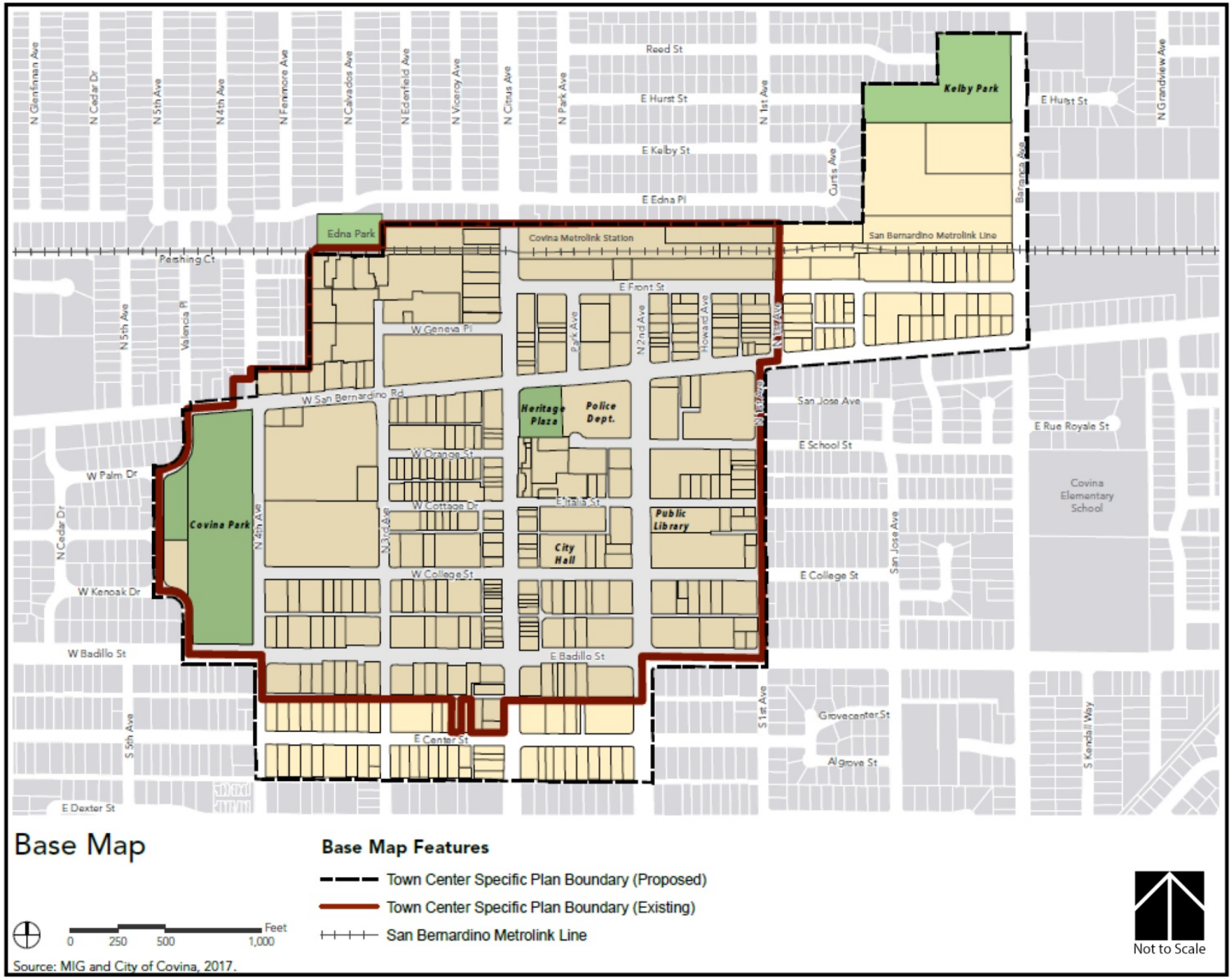

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Exhibit 2-2 Specific Plan Update Area

Covina Town Center Specific Plan Update
Covina, California

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Table 2-1 (Project Development Capacity (2018-2040) Town Center Specific Plan Update) summarizes the Specific Plan's estimated development under realistic conditions. It should be noted that Specific Plan development potential estimates are subject to change as the Specific Plan is refined through the public review process.

Table 2-1:
Projected Development Capacity (2018-2040) Town Center Specific Plan Update

	Non-Residential Area (SF)	Employees	Dwelling Units	Population
Existing	1,898,870	3,480	487	1,392
Additional (Net New) Capacity by 2040	448,800	866	259	745
Total Development Potential by 2040	*2,347,670*	*4,346*	*746*	*2,137*
Source: City of Covina and MIG, 2018				

The development capacity forecast encompasses the entire Specific Plan area because no site-specific, individual development proposals will be approved as part of the Specific Plan update. Any such individual project would be subject to its own CEQA review and will be evaluated in accordance with Section 151153 (Tiering) of the CEQA Guidelines to determine whether potential project impacts were addressed by this EIR.

2.3 REQUIRED APPROVALS

Implementation of the Covina Town Center Specific Plan would require, but is not limited to, the following discretionary approvals by the City of Covina:

- Certification of the Final Environmental Impact Report
- Adoption of a Mitigation Monitoring and Reporting Program
- Adoption of the updated Covina Town Center Specific Plan
- Adoption of General Plan amendments and zoning changes necessary to ensure consistency between the Covina Town Center Specific Plan and the City of Covina General Plan
- Discretionary review as necessary, including CEQA review, for future individual public and private development proposals in the Plan Area

Other Government Agency Approvals

Future individual public and private development proposals in the Specific Plan area would be expected to also require review or approvals from other jurisdictional agencies, including, but not limited to:

- South Coast Air Quality Management District (SCAQMD)
- California Department of Transportation (Caltrans)
- Los Angeles Regional Water Quality Control Board (RWQCB)
- Southern California Regional Rail Authority (SCRRA) (coordination/encroachment permits)

2.4 ENVIRONMENTAL IMPACTS

As required by the CEQA Guidelines, this EIR addresses the following areas of potential environmental impact or controversy known to the Lead Agency (the City of Covina), including those issues and concerns identified by the City in its Notice of Preparation (NOP) of this EIR (dated August 1, 2018) and by other agencies, organizations, and individuals in response to the NOP. These environmental concerns relate to the following topics (listed in the order that they are addressed in this EIR):

- Air Quality
- Cultural and Historic Resources and Tribal Cultural Resources
- Greenhouse Gas Emissions and Global Climate Change
- Land Use and Planning
- Noise
- Population and Housing
- Transportation and Circulation

Summary of Significant Impacts and Mitigation Measures

The Draft EIR is a comprehensive EIR and covers all of the following topics:

- Aesthetics and Visual Resources
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions and Global Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service System

For each of the 17 environmental topics listed above, any ***"significant"*** project or cumulative impact and associated mitigation measure or measures identified in this EIR are summarized in Table 2-2, Summary of Potentially Significant Impacts and Recommended Mitigation Measures, which follows. The summary chart has been organized to correspond with the more detailed impact and mitigation discussions in chapters 4.1 through 4.17 of this EIR. The chart is arranged in 4 columns: 1) impacts, 2) significance without mitigation, 3) mitigation measures, and 4) the level of impact significance after implementation of the mitigation measure(s). In addition, potential impacts which cannot be mitigated and that are significant, adverse and unavoidable are also listed.

The specific issues areas where mitigation measures are required include:

- Biological Resources
- Cultural and Tribal Cultural Resources
- Air Quality
- Greenhouse Gas Emissions
- Noise

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Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
AIR QUALITY			
Consistency with SCAQMD AQMP. Without mitigation, NO_X emissions at buildout of the Specific Plan could exceed the SCAQMD's regional significance thresholds and, therefore, have the potential to cause or contribute to new or more frequent exceedances of national and state ozone standards. This is considered a potentially significant impact.	S	**Mitigation Measure AIR-2A**: The following Residential and Non-Residential Voluntary Measures from the CalGreen Code (Appendix A4) shall apply to new residential (or residential mixed use) development projects located in the Covina Town Center Specific Plan: • New one and two-family dwellings and townhomes shall include electric vehicle infrastructure consistent with Section A4.106.8.1 of the CalGreen Code. • New multifamily dwellings with 17 or more units shall provide electric vehicle charging spaces capable of supporting electric vehicle supply equipment pursuant to Section A4.106.8.2. • New multifamily dwelling units shall provide bicycle parking pursuant to Section A4.106.9.2. **Mitigation Measure AIR-2B**: The following Non-Residential Voluntary Measures from the CalGreen Code (Appendix A5) shall apply to new non-residential (or mixed use) development projects located in the Covina Town Center Specific Plan: • New non-residential development with more than 10 tenant-occupants shall provide changing/shower facilities for tenant-occupants in accordance with Table A5.106.4.3 of the CalGreen code. • New non-residential development shall provide designated parking for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles pursuant to the Tier 1 requirements of Table A5.106.5.1.1 of the CalGreen code. Such	SU

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		parking spaces shall be marked pursuant to Section A5.106.5.1.3 of the CalGreen code. • New non-residential development shall provide electric vehicle charging spaces capable of supporting electric vehicle supply equipment pursuant to the Tier 1 requirements of Section A5.106.5.3.1 of the CalGreen code. Such spaces shall be marked pursuant to Section A5.106.5.3.3 of the CalGreen code. **Mitigation Measure AIR-2C**: The following travel demand management provisions shall apply to new non-residential development in the Specific Plan area: • New commercial and industrial projects greater than 25,000 square feet in size shall incorporate travel demand management TDM strategies that achieve a 10% reduction in trip generation rates below the standard rate published in the latest Institute of Transportation Engineers (ITE) Trip Generation Manual (10th edition), or other reputable source. This trip reduction level may be achieved through site design, transit, bicycle, shuttle, parking restriction, carpooling, or other TDM measures. All TDM plans shall have a designated coordinator who will track the effectiveness of the TDM Program over time. • New commercial and industrial projects that employ 250 or more employees at a work site, on a full or part-time basis, shall implement an Employee Commute Reduction Program pursuant to South Coast Air Quality Management District Rule 2202, On-Road Motor Vehicle Mitigation Option.	

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
Result in Cumulatively Considerable Increase in Non-Attainment Criteria Pollutants (Regional Operational Emissions). Without mitigation, NO_X emissions at buildout of the Specific Plan could exceed the SCAQMD's regional significance thresholds and, therefore, have the potential to cause or contribute to new or more frequent exceedances of national and state ozone standards. This is considered a potentially significant impact.	S	**Mitigation Measure AIR-2A**: The following Residential and Non-Residential Voluntary Measures from the CalGreen Code (Appendix A4) shall apply to new residential (or residential mixed use) development projects located in the Covina Town Center Specific Plan: • New one and two-family dwellings and townhomes shall include electric vehicle infrastructure consistent with Section A4.106.8.1 of the CalGreen Code. • New multifamily dwellings with 17 or more units shall provide electric vehicle charging spaces capable of supporting electric vehicle supply equipment pursuant to Section A4.106.8.2. • New multifamily dwelling units shall provide bicycle parking pursuant to Section A4.106.9.2. **Mitigation Measure AIR-2B**: The following Non-Residential Voluntary Measures from the CalGreen Code (Appendix A5) shall apply to new non-residential (or mixed use) development projects located in the Covina Town Center Specific Plan: • New non-residential development with more than 10 tenant-occupants shall provide changing/shower facilities for tenant-occupants in accordance with Table A5.106.4.3 of the CalGreen code. • New non-residential development shall provide designated parking for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles pursuant to the Tier 1 requirements of Table A5.106.5.1.1 of the CalGreen code. Such parking spaces shall be marked pursuant to Section A5.106.5.1.3 of the CalGreen code.	SU

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		• New non-residential development shall provide electric vehicle charging spaces capable of supporting electric vehicle supply equipment pursuant to the Tier 1 requirements of Section A5.106.5.3.1 of the CalGreen code. Such spaces shall be marked pursuant to Section A5.106.5.3.3 of the CalGreen code. **Mitigation Measure AIR-2C**: The following travel demand management provisions shall apply to new non-residential development in the Specific Plan area: • New commercial and industrial projects greater than 25,000 square feet in size shall incorporate travel demand management TDM strategies that achieve a 10% reduction in trip generation rates below the standard rate published in the latest Institute of Transportation Engineers (ITE) Trip Generation Manual (10th edition), or other reputable source. This trip reduction level may be achieved through site design, transit, bicycle, shuttle, parking restriction, carpooling, or other TDM measures. All TDM plans shall have a designated coordinator who will track the effectiveness of the TDM Program over time. • New commercial and industrial projects that employ 250 or more employees at a work site, on a full or part-time basis, shall implement an Employee Commute Reduction Program pursuant to South Coast Air Quality Management District Rule 2202, On-Road Motor Vehicle Mitigation Option.	

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
BIOLOGICAL RESOURCES			
Substantial Interference with Migratory Wildlife Species. Without mitigation, the Project has the potential to substantially impact migratory avian species.	S	**Mitigation Measure BIO-1**: If vegetation removal is scheduled during the nesting season (typically February 1 to September 1), then a focused survey for active nests shall be conducted by a qualified biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) no more than five (5) days prior to the beginning of project-related activities (including but not limited to equipment mobilization and staging, clearing, grubbing, vegetation removal, and grading). Surveys shall be conducted in proposed work areas, staging and storage areas, and soil, equipment, and material stockpile areas. For passerines and small raptors, surveys shall be conducted within a 250-foot radius surrounding the work area (in areas where access is feasible). For larger raptors, such as those from the genus *Buteo*, the survey area shall encompass a 500-foot radius. Surveys shall be conducted during weather conditions suited to maximize the observation of possible nests and shall concentrate on areas of suitable habitat. If a lapse in project-related work of five (5) days or longer occurs, an additional nest survey shall be required before work can be reinitiated. If nests are encountered during any preconstruction survey, a qualified biologist shall determine if it may be feasible for construction to continue as planned without impacting the success of the nest, depending on conditions specific to each nest and the relative location and rate of construction activities. If the qualified biologist determines construction activities have potential to adversely affect a nest, the biologist shall immediately inform the construction manager to halt construction activities within minimum exclusion buffer of	LTS

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		50 feet for songbird nests, and 200 to 500 feet for raptor nests, depending on species and location. Active nest(s) within the Project Site shall be monitored by a qualified biologist during construction if work is occurring directly adjacent to the established no-work buffer. Construction activities within the no-work buffer may proceed after a qualified biologist determines the nest is no longer active due to natural causes (e.g. young have fledged, predation, or other non-anthropogenic nest failure).	
CULTURAL AND TRIBAL CULTURAL RESOURCES			
Cause a substantial adverse change in the significance of a historic resource as defined by CEQA Guidelines Section 15064.5. Without mitigation, the Project has the potential to substantially impact historic resources.	S	**Mitigation Measure CUL 1:** Preparation of a Historic American Building Survey (HABS) Level III (Standard) historic site evaluation by a qualified architectural historian who meets the U.S. Secretary of Interior Standards shall be required of all buildings and structures 45 years old or older. The site evaluation shall contain historical information, historical photographs, and largescale digital photographs of the exterior of the building/structure. The HABS documentation shall be reviewed and approved by the City prior to any alterations, re-use, adaptation, or demolition to a potentially historic property.	LTS
Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or cause a substantial adverse change in the significance of a tribal cultural resource. Without mitigation, the Project has the potential to substantially impact cultural and tribal cultural resources.	S	**Mitigation Measure CUL-2:** Prior to the issuance of a grading permit, future development projects are required to prepare a Phase I Cultural Resources Technical Report in accordance with the California Office of Historic Preservation: Archaeological Resources Management Report Guidelines, with the purpose to assess, avoid, and mitigate potential impacts to archeological and tribal cultural resources as set forth in CEQA Regulations: Appendix G and as specified in the City of Covina Municipal Code 17.81.	LTS

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		Mitigation Measure CUL-3: In the event that archaeological and/or cultural resources relating to Tribal Cultural Resources are unearthed during ground-disturbing activities, ground-disturbing activities must be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet must be established around the find where construction activities cannot be allowed to continue until a qualified archaeologist examines the newly discovered artifact(s) and evaluates the area of the find. Work may be allowed to continue outside of the buffer area. All archaeological resources unearthed by project construction activities must be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards and is approved by the City of Covina. Should the newly discovered artifacts be determined to be prehistoric, Native American Tribes/Individuals must be contacted and consulted, and Native American construction monitoring must be initiated. The Project Applicant must coordinate with the archaeologist to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing, analysis, and curation. **Mitigation Measure CUL-4:** Prior to the issuance of a grading permit, future development projects are required to conduct a paleontological record search, commissioned through the Natural History Museum of Los Angeles County: Vertebrate Paleontology Section in order to assess and evaluate potential impacts to paleontological resources and unique geological features as set forth in CEQA Regulations: Appendix G and as	

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		specified in the City of Covina Municipal Code 17.81. **Mitigation Measure CUL-5**: In the event that paleontological resources or unique geological features are discovered during construction related activities, a qualified paleontological monitor shall observe all ground disturbing activities at all depths. The paleontological monitor will recover any significant fossil materials that would potentially be impacted by ground disturbing activities. To avoid construction delays, the paleontological monitor should be equipped to salvage fossils immediately as they are unearthed and to remove samples of sediments that are likely to contain the remains of small fossil vertebrates, in accordance with standards for such recovery established by the Society of Vertebrate Paleontology (SVP). Monitoring of ground disturbance shall consist of the surface collection of visible vertebrate and invertebrate fossils within the project site. If recovery of a large or unusually productive fossil occurrence is warranted, earthmoving activities should be diverted temporarily around the fossil site and a recovery crew should be mobilized to remove the material as quickly as possible. The monitor shall be permitted to photograph and/or draw stratigraphic profiles of cut surfaces and take samples for analysis of microfossils, dating, or other specified purposes, in accordance with SVP protocols. Recovered specimens shall be prepared to a point of identification, including washing of sediments to recover smaller fossil remains. Once excavation has reached specified depths, salvage of fossil material from the sidewalls of the cut may resume. Specimens shall be identified and curated into a museum repository with retrievable storage.	

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
GREENHOUSE GAS EMISSIONS			
Generation of Significant Greenhouse Gas Emissions The GHG emission estimates generated by CalEEMod indicate the planning area would emit approximately 43,398 $MTCO_2e$ annually by 2040. Dividing through by the Plan service population (6,483 employees and residents) results in an efficiency metric of 6.7 $MTCO_2e$/yr/SP for 2040. Although this GHG efficiency level does not meet the adjusted target for 2040 (2.6 $MTCO_2e$/yr/SP), it does show an appreciable reduction from existing conditions. The GHG efficiency occurring under 2040 buildout conditions would be approximately 43 percent less than 2018 conditions.	S	**Mitigation Measure AIR-2A**: The following Residential and Non-Residential Voluntary Measures from the CalGreen Code (Appendix A4) shall apply to new residential (or residential mixed use) development projects located in the Covina Town Center Specific Plan: • New one and two-family dwellings and townhomes shall include electric vehicle infrastructure consistent with Section A4.106.8.1 of the CalGreen Code. • New multifamily dwellings with 17 or more units shall provide electric vehicle charging spaces capable of supporting electric vehicle supply equipment pursuant to Section A4.106.8.2. • New multifamily dwelling units shall provide bicycle parking pursuant to Section A4.106.9.2. **Mitigation Measure AIR-2B**: The following Non-Residential Voluntary Measures from the CalGreen Code (Appendix A5) shall apply to new non-residential (or mixed use) development projects located in the Covina Town Center Specific Plan: • New non-residential development with more than 10 tenant-occupants shall provide changing/shower facilities for tenant-occupants in accordance with Table A5.106.4.3 of the CalGreen code. • New non-residential development shall provide designated parking for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles pursuant to the Tier 1 requirements of Table A5.106.5.1.1 of the CalGreen code. Such parking spaces shall be marked pursuant to	SU

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		Section A5.106.5.1.3 of the CalGreen code. • New non-residential development shall provide electric vehicle charging spaces capable of supporting electric vehicle supply equipment pursuant to the Tier 1 requirements of Section A5.106.5.3.1 of the CalGreen code. Such spaces shall be marked pursuant to Section A5.106.5.3.3 of the CalGreen code. **Mitigation Measure AIR-2C**: The following travel demand management provisions shall apply to new non-residential development in the Specific Plan area: • New commercial and industrial projects greater than 25,000 square feet in size shall incorporate travel demand management TDM strategies that achieve a 10% reduction in trip generation rates below the standard rate published in the latest Institute of Transportation Engineers (ITE) Trip Generation Manual (10th edition), or other reputable source. This trip reduction level may be achieved through site design, transit, bicycle, shuttle, parking restriction, carpooling, or other TDM measures. All TDM plans shall have a designated coordinator who will track the effectiveness of the TDM Program over time. • New commercial and industrial projects that employ 250 or more employees at a work site, on a full or part-time basis, shall implement an Employee Commute Reduction Program pursuant to South Coast Air Quality Management District Rule 2202, On-Road Motor Vehicle Mitigation Option.	

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
NOISE			
Exposure to Noise Levels that Exceed Standards. To ensure potential exterior noise levels at the proposed residential open space and interior noise levels (residential and non-residential development) meet applicable standards, the City shall require the Project to implement Mitigation Measure NOI-1, which requires the preparation of an acoustical analysis to document compliance with noise level requirements. Mitigation Measure NOI-1 would ensure applicable exterior and interior noise standards are met by new development proposed within the Project Area.	S	**MM NOI-1: Confirm Compliance with Applicable Noise Standards Requirements.** Prior to the issuance of a building permit for any development in the Planning Area, the City shall review and approve an acoustical analysis, prepared by or on behalf of the project Applicant, and based on the final project design that: 1) For residential development: a. Identifies exterior noise levels at all exterior building façade locations and exterior recreation areas, including open space area, patios, and roof decks; and b. Identifies the final site and building design features that would: i. Reduce daytime, exterior noise levels at open space areas, patios, and roof deck areas to less than 55 dBA and 60 dBA L_{eq} (1-hour) for low-density residential and medium- to high-density residential, respectively, consistent with the standards identified in City Municipal Code Section 9.40.040; and ii. Attenuate exterior building façade noise levels so interior levels do not exceed 45 dBA DNL in habitable rooms, 45 dBA L_{eq} (1-hour) during the daytime, and 35 dBA L_{eq} (1-hour) during the nighttime, consistent with the standards identified in City Municipal Code Section 9.40.060. Potential noise insulation site and building design features capable of achieving this requirement may include, but are not limited to: • Sound barriers	LTS

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		• Enhanced exterior wall construction/noise insulation design • Use of enhanced window, door, and roof assemblies with above average sound transmission class (STC) or outdoor/indoor transmission class (OITC) values • Use of mechanical, forced air ventilation systems to permit a windows closed condition in residential units. 2) For non-residential development: a. Identifies exterior noise levels at all exterior building façade locations, and b. For projects that have an exterior wall exposed to noise levels of 65 dBA L_{eq} (1-hour) or more, comply with Section 5.507.4 of the California Green Building Standards Code. Per Section 5.507.4 of the California Green Building Standards Code, non-residential projects exposed to an exterior noise level of 65 dBA L_{eq} (1-hour) shall be required to have wall and roof-ceiling assemblies with a composite sound insulation rating of STC 50 or higher, exterior windows that a minimum STC of 40, or assemblies that reduce interior levels to 50 dBA L_{eq} (1-hour) or lower. **Plan Requirements and Timing:** An acoustical report shall be submitted to City Planning for review and approval prior to final sign off on construction, documenting that actual interior and exterior noise level at the locations indicated in this measure meet City and State standards. **Monitoring:** City Planning staff shall approve the acoustical analysis prior to sign off of final	

Table 2-2:
Summary of Potentially Significant Impacts and Recommended Mitigation Measures

Impacts	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		construction.	
Exposure to Excessive Groundborne Vibration. Mitigation Measure NOI-2 requires a vibration assessment be conducted for institution (e.g., commercial) buildings proposed within 60 feet of a Metrolink rail centerline and any structures containing a dwelling unit proposed within 40 feet of a Metrolink rail centerline. The implementation of the Mitigation Measure NOI-2 would ensure structures are built outside of an area where they would be exposed to excessive groundborne vibration or building design features implemented to reduce interior groundborne vibration to levels below FTA impact criteria.	S	**MM NOI-2:** Confirm Compliance with Applicable Vibration Standards. Prior to the issuance of a building permit for any institutional buildings within 60 feet of the Metrolink rail corridor or structures containing dwelling unit(s) within 40 feet of the Metrolink rail corridor, the City shall review and approve a vibration report, prepared by or on behalf of the project Applicant, and based on the final project design that: 1) Demonstrates vibration noise levels from the Metrolink would be below the appropriate (e.g., residential, commercial) FTA impact criteria at the proposed structure(s), as they are applicable to the proposed land use; or 2) Identifies the final site and building design features that would reduce groundborne vibration from Metrolink operation, such that receptors would not be exposed to vibration levels in excess of applicable FTA impact criteria. **Plan Requirements and Timing:** A vibration report shall be submitted to City Planning for review and approval prior to final sign off on construction, documenting vibration at proposed structures would be below applicable FTA impact criteria, or documentation prepared by a qualified engineer that demonstrates building design would reduce interior groundborne vibration to below FTA impact criteria. Monitoring: City Planning staff shall approve the vibration analysis prior to sign off of final construction.	LTS

2.5 ISSUES TO BE RESOLVED

Pursuant to Section 15123(b)(3) of the CEQA Guidelines, an EIR summary must identify "Issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects." This EIR identifies and resolves issues related to project alternatives in Chapter 5. Potentially significant impacts are identified in the analysis provided in Chapter 4 and mitigation is considered for all impacts.

2.6 SUMMARY OF ALTERNATIVES

Alternatives to the Proposed Project

To provide a basis for further understanding of the environmental effects of a proposed project and possible approaches to reducing its identified significant impacts, the CEQA Guidelines require an EIR to also "…describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

Identified Alternatives

Alternative 1: No Project – Existing Covina Town Center Specific Plan

Under Alternative 1 (No Project), the City would not adopt any changes to current land use and zoning controls within the Plan area. None of the proposed roadway improvements, including the West Cottage Drive and West College Street Health Corridors, would be implemented. Under the No Project alternative, development is assumed to remain static although, due to the age of many of the buildings in the Town Center area, recycling to newer buildings would be expected to occur over time. Absent the incentives provided by the Specific Plan Update, redevelopment would possibly occur at a slower pace. Under this alternative, it is assumed that there would be no net increase in building floor area or residential units. In contrast, the proposed project would add 448,800 square feet of building area and 259 additional dwelling units.

Alternative 2: Reduced Non-Residential Development Potential

Alternative 2 would be the same as the proposed Project, except that this alternative would not include the 448,800 square feet of additional non-residential building area that would be supported by the Project. A reduction of new non-residential development potential would result in fewer new vehicle trips and thus less traffic-related noise and air pollutant and greenhouse gases emissions. The land use, zoning, and proposed increase in floor-area ratios (FAR) for residential development under Alternative 2 would be identical to those proposed in the Specific Plan update. The development and design standards and guidelines would also be the same as those proposed in the Specific Plan update. This change would result in less building area (448,800 SF) being dedicated to non-residential uses compared to the Project. This alternative would also result in fewer non-residential vehicle trips compared to the Project.

Alternative 3: Reduced Residential Development Potential

Alternative 3 would be the same as the proposed Project, except that it would not include the 259 additional dwelling units that would be supported by the Project. A reduction of new

residential development potential would result in fewer new vehicle trips and thus less traffic-related noise and air pollutant and greenhouse gases emissions. The land use, zoning, and proposed increase in floor-area ratios (FAR) for non-residential development under Alternative 3 would be identical to those proposed in the Specific Plan Update. The development and design standards and guidelines would also be the same as those proposed in the Specific Plan Update. This change would result in less potential for new dwelling units (259) compared to the Project. This alternative would also result in fewer residential vehicle trips compared to the Project.

Environmentally Superior Alternative

The CEQA Guidelines (Section 15126[e][2]) indicate that, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." The No Project Alternative is the environmentally superior alternative. Of the other identified alternatives, Alternative 2: Reduced Non-Residential Development Potential would result in the least adverse overall environmental impacts, due to the fact that non-residential vehicle trips are the single biggest source of emissions in the Project area. Therefore, Alternative 2 would be the “environmentally superior alternative.” This conclusion is based on the overall reduction in the severity of impacts.

3.0 PROJECT DESCRIPTION

The existing Covina Town Center Specific Plan was adopted and the EIR certified by the City on November 16, 2004. This proposed project represents a comprehensive amendment and update to the adopted Specific Plan. This EIR chapter describes the proposed Covina Town Center Specific Plan Update ("Specific Plan Update") components and actions addressed throughout the EIR. As explained by CEQA Guidelines Section 15124 (Project Description), the project description that follows has been detailed to the extent needed for adequate evaluation of potential environmental impacts.

3.1 PROJECT LOCATION

The City of Covina (City) is in the East San Gabriel Valley region of Los Angeles County, approximately 20 miles northeast of downtown Los Angeles. The Covina Town Center Specific Plan area ("Project Area") is in the central portion of the City, encompassing the City's Civic Center District and historic Citrus Avenue District. The Project Area includes a mix of commercial, industrial, residential, institutional, and open space uses, and is surrounded by well-established neighborhoods on all sides. The Project Area is configured in an east-west orientation, is irregularly shaped, and is generally bounded by Barranca Avenue and 1st Avenue to the east, 4th Avenue and Valencia Place to the west, the alley south of Center Street to the south, and one to three parcels deep north of the rail tracks (north of Front Street) on the north.

The Project Area encompasses approximately 236 acres, or just over five percent of the City's total area of 7.04 square miles. The intersection of North Citrus Avenue at East College Street is the approximate central point of the Project Area located at Latitude 34° 5' 14.80" North, Longitude 117° 53' 24.54" West. The Project Area is located at an elevation of approximately 547 feet above mean sea level (AMSL). Exhibits 3-1 (Regional Location Map) and 3-2 (Project Area Map) show the location of the Planning Area. Exhibit 3-3 (Specific Plan Update Area) shows the existing planning area and the proposed specific plan update planning area.

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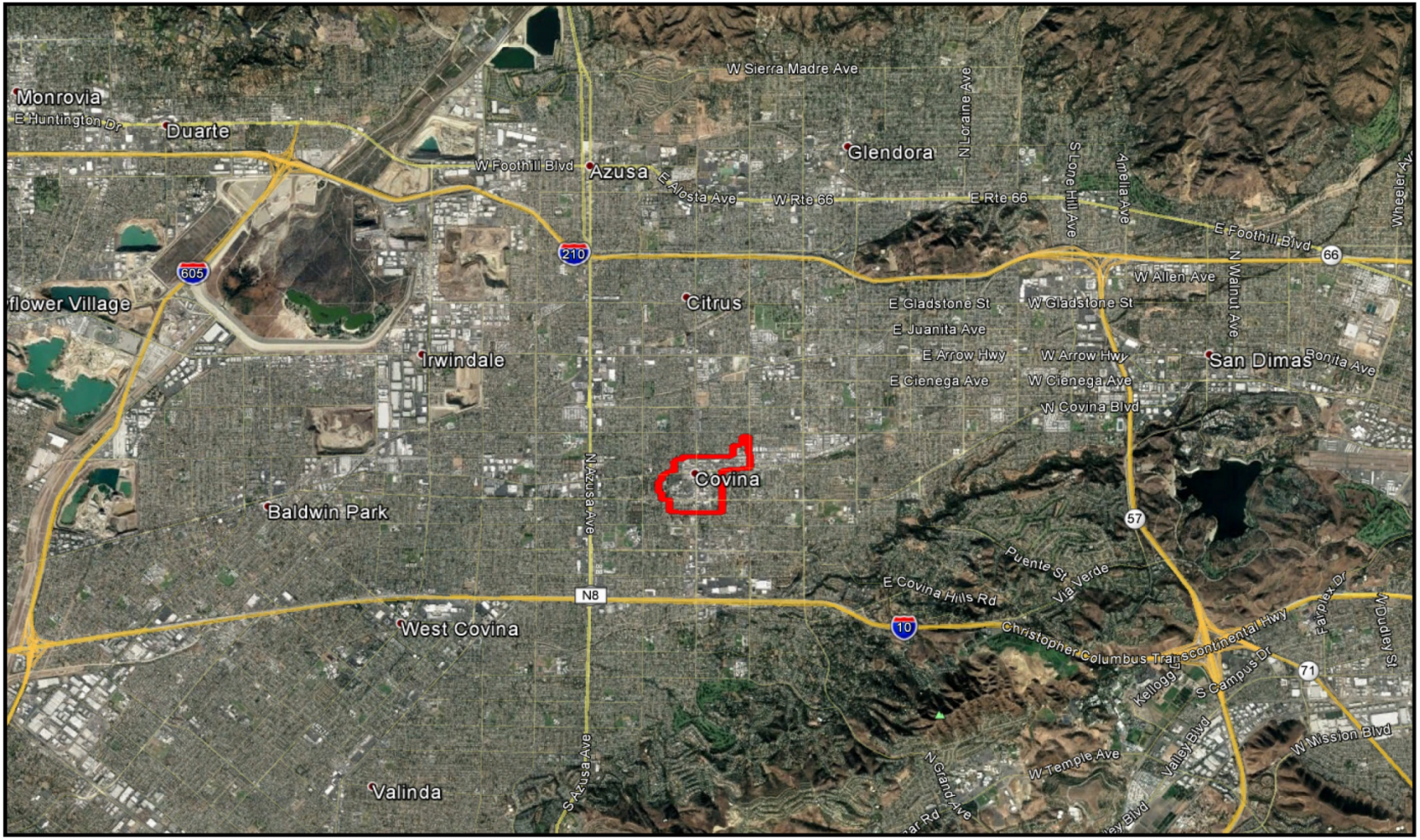

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Exhibit 3-1 Regional Location Map

Covina Town Center Specific Plan Update
Covina, California

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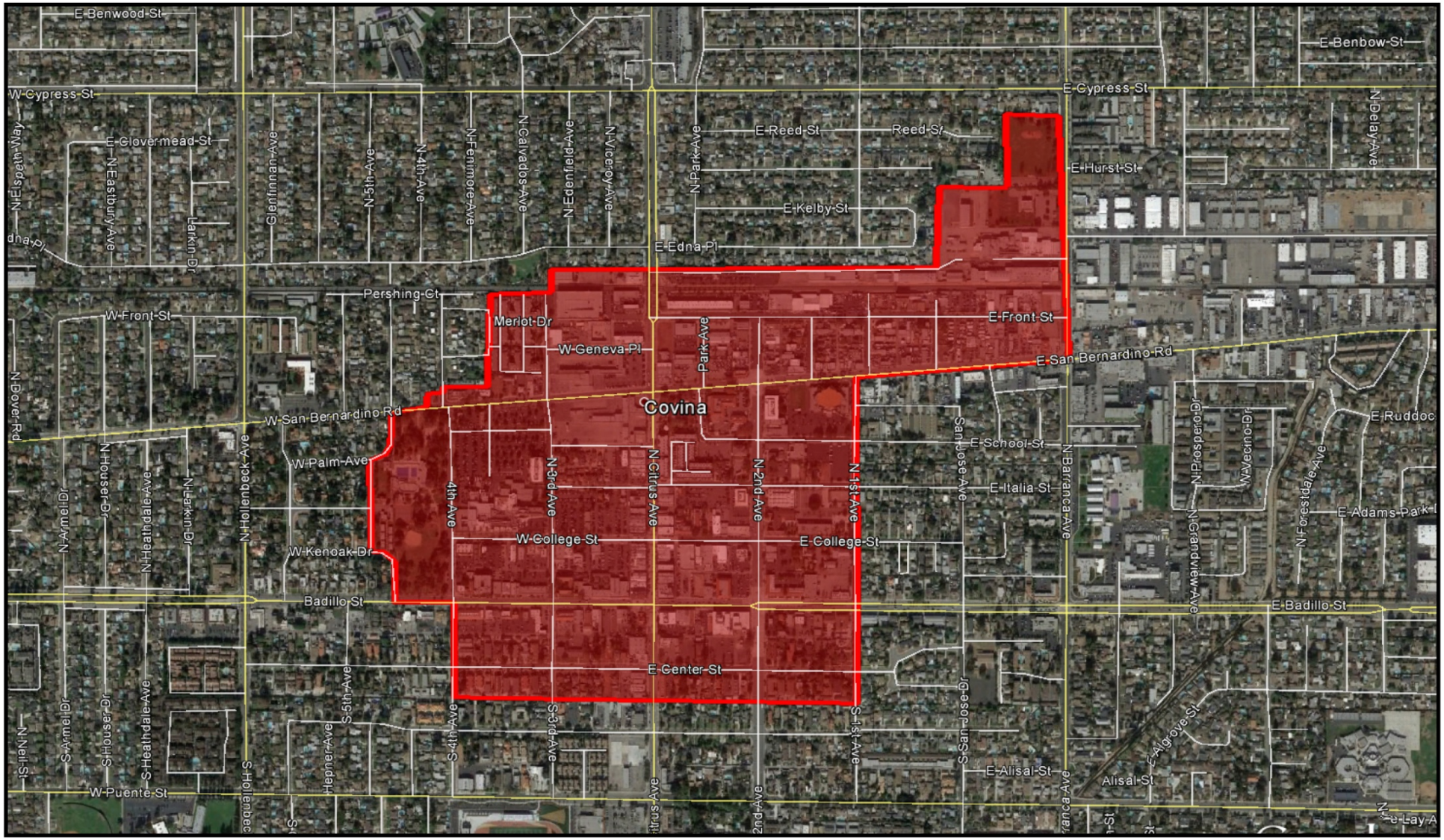

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Exhibit 3-2 Planning Area Map

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Covina, California

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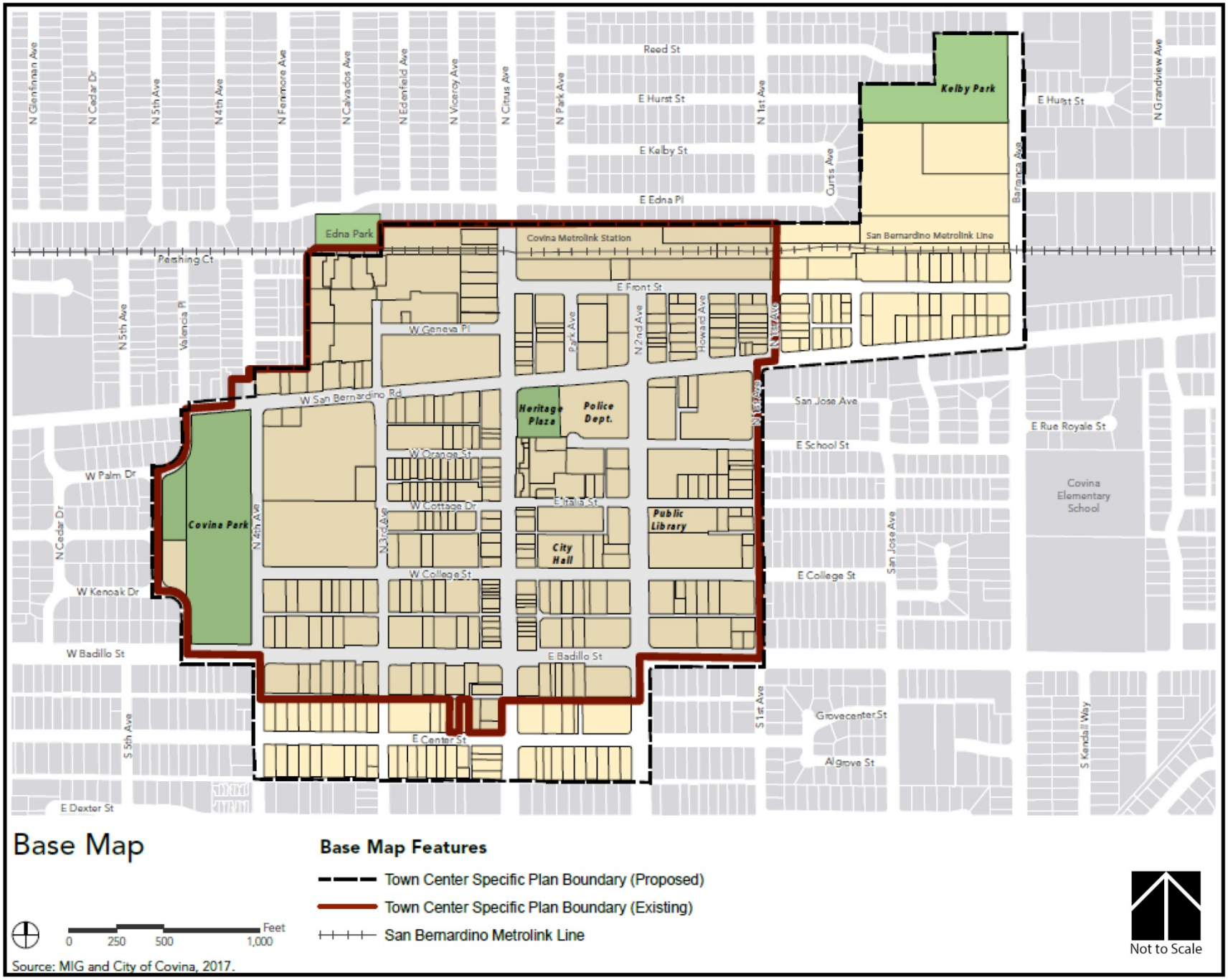

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Exhibit 3-3 Specific Plan Update Area

Covina Town Center Specific Plan Update
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3.2 ENVIRONMENTAL SETTING/EXISTING CONDITIONS

The Planning Area is a developed suburban downtown. The Planning Area is bisected by two east-west arterial roadways (East San Bernardino Road and East Badillo Street) and one north-south arterial roadway (North Citrus Avenue). Badillo Street provides an east-west link to civic and commercial uses within Covina, while key north-south corridors such as Citrus Avenue and Barranca Avenue connect retail services, medical-related uses, and business park areas to the City's residential neighborhoods. The Covina Station, located just north of the historic Downtown, provides regional access to Covina to Los Angeles to the west and San Bernardino to the east via the San Bernardino Line. Regional access to the Town Center is also provided by Interstate 10 (San Bernardino Freeway), Interstate 210 (Foothill Freeway), and California State Route 57 (Orange Freeway). The Planning Area was developed over the past century with the downtown prospering when citrus growing predominated in Covina and the San Gabriel Valley. The Planning Area includes both older and more recent industrial buildings, 1960s style corridor commercial buildings, a local hospital (Inter-Community Hospital) and related medical offices/businesses, local civic uses, and a mix of low scale residential uses. In total, the Project Area encompasses 236 net acres (not including street rights-of-way) of relatively flat land with varying land uses. The Project Area is currently developed with approximately 1.13 million square feet of building area. Existing land uses are shown by acreage in Table 3-1.

Table 3-1
Existing Land Use

Land Use Category	Acres	Percent of Total
Residential	**97**	**41.1%**
Multi-Family Residential	70	29.7%
Duplex or Two Units	2	0.8%
Single-Family Residential	24	10.2%
Mobile Home Park	1	0.4%
Industrial	**21**	**8.9%**
Light Industrial	11	4.7%
Auto Repair/Services	9	3.8%
Public Storage	1	0.4%
Office/Medical	**19**	**8.1%**
Office Building	4	1.7%
Hospital	5	2.1%
Medical Office	10	4.2%
Commercial	**18**	**7.6%**
General Commercial	5	2.1%
Retail Stores/Commercial Services	8	3.4%
Restaurant/Bar	2	0.8%
Mixed Use	3	1.3%
Public Facilities	**5**	**2.1%**
Institutional	**12**	**5.1%**
Miscellaneous	**64**	**27.1%**
Parks	17	7.2%

Land Use Category	Acres	Percent of Total
Utility	2	0.8%
Parking Lot/Structure (Private)	11	4.7%
Parking Lot/Structure (Public	8	3.4%
Vacant Building	18	7.6%
Vacant Lot	2	0.8%
Railroad Right-of-Way	6	2.5%
Total	**236**	**100.0%**
Source: *City of Covina GIS (2018).*		

As shown in Table 3-1, above, residential uses represent the largest portion (41%) of the overall Planning Area, comprising 97 of the 236 acres. While residential land uses are scattered throughout the entire Planning Area, there is a distinct concentration of residential land uses in the southern portion along East Center Street. Multi-family housing makes up the largest portion (70 acres); followed by single-family housing (24 acres), mixed-use housing (3 acres), duplexes (2 acres), and mobile homes (1 acre). Non-residential land uses include industrial (8.9%), office/medical (8.1%), commercial (7.6%), public facilities/utilities (2.1%), institutional (5.1%), and miscellaneous uses (27.1%). Exhibit 3-4 (Existing Land Use Map) shows existing land uses in the Planning Area.

Light industrial uses are concentrated along Front Street and Barranca Avenue, and consist mostly of auto-related businesses with some light manufacturing and storage. Hospital and medical-office uses are concentrated along the west side of the Project Area. The Planning Area also contains small format, low-rise commercial uses such as fast-food restaurants, banking centers, convenient markets, and strip commercial centers. Institutional uses include City Hall, the Covina Police Department, and the Covina Public Library. There are four parks located in the Project Area (Covina Park, Edna Park, Kelby Park, and Heritage Plaza Park). The San Bernardino Metro Link Rail Line runs in an east-west direction through the northern portion of the Project Area, north of Front Street. The Project Area is edged with residential uses on all sides except the northeastern most portion along North Barranca Avenue which consists of commercial and light industrial uses.

The existing zoning for the Covina Town Center Specific Plan is shown in Exhibit 3-5.

3.3 PROJECT OBJECTIVES

The City's objectives for the proposed Specific Plan update are as follows:

1. Create a memorable, accessible, and economically vibrant Town Center.
2. Bolster a sense of character and place for the entire Covina community.
3. Enhance mobility options, including walking, bicycling, and stronger accessibility to Covina Metrolink Station.
4. Encourage Transit-Oriented Development (TOD).
5. Create additional employment opportunities.
6. Create opportunities for additional housing.
7. Expand the City's tax base.

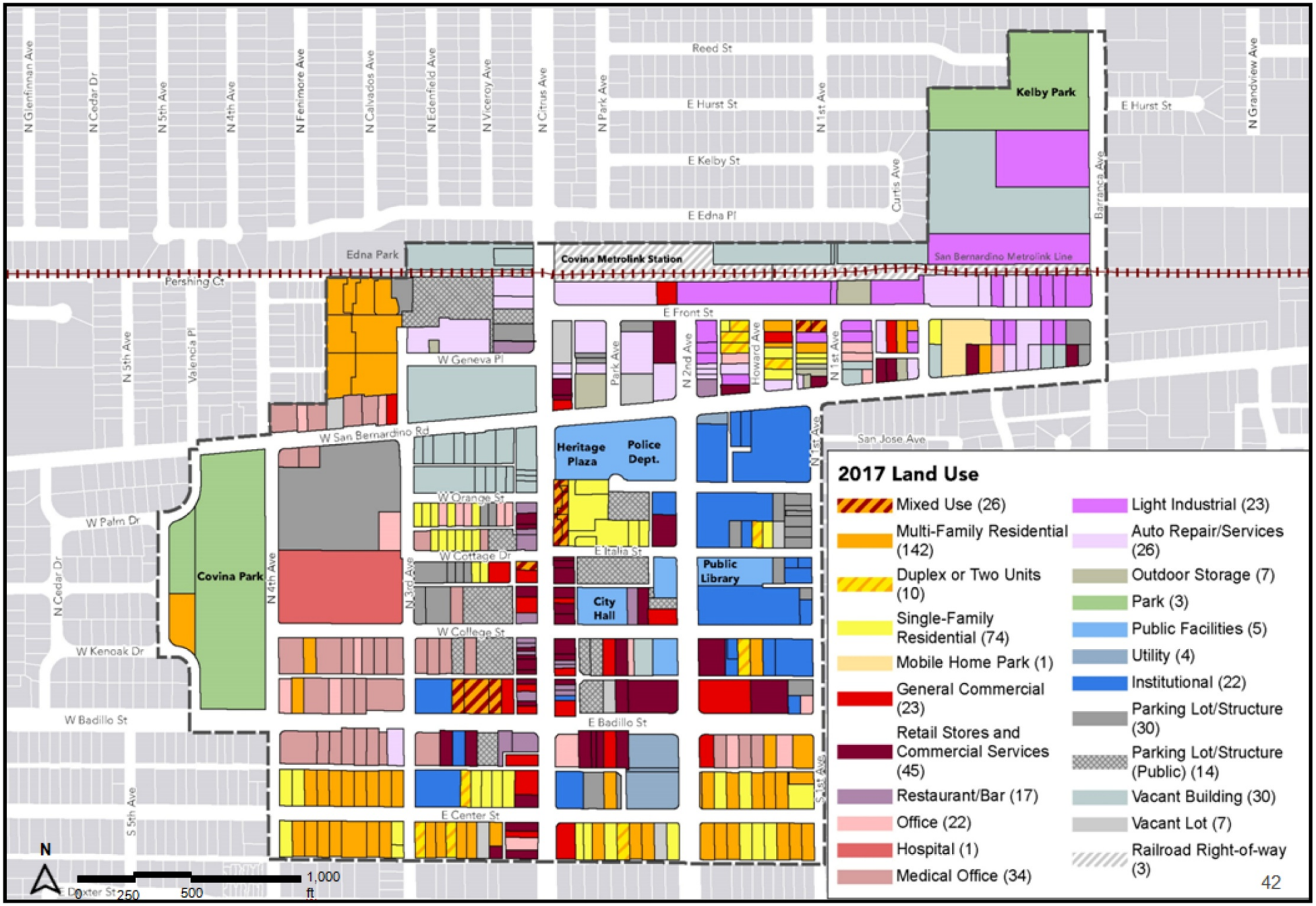

Exhibit 3-4 Existing Land Use Map

Covina Town Center Specific Plan Update
Covina, California

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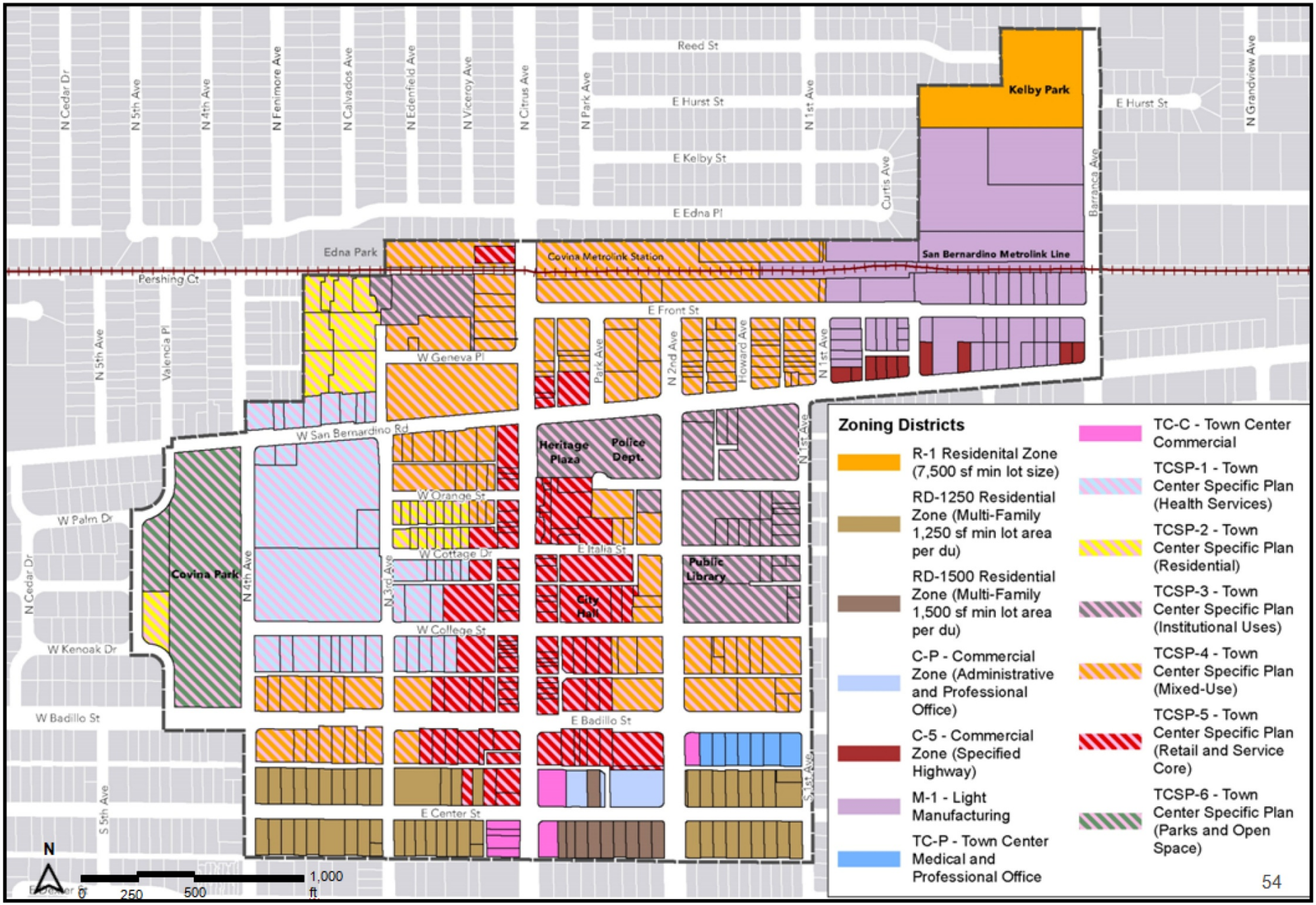

Exhibit 3-5 Existing Zoning

Covina Town Center Specific Plan Update
Covina, California

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3.4 PROJECT CHARACTERISTICS

The Covina Town Center Specific Plan Specific Plan update establishes land use, transportation, infrastructure, economic development, and urban design strategies to revitalize the City core and streamline the development process while building upon the Metrolink's Covina Station assets. The Specific Plan update is an action-oriented plan that outlines specific land use and mobility opportunities within the Town Center, as well as new building forms' standards and guidelines. The Plan seeks to create a memorable, accessible, and economically vibrant Town Center. The Specific Plan update implements the Town Center Vision, outlines development standards and design guidelines to support the vision, and identifies action steps to achieve key objectives. The Specific Plan update provides the necessary framework to guide future public and private investment in the Town Center over an approximately 20-year planning horizon. In general, the development activity is stimulated and influenced by a range of tools, including:

- Development standards, design guidelines, and other regulatory tools and metrics
- Public infrastructure improvements
- A comprehensive and strategic set of policy, physical, and programmatic implementation actions

These elements are an impetus and guide tangible change to the Town Center. The Specific Plan update represents the community's cohesive vision and provides solutions to transform the area into a memorable, vibrant, pedestrian-oriented, and interconnected Town Center.

Vision, Framework and Strategies

The following Vision Elements guide and provide a framework to achieve the aspirational future described in the Covina Town Center Vision Statement. The Vision Elements provide the foundation for the standards, guidelines, and policy direction outlined in the individual chapters of the Specific Plan, directing the character and design of future private development and public improvements. These concepts and tools work together to transform the physical, economic, and social environment of the Town Center in the years to come.

Authentic: *An Attractive, Memorable and Welcoming Place*

- Preserve Town Center's historic look while adding fresh appeal.
- Restore aging industrial buildings and adapt for a diversity of uses, including residential, commercial, and business mixed-use spaces.
- Enhance historic character of Citrus Avenue in the Downtown core.
- Encourage urban design features that celebrate Covina's rich history.

Well-Connected: An Accessible, Walkable Community

- Connect Covina's Metrolink to the Town Center via a "gateway" concept encouraging transit riders to safely and pleasantly walk from the Station to the Town Center.
- Connect adjacent uses to the Metrolink Station.
- Capitalize on alley connections to increase accessibility and walkability between the Town Center and adjacent districts
- Improve bike and pedestrian networks to increase safety and connectivity to the greater community.
- Add signage and wayfinding to increase navigability of the Downtown core.
- Enhance pedestrian connections between the hospital and Downtown core.

Economically Viable: A Thriving, Robust Economy

- Create a Transit-Oriented Development (TOD) hub at Covina's Metrolink Station incorporating housing and creating a dynamic environment for residents and visitors.
- Capitalize on the hospital's investments and facilitate growth of a medical core.
- Encourage business to expand their hours thereby attracting commuters and local employees to patronize shops and restaurants after work.
- Expand the local market to focus on experiences, goods, and services not currently available in the Town Center.

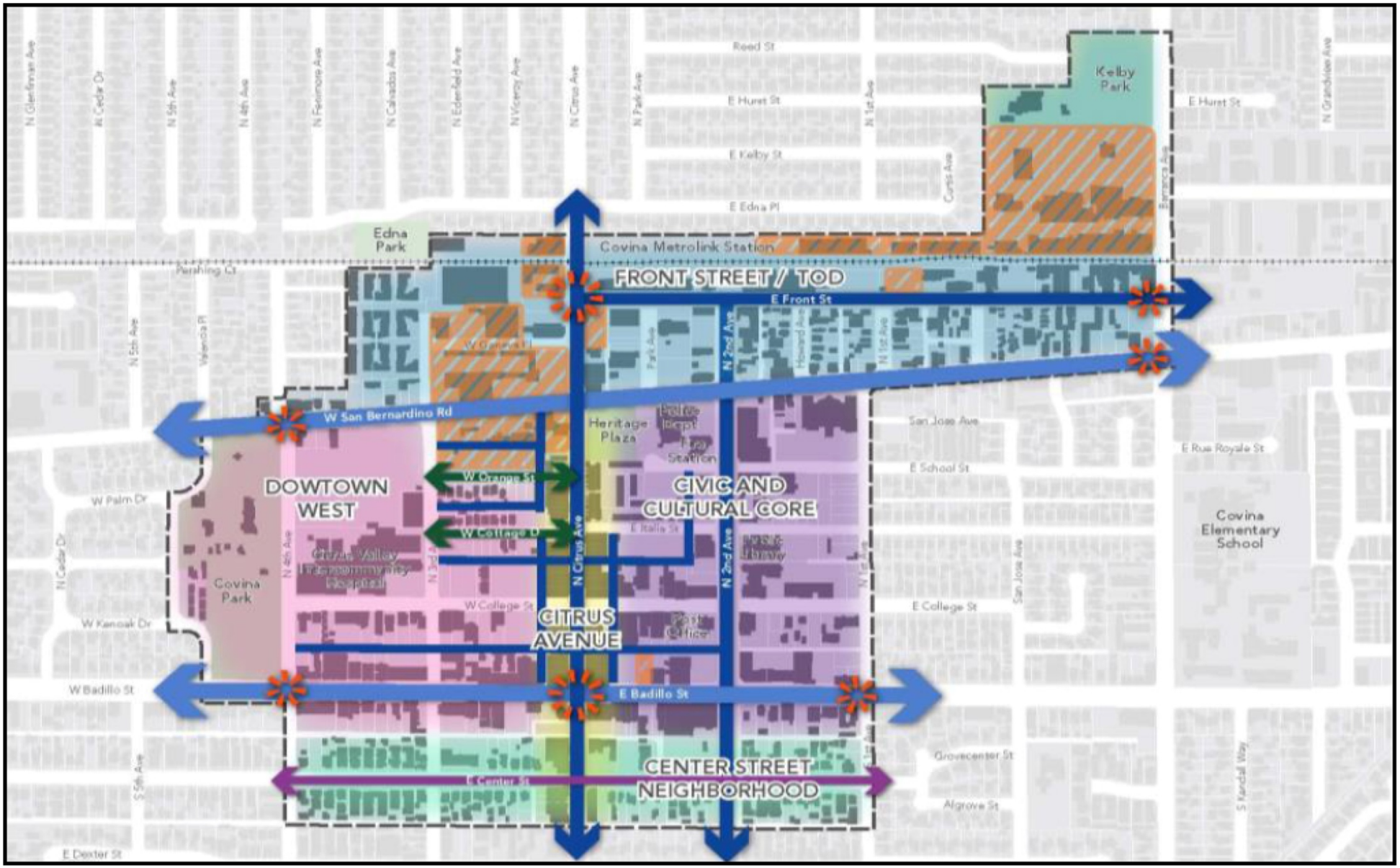
Flexible: Creative, Adaptable Policy and Design

- Allow flexibility of users to create new active spaces.
- Adjust or reduce parking requirements and better utilize existing parking.
- Allow heights and densities that are responsive to the market.
- Attract multi-family residential development.
- Develop a balanced "live/work/play" environment.

The Specific Plan Update provides a long-term Strategy for realizing the development potential in the Town Center. This Strategy is comprised of several tools the City should use to facilitate the development of a well-organized, clearly identifiable and economically viable Town Center. The Plan builds upon and refines the City's ongoing efforts to revitalize the Town Center.

Town Center Districts

Within the Town Center, characteristics vary with different "subareas" or districts that reflect land use, building scale, architectural style and other factors. Citrus Avenue's commercial and mixed-use buildings have historically dominated the district. The Front Street/TOD/F.A.I.R. district, north of San Bernardino Road, has long been an industrial area with small lot light industrial uses. Along and east of Citrus Avenue, Metrolink's surface and multi-level structured parking dominate. Downtown West and Civic and Cultural Core districts have concentrations of medical and civic uses, respectively. The Downtown West District includes creative pedestrian connections or "health corridors" between the Inter-Community Hospital/Covina Park and Citrus Avenue that will enhance connectivity and improve visitor attraction and retention for the Town Center's commercial areas. Adapting North 3rd Avenue (between West College and West Cottage) into a placemaking pedestrian plaza would serve as an entrance to the Inter-Community Hospital and encourage pedestrian activity between the medical uses and Citrus Avenue uses. The adaptive reuse of West Orange and West Cottage single-family dwellings to office or live/work uses and the preservation of the historic aesthetic would be encouraged. Construction of multi-level parking structures and establishing shared parking programs between the medical offices, hospital, and Covina Park will free up surface parking lots for medical services or hospital expansion/redevelopment and open space. The Center Street neighborhood districts are residential areas undergoing a transition of uses from single-family to multi-family residential uses. The land use approach in the Specific Plan emphasizes and enhances the different Town Center districts. The Land Use Plan, along with development standards and design guidelines, build upon the strengths of each subarea. Exhibit 3-6 (Land Use Framework) depicts the overall framework of the Specific Plan.



Legend

- Plan Area
- San Bernardino Metrolink Line
- Building
- Parcel
- Center Street Neighborhood
- Citrus Avenue
- Civic and Cultural Core
- Downtown West
- Front Street / TOD
- Regional Connector
- Local Connector
- Health Corridor
- Residential Street
- Key Alley
- Catalytic Site
- Gateway

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Exhibit 3-6 Land Use Framework

Covina Town Center Specific Plan Update
Covina, California

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Land Use Designations

The Town Center Specific Plan land use designations are established to regulate the allowable uses with the Project Area. Table 3-2 (Land Use Designation Summary) provides the residential densities and nonresidential intensities for each of the Specific Plan land use designations.

Table 3-2.
Land Use Designation Summary

Land Use Designation	Residential Density (Units/Acre)	Non-Residential Intensity (FAR)
Residential Town Center West	Up to 20 units/acre	--
Residential Town Center East	Up to 20 units/acre	--
Neighborhood	Up to 20 units/acre	0.35
TOD/High-Density Residential	31-40 units/acre	1.0: stand alone use 1.25: mixed-use
Mixed-Use	25-31 units/acre: residential 31-40 units/acre: mixed-use	1.0: stand alone use 1.25: mixed-use
Food Arts Industrial Residential (F.A.I.R.)	1-25 units/acre: mixed-use	0.75: industrial 1.0: commercial 2.0: mixed-use
Historic Core	31-40 units/acre: mixed-use	2.0: stand alone use 2.5: mixed-use
Civic	--	1.0: commercial, institutional 2.5: government office
Cultural Core	--	1.0: commercial, institutional 2.5: government office
Medical Core	--	0.75: congregate care facility, supporting medical/commercial uses 2.0: medical office 3.0: hospital
Rail	--	--

The descriptions for each land use designation below reflect future conditions. Exhibit 3-7 (Town Center Land Use Designations) illustrates the land use designations within the Project Area.

Residential Town Center West Zone

The Residential Town Center West zone is made up of a compatible mix of single-family and medium-density homes near the City's historic core and hospital-related uses. Allowable residential formats include apartments, condominiums, townhomes, and single-family developments at a maximum density of 20 units per acre. Preservation of homes with historical residential architecture is prioritized and new development celebrates and complements the area's character. Specific Plan development standards guide the ongoing transition of existing single-family uses to medium-density multi-family uses.

Residential Town Center East Zone

The Residential Town Center East zone is a single-family residential neighborhood with historical architectural character and newer medium-density multi-family residential uses. Preservation of single-family homes with historical architecture is prioritized. The transition to medium-density multi-family uses with compatible character and scale is allowed. Development in this designation has a maximum allowable density of 20 units per acre.

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Legend

- Plan Area Boundary
- San Bernardino Metrolink Line

Zoning

- Residential Town Center West
- Residential Town Center East
- Neighborhood
- TOD/HDR
- Mixed Use
- F.A.I.R.
- Historical Core
- Civic
- Cultural Core
- Medical Core
- Rail
- City-Owned Property

Source: MIG and City of Covina, 2018.

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Exhibit 3-7 Town Center Land Use Designations

Covina Town Center Specific Plan Update
Covina, California

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Neighborhood Zone

The Neighborhood zone is home to a unique mix of single-family residential and small-scale office uses in structures with strong historic architectural character. Preservation of the historic character of the neighborhood and adaptive reuse of existing structures for small-scale office and medical uses is encouraged. A maximum 20 units per acre and a maximum FAR of 0.35 is allowed for non-residential adaptive reuse such as live/work units. Centrally located, new uses complement and leverage the proximity to the Historic Core zone, TOD/HDR zone, Inter-Community Hospital, and the nearby medical related uses.

Transit-Oriented Development/High-Density Residential Zone

The Transit oriented Development/High Density Residential zone is a pedestrian-oriented, higher-density residential environment that supports and encourages transit use. New housing in a variety of forms and price ranges provides economic benefits to the area's residents. Commercial and service uses provide resources to transit riders and to the immediate and neighboring residential areas. High quality design features celebrate Covina's rich history and create a dynamic environment for residents and visitors. *Public open spaces are an integral component or large mixed-use or commercial developments.* Residential densities range from a minimum of 31 to 40 units/acre. A maximum 1.0 FAR is allowed for stand-alone non-residential use and a maximum of 1.25 FAR is allowed within mixed-use developments. The non-residential uses provide services for residents that are not available in the Town Center's historical and commercial cores. *Pedestrian connectivity between adjacent land uses is emphasized.*

Mixed Use Zone

The Mixed use zone is an attractive mixed-use center that provides residents with an environment where they can live, work, and play. The designation includes a diverse mix of commercial, office, and residential uses that support and encourage pedestrian activity and provides easy access to civic, cultural, and medical resources. A walkable urban form-with prominent storefront/commercial activity and pedestrian connections along the Citrus Avenue, Badillo Street, and San Bernardino Road corridors- provides a safe and enjoyable experience for visitors and residents. Gateway concepts invite people to walk into the Town Center core and to the Metrolink Station. Mixed uses are economically diverse and strong and are differentiated from existing uses in the historic core of the Town center. Local businesses are supported and preserved while attracting new services and industries that would complement and enhance Covina's rich history and identity.

Development approaches encourage *shared use of parking areas and public open spaces, pedestrian movement, and interaction of uses*. Mixing of uses on properties, within buildings, and within blocks, as compatibility allow, is emphasized though stand-alone uses are allowed at lower densities/intensities. Commercial ground floor uses are required along Citrus Avenue. Residential density in this zone range from 31 to 40 units/acre with a maximum 1.25 FAR for mixed uses. Densities for stand-alone residential uses range from 25 to 31 units/acre and stand-alone non-residential uses are allowed a maximum FAR of 1.0. Uses near neighboring residential areas are developed at an appropriate scale and intensity to ensure compatibility. Redevelopment of vacant and underutilized sites is encouraged and supported.

Food Arts Industrial Residential (F.A.I.R.) Zone

The F.A.I.R. zone is an exciting, transitional, "maker's" district combining light industrial uses with creative uses such as artist studios and galleries, live/work units, restaurants, small-scale craft breweries, warehouse, incubator industrial uses, research and technology uses, and

creative office activities. Adaptive reuse of existing structures and the establishment of *shared open spaces for recreation and public gathering are prioritized*. New eclectic land use types with expanded business hours capitalize on proximity to a regional transit station and a variety of civic and cultural destinations. Expansion of unique, non-industrial uses brings in goods and/or services not available in other parts of the Town Center area. Pedestrian connections to the Metrolink Station, neighboring higher-density residential uses, and the historic core contribute to a vibrant activity center and destination for visitors, transit riders, and local employees. Gateway concepts identify the neighborhood and invite people into the district.

Design approaches build on the industrial character of the neighborhood and flexible development standards accommodate and encourage the conversion of industrial facilities into creative and arts related uses. Reduced development requirements and shared use of parking facilities support the recycling of land uses. Maximum FAR is 1.0 for commercial uses, 0.75 for industrial uses, and 2.0 for mixed-use commercial and residential uses (at densities ranging from 1-25 units/acre).

Historic Core Zone

The Historic Core zone is identifiable by its mix of retail stores, services, restaurants, cultural, and entertainment venues and residential uses within the historic cultural and economic core. New development capitalizes on the historic look and feel of the district and attracts local and regional visitors to the area. Protection of historic buildings is prioritized. Compatible new development on vacant or underutilized properties that complements and enhances the historic look and feel of the district is essential. Shared use of existing parking facilities supports the recycling of older structures. Developments capitalize on alley connections for improved accessibility and walkability between the historic core and adjacent districts. Alleys are also repurposed into public gathering spaces. Maximum FAR is 2.5 for mixed commercial and residential uses (at densities of 31 to 40 units per acre). Stand-alone non-residential uses are allowed a maximum FAR of 2.0. Stand-alone residential uses are not allowed.

Civic Zone

The Civic zone is for governmental and public land uses necessary to support community needs. Civic uses include public buildings, offices, or institutional uses owned and operated by governmental or other public agencies, parks, and open space. The concentration of government and institutional uses with regional clients attracts visitors and residents to the Town Center. Walkable urban form with prominent public spaces and pedestrian connections between adjacent land uses provides a safe and enjoyable experience. The creation of usable public spaces, establishment of shared parking and the use of alleys as placemaking opportunities is encouraged. The many public parking facilities- both surface and multi-level structured-parking provide a strong foundation to create a shared parking program that would allow nearby private uses (religious institutions, shops) to transform their infrequently used parking lots into usable visitor-serving space. Urban design for new and redeveloped uses leverages and enhances the historical character of the Town Center. Maximum FAR is 2.5 for governmental office uses and 1.0 for commercial and institutional uses. Residential uses are not allowed.

Cultural Core Zone

The Cultural Core zone is a vibrant arts and culture area with a concentration of cultural and institutional land uses that contribute to the vitality of the Town Center through the attraction of local and regional visitors. The establishment of new social/cultural uses is prioritized while encouraging commercial uses and professional and administrative office uses that complement

the character of the area and do not compete with uses in the Town Center's Mixed Use and Historic Core districts. Design approaches emphasize a walkable urban form with usable public spaces and pedestrian connections that invite people to walk into the core of the Town Center. Alleys increase accessibility and walkability between the Town Center and adjacent districts and can be repurposed into public gathering spaces. Maximum allowable FAR is 2.5 for governmental office uses and 1.0 for commercial and institutional uses. Institutional uses with large parking lots are encouraged to enter into shared parking agreements with nearby commercial uses, thus reducing the need for surface parking lots in the Town Center. Shared parking encourages the development of new uses and accommodates the district's visitors.

Medical Core Zone

The Medical Core designation encourages the concentration of medical, health, professional, and support-type uses, including medical, clinical, hospital, pharmaceutical, physician, and related business services and activities that support the Inter-Community Hospital. New uses capitalize on the hospital's investments and facilitate the growth of a medical-oriented district with uses that generate well-paying jobs for local residents. Redevelopment of vacant and underutilized sites is also encouraged and supported. Efficient use and expansion of hospital use is encouraged through replacement of surface parking areas with multi-level parking structures. Design features celebrate the historic character of Citrus Avenue, and gateway concepts and wayfinding signage invite employees and visitors to walk into the core of the Town Center. Alley connections and attractive pedestrian facilities such as "health corridors" increase accessibility and walkability between the Medical Core and adjacent district. Maximum FAR is 3.0 for hospital uses, 2.0 for medical office uses, and 0.75 for congregate care facilities and supporting commercial/medical uses such as laboratories, medical supply, and associated retail uses. Residential uses are not allowed.

Rail Zone

The Rail designation is applied to the Covina Metrolink Station property and the rail rights-of-way. It facilitates the preservation and expansion of rail facilities including vehicle, bike, and other modes of transportation parking, commuter services, and transit center.

Projected Specific Plan Growth

Existing land use is shown in Table 3-3 (Existing Land Use). Based on growth projections provided by the Southern California Association of Governments (SCAG), the proposed components of the Town Center Specific Plan update, and an analysis of existing underutilized sites that may redevelop, a development capacity has been forecast through a project horizon year of 2040 (shown in Table 3-4, Project Year 2040 Land Use). The City estimates that the Specific Plan update will support total gross property development of approximately 2.35 million square feet of retail, office, industrial, and public facility building space and 746 dwelling units through the year 2040. The Specific Plan update would therefore support a total net increase of approximately 448,800 square feet of non-residential uses, 259 additional new dwelling units, and 745 more residents over existing conditions.

Table 3-3.
Existing Land Use

Land Use Category	Dwelling Units	Non-Residential Sq. Feet (Est.)	Population (Est.)
Single Family Residential	78	--	223
Duplex Residential	17	--	49
Multi-Family Residential	344	--	984
Mobile Home Residential	21	--	60
Commercial	--	451,282	--
Office	--	292,506	--
Mixed Use	27	33,324	76
Industrial/Commercial Ind.	--	381,760	--
Hospital	--	412,078	--
Public Facility	--	116,218	--
Institutional (Place of Worship)	--	211,702	--
Parking	--	--	--
Open Space	--	--	--
Railroad	--	--	--
Vacant	--	--	--
Total Existing	**487**	**1,898,870**	**1,392**
Source: MIG, 2018			

Table 3-4.
Projected Year 2040 Land Use

Land Use Category	Dwelling Units	Non-Residential Sq. Feet	Population
Residential Town Center (West)	140	--	401
Residential Town Center (East)	92	--	263
Single Family Residential	8	--	23
Live/Work	16	81,593	46
Multi-Family Residential	399	70,487	1,143
Commercial	--	762,634	--
Office	--	289,129	--
Mixed Use	91	106,713	261
Industrial	--	252,937	--
Hospital	--	406,127	--
Institutional	--	378,050	--
Parking	--	--	--
Open Space	--	--	--
Railroad	--	--	--
Vacant	--	--	--
Total Projected	**746**	**2,347,670**	**2,137**
Change Over Existing	**+259 (54%)**	**+448,800 (24%)**	**+745 (65%)**
Source: MIG, 2018			

The Town Center Specific Plan Update establishes a new boundary for the Plan Area, adding both sides of the residential Center Street, and expanding the northeastern boundary to include the Metrolink adjacent Kelby Park and the vacant Vita Park site. The proposed Planning Area is 236 gross acres (an increase of 66 acres).

Since the Project supports redevelopment of property at higher intensities/densities that the current Specific Plan, it has the potential to include multiple-story subsurface parking resulting in the disturbance of soils at depths not previously disturbed by existing or past development.

Recommended Infrastructure Improvements

The Specific Plan identifies recommended infrastructure improvements intended to facilitate circulation into and within the Planning Area. These recommended infrastructure improvements include:

- *Metrolink Covina Station Concept.* Improving connectivity between the Metrolink Covina Station and Town Center by: widening sidewalks/curb extensions; installing crosswalks at the North Citrus Avenue/East Front Street and North Citrus Avenue/Covina Station intersections; installing a "leading pedestrian interval" at the North Citrus Avenue/East Front Street intersection; and installing bicycle and streetscape improvements.
- *Citrus Avenue Concept.* Enhance pedestrian experience on this street by installing: curb extensions/bulbouts, crosswalks, mid-block crossing, and pedestrian signals at select locations.
- *North 2nd Avenue Concept.* Increase public use of this space by: making roadway modifications to enhance pedestrian use; installing additional transit amenities; and establishing a pedestrian plaza at the North 2nd Avenue/East Italia Street intersection.
- *East Front Street Concept.* Increase pedestrian use by: completing noncontiguous sidewalks; installing curb extensions and bulbouts at East Front Street/North 2nd Avenue intersection; and installing bicycle improvements.
- *Health Corridor Concept: North 3rd Avenue, West Cottage Drive, and West College Street.* Improve pedestrian connectivity by installing at identified locations: curb extensions/bulbouts; mid-block crosswalks; roadway narrowing; and a pedestrian plaza.
- *Badillo Street and East San Bernardino Road.* Install bike facilities.

In addition to the improvements listed above, the Specific Plan Update has measures to generally improve pedestrian, bicycle and transit operations within the Planning Area. Implementation of the Specific Plan Update will improve pedestrian, bicycle and transit connectivity.

3.5 REQUIRED APPROVALS

City of Covina Discretionary Approvals

Implementation of the Town Center Specific Plan update would require, but is not limited to, the following discretionary approvals by the City of Covina:

- Certification of the Final EIR
- Adoption of a Mitigation Monitoring and Reporting Program
- Adoption of the Town Center Specific Plan update

- Adoption of General Plan amendments, zoning changes, and zoning code amendments as necessary to ensure consistency between the Specific Plan and the City's General Plan and current zoning code
- Discretionary review as necessary, including CEQA review, for future individual public and private development proposals in the Project Area

Other Government Agency Approvals

Future individual public and private development proposals in the Specific Plan area would be expected to also require review or approvals from other jurisdictional agencies, including, but not limited to:

- South Coast Air Quality Management District (SCAQMD)
- California Department of Transportation (Caltrans)
- Los Angeles Regional Water Quality Control Board (RWQCB)
- Southern California Regional Rail Authority (SCRRA)

4.1 Aesthetics

This EIR Chapter addresses potential impacts on scenic vistas and scenic resources, the potential of the Project to degrade the visual character or quality within the Project Area and surrounding areas, and the potential of the Project to create substantial and adverse light and glare.

4.1.1 ENVIRONMENTAL SETTING

Scenic Vistas

The City's General Plan (City of Covina 2000) does not designate any scenic vistas. The Project Area is located near the foot of the San Gabriel Mountains which is a prominent visual resource. Although less prominent, Lone Hill is located to the east of the project area and the Covina Hills are located to the southeast. Views of these features are available from the Project Area although, depending on the specific location in the Planning Area, buildings and trees may partially obscure such views.

Scenic Highways

The City's General Plan (City of Covina 2000) does not identify any scenic highways or routes. The California Department of Transportation (Caltrans) maintains the California Scenic Highway Program and identifies segments of California highways and adjacent corridor as containing outstanding natural beauty. Between Interstate 210 (I-210) and State Route 2 (SR-2) in the San Gabriel Mountains, State Route 39 (SR-39), also known as North Azusa Avenue, has been identified as an eligible state scenic highway (Caltrans 2016a). At its nearest location (i.e., the intersection of I-210 and SR-39), SR-39 is located approximately 2.15 miles northwest of the Project Area. The nearest designated State scenic highway is State Route 2, which is located approximately 14 miles north of the Project Area. Neither SR 2 or SR 39 are visible from the Project Area.

Visual Character

A community's visual character can be defined by the historical development pattern and architectural precedence that has occurred over its history, coupled with implemented community theming and design elements. The Project Area is part of a mature, developed community characterized by predominantly low rise/low intensity residential, commercial, and light manufacturing uses. The Project Area is built out. The Project Area is situated on flat terrain; however, the hilly enclave of Covina Hills is located in the southeastern portion of the City and the rugged San Gabriel Mountains are located in close proximity north of the City limits. The Project Area is located in a built-up, urban setting and is bound by commercial, industrial, and residential development on all sides.

Light and Glare

The Project Area is located in an urbanized area of the City in which existing sources of nighttime lighting and glare occur. For example, tall, overhead lighting poles are installed on parking lots and roadways throughout the Project Area. Also, residential development is located within the Project Area. Gas stations, restaurants, and other commercial retail and neighborhood serving

businesses are present in the area (several are located in continuous strip or shopping center type developments). Exterior and interior lighting and advertisement signage associated with these uses operate during nighttime hours and contribute lighting to the environment. Lastly, vehicles traveling on area roads and in area parking lots are also a source of nighttime lighting in the Project Area.

4.1.2 REGULATORY FRAMEWORK

Federal

There are no Federal regulations related to scenic resources, aesthetics or light and glare that are applicable to the Project Area.

State

California Scenic Highway Program

The state laws that govern the California Scenic Highway Program are Sections 260 through 263 of the Streets and Highways Code. A highway may be designated "scenic" based on the natural landscape visible to travelers, the scenic quality of the landscape, and the extent to which development intrudes on the views of the highway. The California Scenic Highway Program includes both officially designated scenic highways and highways that are eligible for designation. It is the responsibility of local jurisdictions to apply for scenic highway approval, which requires the adoption of a corridor protection program (Caltrans 2008).

Local

City of Covina General Plan

The following policies of the City of Covina General Plan Land Use Element pertain to scenic resources and/or aesthetic character and therefore are applicable to an aesthetics analysis of the proposed project:

- **Objective 1, General Land Use, Policy 7:** Require that new or expanded commercial, industrial, and medium- to high-density residential projects, when adjacent to single-family residences, hospitals, nursing homes, schools, day care centers, and other sensitive uses, incorporate sufficient physical and visual buffers to ensure compatibility. Such buffers shall include, but not be limited to, building setback and architecture, landscaping, walls, and other physical and aesthetic elements and shall adequately protect the single family residences or sensitive uses from noise, light, trash, vehicular traffic, and other visual and environmental disturbances.

- **Objective 1, Residential, Policy 14:** Require, except where community goals, objectives, and policies are best furthered, that both new and remodeled residential developments comply with Zoning and other standards, incorporate adequate amenities, and achieve a high level of architectural and site design quality to ensure a high quality of life for local residents and to ensure long-term building maintenance and viability.

- **Objective 3, Residential, Policy ee:** Maintain and, where possible, enhance Covina's attractive appearance, positive image, and small-town character.

4.1.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to aesthetics if it would:

a) Have a substantial adverse effect on a scenic vista;
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
c) Substantially degrade the existing visual character or quality of the site and its surroundings; or
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area;

4.1.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to aesthetics, which could result from the implementation of the Project and recommends mitigation measures as needed to reduce significant impacts.

Scenic Vistas

a) Would the project have a substantial adverse effect on a scenic vista?

Analysis of Impacts

The Project Area and the City of Covina are near the foot of the San Gabriel Mountains y. Existing views of the San Gabriel Mountains, Lone Hill and the Covina Hills can be, depending on location within the project area, partially obscured by buildings, trees telephone and power lines, cell towers or other structures typical of an urban environment. Although such obstructions are usually minimal in nature, they do exist, and they are typical of any type of built/urbanized environment. As the Project Area redevelops based on the updated Specific Plan, similar minimal and partial obstructions will continue to exist. Although the updated Specific Plan will over time result in somewhat more intensive and higher density uses, impacts, if any, on scenic vistas would be minimal given the considerable distance of the Project Area to these scenic features and the fact that these views are already affected by the existing built environment. Therefore, potential Project impacts with respect to scenic vistas would be less than significant

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Scenic Resources/Scenic Highways

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Analysis of Impacts

At its nearest point just north of the I-210 freeway, SR-39 (an eligible state scenic highway) is located approximately 2.15 miles northwest of the Project Area. Due to the presence of intervening development and landscaping, the Planning Area would not be visible in southerly views along the segment of SR-39 located in the City of Azusa. On forest service lands located north of the City of Azusa, the proposed project site would not be visible due to intervening terrain (SR-39 traverses the canyons of the San Gabriel Mountains and adjacent terrain limits the availability of particularly long views to the south). The nearest officially designated state scenic highway, SR-2, is located more than 14 miles north of the proposed Planning Area in the San Gabriel Mountains and would not be visible to motorists. Therefore, implementation and development of the proposed Specific Plan would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway and potential impacts would be less than significant

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Existing Visual Character

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Analysis of Impacts

Buildout of the Specific Plan Area is anticipated to occur over a period of approximately 20 years. Temporary impacts to the visual character and quality of the area could occur during construction activities, although they would be limited and temporary in nature. Typical construction activities would include site preparation, grading, installation of public and private utilities, building construction, application of architectural coatings, paving of surface parking areas, public improvements, and installation of landscaping, and roadway improvements. Construction equipment including, but not limited to, backhoes, excavators, graders, rubber-tired dozers, crushing machines for concrete and asphalt, and hauling trucks and materials may be present during construction activities. Construction equipment would be required to adhere to Municipal Code restrictions for blocking traffic (Chapter 10.32) and would not be allowed to obstruct access to surrounding streets.

During future construction activities, project sites would undergo temporary transformations in visual character. For example, at the onset of construction, structures and asphalt parking lots would be demolished and sites would be graded. During future construction, vacant graded sites

would be a temporary visual experience to receptors as the pouring of building foundations and framing of buildings during vertical construction would reintroduce permanent vertical forms to the project site. This characterization would also be temporary until building construction, paving and site landscaping is completed.

Visual changes to project sites would be experienced temporarily and project sites would progressively transition from active construction zones to finished development. Due to the temporary nature of construction, the visual changes anticipated during construction stages of future projects within the Project Area would not be permanent and would not substantially degrade its visual character or the visual character of surrounding areas. The Specific Plan includes Public Realm design standards and guidelines for sidewalk, street trees, and crosswalk treatments; street furniture and lighting; gateways; public art; curb extensions (bulb-outs); parklets; signs; plazas/community activity areas; pedestrian alleyways; the West Cottage Drive and West College Street Health Corridors; and green infrastructure. The Specific Plan also includes Private Realm standards and guidelines for general building and site design. With adherence to Specific Plan standards and guidelines, future developments would not substantially degrade the existing visual character or quality of the Planning Area and its surroundings and potential impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Light and Glare

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Analysis of Impacts

Existing lighting within the Project Area is typical for urbanized areas during nighttime hours and includes streetlights, traffic signals, security lighting around businesses and homes, auto headlights and illuminated business signs. New uses and developments may result in an increase in the number of lighting sources currently within the Project Area although, given that it is already developed, such increases are expected to be minimal in nature.

Implementation of the proposed Specific Plan update is not anticipated to result in the introduction of new sources of substantial light and glare to the Planning Area that would affect existing day time views. While future project components would include windows and other glass features and may include exterior metallic elements and trims (i.e., exterior staircases associated with parking structures, shade structures for retail developments, residential balcony railings, etc.), these elements would be relatively minor in the context of the Project Area and would be similar to existing architectural elements present in the surrounding area. Further, future projects within the Planning Area would be subject to the lighting and glare restrictions of the City of Covina Municipal Code (Chapter 9, Subsection 9.42.020B). With the continued implementation of these requirements potential impacts with respect to light and glare would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Cumulative Impacts

Would the project cause substantial adverse cumulative impacts with respect to aesthetics?

Analysis of Impacts

Scenic Vistas- A cumulative impact to scenic vistas would occur if cumulative projects within the Project Area, combined with cumulative projects in the surrounding area, resulted in the substantial degradation of quality or obstruction of particularly scenic views available from a recognized scenic vista. Project specific impacts with respect to scenic vistas were determined to less than significant. As stated in Section 4.1.1 above, the City of Covina is located at the foot of the San Gabriel Mountains and views of mountainous terrain are generally available throughout the City. Buildout of the Specific Plan would occur over a period of 20 years and would occur at locations throughout the Project Area. Since the project is located in the middle of an urbanized area that is already developed it is unlikely that incremental changes that would occur from implementation of the Specific Plan update would result in cumulative impacts with respect to scenic vistas. Potential cumulative impacts would be less than significant.

Scenic Highways- Since the Project Area is not visible from an eligible or officially designated state scenic highway, development within the Project Area would not result in impacts to scenic resources within a state scenic highway. Therefore, the proposed Specific Plan updated would not contribute to a potential cumulative significant impact to a scenic highway. Potential impact would be less than significant.

Degrade Visual Character- Construction and operation of future projects within the Project Area was determined to result in less than significant impacts to the existing visual character and quality of the Planning Area and surrounding area. Future projects considered in the cumulative scenario would generally be subject to the City's underlying zoning standards that include regulations pertaining to permitted uses, minimum lot dimensions, and maximum building height. The Specific Plan includes Public and Private Realm standards and design guidelines. Future projects within the Project Area would be located where similar existing uses occur, and as such, would not entail a significant visual change such that the existing visual character or quality of project sites and their surroundings would be substantially degraded. As such, the proposed Specific Plan update would not result in cumulative significant impacts that would degrade the existing visual character or quality of the area and its surroundings. Potential impacts would be less than significant.

Light and Glare- Project related impacts with respect to light and glare were determined to be less than significant. Lighting and building materials associated with cumulative development would be subject to review and approval by the City of Covina Planning Department. If detailed information regarding proposed lighting and building materials are not known during preparation of necessary environmental documentation for cumulative projects, then the adoption of

applicant-proposed measures or mitigation measures would likely be required by the City of Covina to ensure that lighting and glare impacts are less than significant. Therefore, cumulative impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

4.1.5 REFERENCES

Caltrans (California Department of Transportation). 2008. Scenic Highway Guidelines. October 2008.

Caltrans. 2016a. Scenic Highway Mapping System: Los Angeles County. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/langeles.htm Accessed September 2018.

Caltrans. 2016b. Scenic Highway Mapping System: List of Eligible and Officially Designated State Scenic Highways. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/scenic_hwy.htm Accessed September 2018.

City of Covina. 2000. City of Covina General Plan Natural Resources and Open Space Element and Land Use Element. Approved by the City Council April 18, 2000.

City of Covina, 2007. Covina Town Center Historic Resources Survey. Prepared by Historic Preservation Partners. Spring 2007.

4.2 Agriculture and Forestry Resources

This EIR chapter describes the existing agricultural and forestry resources; identifies associated regulatory requirements; and evaluates potential adverse impacts related to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), conflict with existing zoning for agricultural use or Williamson Act contract, conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production, and loss of forest land as a result of the Covina Town Center Specific Plan Update.

4.2.1 ENVIRONMENTAL SETTING

The Planning Area is located in a highly urbanized area in the City of Covina (City). The City, including the Planning Area, is not part of the California Department of Conservation's (DOC's) Farmland Mapping and Monitoring Program (FMMP) study area (DOC 2018a). There are no agricultural uses in the Planning Area, and there are no areas within the Planning Area zoned for agricultural use. Additionally, there are no forest lands in the Planning Area. The Planning Area is primarily comprised of commercial, residential, medical office, institutional, industrial, and open space uses. There is minimal vacant land within the Planning Area; generally representing infill sites.

4.2.2 REGULATORY FRAMEWORK

Federal

Farmland Protection Policy Act

The U.S. Department of Agriculture administers the Farmland Protection Policy Act of 1981. This Act is intended to minimize the extent to which federal programs contribute to the unnecessary conversion of Farmland to nonagricultural uses. The act also requires these programs to be compatible with state, local, and private efforts to protect Farmland.

State

California Public Resources Code

Section 4526 of the California Public Resources Code defines timberland as land (other than land owned by the federal government and land designated by the State Board of Forestry and Fire Protection as experimental forest land) that is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the State Board of Forestry and Fire Protection on a forest district basis after consultation with the forest district committees and others.

According to Section 12220(g) of the Public Resources Code, forest land refers to "land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."

California Civil Code Section 3482.5 (The Right to Farm Act)

The Right to Farm Act is designed to protect commercial agricultural operations from nuisance complaints that may arise when an agricultural operation is conducting business in a "manner consistent with proper and accepted customs." The code specifies that established operations that have been in business for three or more years that were not nuisances at the time they began shall not be considered a nuisance as a result of a new land use.

Farmland Mapping and Monitoring Program (FMMP)

The FMMP, established in 1982, produces maps and statistical data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to the soil quality and irrigation status, with the best quality land called Prime Farmland. Maps are updated every two years, with current land use information gathered from aerial photographs, a computer mapping system, public review, and field reconnaissance.

The DOC classifies and maps land within the state as Prime Farmland, Farmland of Statewide Importance, Unique Farmland (collectively referred to as Important Farmland), and Grazing Land to provide information regarding Important Farmland conversion to decisions makers for use in planning the present and future use of California's agricultural land resources. As stated previously, the City, including the Planning Area, is not part of the DOC's FMMP study area (DOC 2018a).

California Land Conservation Act (Williamson Act)

The Williamson Act of 1965 was designed as an incentive to retain prime agricultural land and open space in agricultural use, thereby slowing its conversion to urban and suburban development. The program requires a 10-year contract between the county and the land owner. While in contract, the land is taxed on the basis of its agricultural use rather than its market value. The land becomes subject to certain enforceable restrictions, and certain conditions need to be met prior to approval of an agreement. The goal of the Williamson Act is to protect agriculture and open space.

California Government Code

Government Code Section 51104 (g) defines a timberland production zone as an area that has been zoned pursuant to Section 51112 or 51113 and is devoted to, and used for, growing and harvesting timber, or for growing and harvesting timber and compatible uses.

Local

City of Covina General Plan

The City's General Plan Natural Resources and Open Space Element notes that the City is approximately 99 percent built out and does not contain noteworthy, usable agricultural soils, important agricultural areas, and does not contain forest lands. As such, there are no relevant goals and policies related to the protection of agricultural and forestry resources applicable to the proposed Covina Town Center Specific Plan Update.

4.2.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to agriculture and forest resources if it would:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract;
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
d) Result in the loss of forest land or conversion of forest land to non-forest use; or
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use;

4.2.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to Important Farmland, Forestland and Timberland, which could result from the implementation of the Specific Plan Update and recommends mitigation measures, as needed, to reduce significant impacts.

Important Farmland

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Analysis of Impacts

The City, including the Planning Area, was not part of the DOC's FMMP study area (DOC 2018a). There are no Class I (prime agriculture) soils within the City limits and limited Class II (potential prime agriculture) soils are located generally in the eastern portion of the community. Most of the soils in the City range from categories III to VII (which vary from "limited agricultural use potential" to "unsuited for agriculture") (City of Covina 2000). There are no agricultural uses in the Planning Area nor does it include any parcels zoned for agricultural use. The Planning Area is primarily comprised of commercial, residential, medical office, institutional, industrial, and open space uses. There is minimal vacant land within the Planning Area; generally representing infill sites. Since the Planning Area is currently built out, and no agricultural uses are located in the Planning Area, no conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation is required.

Williamson Act Agricultural Contract

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Analysis of Impacts

The City's zoning and General Plan land use Element indicate that no portion of the Planning Area is zoned for agricultural use and there are no Williamson Act contracts with the Planning Area. Since the Planning Area does not include any agricultural land uses, and no sites in the Planning Area are under a Williamson Act contract, no impact to an agricultural use or Williamson Act contract would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Forestland/Timberland

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

Analysis of Impacts

No forest land, timberland, or Timberland Production areas (as defined in the Public Resources Codes (PRC) 12220(g) and 4526 or Government Code 51104(g)) are located within, or adjacent to, the Planning Area. Therefore, the proposed Town Center Specific Plan Update would not conflict with existing zoning for forest land, timberland, or Timberland Production areas, or result in the loss or conversion of forest lands to non-forest uses, as none exist.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation required.

Loss of Forestland

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

Analysis of Impacts

There are no forest lands within the City, including the Planning Area (City of Covina 2000). The Planning Area is primarily comprised of commercial, residential, medical office, institutional, industrial, and open space uses. There is minimal vacant land within the Planning Area; generally representing infill sites. Since the Planning Area is currently built out, and no forest lands are in the Planning Area, no conversion of forest land to non-forest use would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Conversion of Farmland

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Analysis of Impacts

Please refer to responses 4.2.4A, 4.2.4B, 4.2.4C, and 4.2.4D above. There are no agricultural uses in the Planning Area, and there are no parcels within the Planning Area zoned for agricultural use. There are no forest lands within the City, including the Planning Area (City of Covina 2000). The Planning Area is primarily comprised of commercial, residential, medical office, institutional, industrial, and open space uses. There is minimal vacant land within the Planning Area; generally representing infill sites. Since the Planning Area is currently built out, and no agricultural uses or forest lands are in the Planning Area, no conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non- agricultural use or conversion of forest land to non-forest use would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Cumulative Impacts

Would the project cause substantial adverse cumulative impacts with respect to Agriculture and Forestry Resources?

Analysis of Impacts

As described above, the proposed Town Center Specific Plan Update would not result in impacts related to agricultural resources, Prime Farmland, Unique Farmland, or Farmland of Statewide Important, Williamson Act contracts, forest lands, timberland, or Timberland Production areas. Because of the developed nature of the area, and because the Specific Plan Update would not impact agricultural uses, Farmland, Williamson Act contracts, forest lands, timberland, or Timberland Production areas, the proposed Specific Plan Update would not contribute to a cumulative significant impact related to agriculture and forestry resources.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation is required.

4.2.5 REFERENCES

City of Covina. 2000. Covina General Plan Natural Resources and Open Space Element. Accessed December 27, 2018: http://www.covinaca.gov/sites/default/files/fileattachments/planning_commission/page/1073/natural_resources_and_open_space.pdf.

Department of Conservation (DOC). 2018a. Los Angeles County Important Farmland 2014. Accessed December 27, 2018: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2014/los14.pdf.

DOC. 2018b. Los Angeles County Williamson Act 2015/2016. Accessed December 27, 2018: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/LA_15_16_WA.pdf.

4.3 Air Quality

This EIR chapter provides information on the environmental and regulatory air quality setting of the planning area and evaluates the potential amount of emissions of regulated air pollutants that could be generated by construction and operation of projects pursuant to the Covina Town Center Specific Plan update. The methodologies and assumptions used in the preparation of this section follow the CEQA Guidelines developed by the South Coast Air Quality Management District (SCAQMD, 2017a). Information on existing air quality conditions, federal, and State ambient air quality standards, and pollutants of concern was obtained from the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and SCAQMD. This EIR air quality analysis has been closely coordinated with the greenhouse gas and energy analyses in Chapter 4.7 of this EIR. Please refer to Appendix B for detailed air quality and greenhouse gas emissions estimates (MIG, 2019).

4.3.1 ENVIRONMENTAL SETTING

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality.

South Coast Air Basin

The U.S. EPA and CARB are the federal and State agencies charged with maintaining air quality in the nation and California, respectively. The U.S. EPA delegates much of its authority over air quality to CARB. CARB has geographically divided the State into 15 air basins for the purposes of managing air quality on a regional basis. An air basin is a CARB-designated management unit with similar meteorological and geographic conditions.

The Covina Town Specific Plan area is located in the City of Covina, in the South Coast Air Basin (Basin), which includes Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside counties. The basin encompasses approximately 6,745 square miles of coastal plains, and is bounded by the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east.

Air quality in the basin is managed by the SCAQMD. Pursuant to the California Clean Air Act, SCAQMD is responsible for bringing air quality within the basin into conformity with federal and State air quality standards by reducing existing emission levels and ensuring that future emission levels meet applicable air quality standards. SCAQMD works with federal, State, and local agencies to reduce pollutant emissions through adoption and implementation of rules and regulations. Please refer to Section 3.2 for a description of the regulatory setting of the planning area as it relates to air quality.

Basin Climate and Meteorology

The climate of the Los Angeles region is classified as Mediterranean, but weather conditions within the basin are dependent on local topography and proximity to the Pacific Ocean. The climate is dominated by the Pacific high-pressure system that results in generally mild, dry summers and mild, wet winters. This temperate climate is occasionally interrupted by extremely

hot temperatures during the summer, Santa Ana winds during the fall, and storms from the Pacific northwest during the winter. In addition to the basin's topography and geographic location, El Niño and La Niña patterns also have large effects on weather and rainfall received between November and March.

The Pacific high-pressure system drives the prevailing winds in the basin. The winds tend to blow onshore in the daytime and offshore at night. In the summer, an inversion layer is created over the coastal areas and increases ozone levels. A temperature inversion is created when a layer of cool air is overlain by a layer of warmer air; this can occur over coastal areas when cool, dense air that originates over the ocean is blown onto land and flows underneath the warmer, drier air that is present over land. In the winter, areas throughout the basin often experience a shallow inversion layer that prevents the dispersion of surface level air pollutants, resulting in higher concentrations of criteria air pollutants such as carbon monoxide (CO) and oxides of nitrogen (NO_X).

In the fall months, the basin is often impacted by Santa Ana winds. These winds are the result of a high-pressure system over the Nevada-Utah region that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. These winds are powerful and incessant.

An El Niño is a warming of the surface waters of the eastern Pacific Ocean. It is a climate pattern that occurs across the tropical Pacific Ocean that is usually associated with drastic weather occurrences, including enhanced rainfall in Southern California. La Niña is a term for cooler than normal sea surface temperatures across the Eastern Pacific Ocean. The Los Angeles region receives less than normal rainfall during La Niña years.

Throughout the SCAB region, annual average temperatures vary from the low to middle 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47° F in downtown Los Angeles and 36° F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100° F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB. The sulfur dioxide is converted to sulfates and is heightened in the air with high relative humidity. The annual average relative humidity within the SCAB is 71 percent along the coast and 59 percent inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent with low stratus clouds being a characteristic feature. These effects decrease with distance from the coast.

More than 90 percent of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Rainfall between the months of April and November usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

The City's average temperatures range from a high of 94 degrees Fahrenheit (F) in August to a low of 38 degrees Fahrenheit in December. Annual precipitation is approximately 9.89 inches, falling mostly from January through April (WRCC 2015).

Sunlight. Three-quarters of available sunshine is received in the SCAB, while the remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. The shortest day of the year has approximately ten hours of possible sunshine, while the longest day of the year has approximately 14.5 hours of possible sunshine.

Temperature Inversions. In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing that effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_X and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants within the basin.

Wind Patterns. The distinctive climate of the SCAB is determined by its terrain and geographical location. The Basin is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly on-shore winds during the day and easterly or northeasterly breeze at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

Regulated Air Pollutants

The U.S. EPA has established National Ambient Air Quality Standards (NAAQS) for six common air pollutants: ozone (O_3), particulate matter (PM), which consists of "inhalable coarse" PM (particles with an aerodynamic diameter between 2.5 and 10 microns in diameter, or PM_{10}) and "fine" PM (particles with an aerodynamic diameter smaller than 2.5 microns, or $PM_{2.5}$), CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. The U.S. EPA refers to these six common pollutants as "criteria" pollutants because the agency regulates the pollutants on the basis of human health and/or environmentally-based criteria and because they are known to cause adverse human health effects and/or adverse effects on the environment (U.S. EPA 2019a and 2019b).

CARB has also established California Ambient Air Quality Standards (CAAQS) for the six common air pollutants regulated by the federal Clean Air Act (the CAAQS are more stringent than the NAAQS), plus the following additional air pollutants due to their known adverse effects

on human health or the environment (CARB 2019a): hydrogen sulfide (H_2S), sulfates (SO_X), vinyl chloride, and visibility reducing particles.

A description of the air pollutants associated with the proposed project and its vicinity is provided below. Air pollutants not commonly associated with the existing or proposed sources in the vicinity of the project site, such as hydrogen sulfide and visibility reducing particles, are not described below.

- **Ground-level Ozone**, or smog, is not emitted directly into the atmosphere. It is created from chemical reactions between NO_X and volatile organic compounds (VOCs), also called reactive organic gases (ROG), in the presence of sunlight (U.S. EPA 2017). Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_X and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis.
    - **ROGs** is a CARB term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and includes several low-reactive organic compounds which have been exempted by the U.S. EPA (CARB 2004).
    - **VOCs** is a U.S. EPA term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. The term exempts organic compounds of carbon which have been determined to have negligible photochemical reactivity such as: methane, ethane, and methylene chloride (CARB 2004).
- **Particulate Matter**, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles (U.S. EPA 2016a).
    - **PM_{10}**, also known as inhalable coarse, respirable, or suspended PM, consists of particles less than or equal to 10 micrometers in diameter (approximately 1/7th the thickness of a human hair). These particles can be inhaled deep into the lungs and possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people with heart or lung disease (U.S. EPA 2016a).
    - **$PM_{2.5}$**, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately 1/30th the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects (U.S. EPA 2016a).
- **Carbon Monoxide (CO)** is an odorless, colorless gas that is formed by the incomplete combustion of fuels. Motor vehicles are the single largest source of carbon monoxide in the basin. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can aggravate cardiovascular disease and cause headaches, dizziness, unconsciousness, and even death (U.S. EPA 2016b).
- **Nitrogen Dioxide (NO_2)** is a by-product of combustion. NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation.

NO_2 also contributes to the formation of particulate matter. NO_2 can cause breathing difficulties at high concentrations (U.S. EPA 2016c).

- **Sulfur Dioxide (SO_2)** is one of a group of highly reactive gases known as SO_X. Fossil fuel combustion in power plants and industrial facilities are the largest emitters of SO_2. Short-term effects of SO_2 exposure can include adverse respiratory effects such as asthma symptoms. SO_2 and other SO_X can react to form PM (U.S. EPA 2016d).
- **Sulfates (SO_4^{2-})** are the fully oxidized ionic form of sulfur. SO_4^{2-} are primarily produced from fuel combustion. Sulfur compounds in the fuel are oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Sulfate exposure can increase risks of respiratory disease (CARB 2009).
- **Lead** is a metal found naturally in the environment as well as in manufactured products. Mobile sources used to be the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline, and in 1996, lead was banned from gasoline. As a result of these efforts, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically. Lead can adversely affect multiple organ systems of the body and people of every age group. Lead poisoning in young children can cause brain damage, behavioral problems, and liver or kidney damage. Lead poisoning to adults can cause reproductive problems, muscle and joint pain, nerve disorders and kidney disease (CARB 2016a).

Common criteria air pollutants, such as ozone precursors, SO_2, and PM, are emitted by a large number of sources and have effects on a regional basis (i.e., throughout the Basin). Other pollutants, such as hazardous air pollutants (HAPs; described in more detail below under “Toxic Air Contaminants”), toxic air contaminants (TACs; described in more detail below), and fugitive dust, are generally not as prevalent and/or emitted by fewer and more specific sources. As such, these pollutants have much greater effects on local air quality conditions and local receptors.

Ambient Air Quality Standards and Basin Attainment Status

In general, the NAAQS and CAAQS define “clean” air, and are established at levels designed to protect the health of the most sensitive groups in our communities by defining the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment. Air pollutant levels are typically described in terms of concentration, which refers to the amount of pollutant material per volumetric unit of air. Concentrations are typically measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

The U.S. EPA, CARB, and regional air agencies assess the air quality of an area by measuring and monitoring the amount of pollutants in the ambient air and comparing pollutant levels against NAAQS and CAAQS. Based on these comparisons, regions are classified into one of the following categories.

- **Attainment**. A region is “in attainment” if monitoring shows ambient concentrations of a specific pollutant are less than or equal to the NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a “maintenance area” for 10 years to ensure that the air quality improvements are sustained.

- **Nonattainment.** If the NAAQS or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment. Federal and State laws require nonattainment areas to develop strategies, implementation plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.
- **Unclassified.** An area is unclassified if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

Table 4.3-1 (Ambient Air Quality Standards and Basin Attainment Status) lists the NAAQS and CAAQS and summarizes the Basin's attainment status.

Table 4.3-1:
Ambient Air Quality Standards and Basin Attainment Status

Pollutant	Averaging Time(B)	California Standards(A)		National Standards(A)	
		Standard(C)	Attainment Status(D)	Standard(C)	Attainment Status(D)
Ozone	1-Hour (1979)	--	--	240 µg/m^3	Nonattainment
	1-Hour (Current)	180 µg/m^3	Nonattainment	--	--
	8-Hour (1997)	--	--	160 µg/m^3	Nonattainment
	8-Hour (2008)	--	--	147 µg/m^3	Nonattainment
	8-Hour (Current)	137 µg/m^3	Nonattainment	137 µg/m^3	Pending
PM_{10}	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Attainment
	Annual Average	20 µg/m^3	Nonattainment	--	--
$PM_{2.5}$	24-Hour	--	--	35 µg/m^3	Nonattainment
	Annual Average (1997)	--	--	15 µg/m^3	Nonattainment
	Annual Average (Current)	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
Carbon Monoxide	1-Hour	23,000 µg/m^3	Attainment	40,000 µg/m^3	Attainment
	8-Hour	10,000 µg/m^3	Attainment	10,000 µg/m^3	Attainment
Nitrogen Dioxide	1-Hour	339 µg/m^3	Attainment	188 µg/m^3	Unclassifiable/ Attainment
	Annual Average	57 µg/m^3	Attainment	100 µg/m^3	Attainment
Sulfur Dioxide	1-Hour	655 µg/m^3	Attainment	196 µg/m^3	Attainment
	24-Hour	105 µg/m^3	Attainment	367 µg/m^3	Unclassifiable/ Attainment
	Annual Average	--	--	79 µg/m^3	Unclassifiable/ Attainment
Lead	3-Months Rolling	--	--	0.15 µg/m^3	Nonattainment (Partial)
Hydrogen Sulfide	1-Hour	42 µg/m^3	Attainment	--	
Sulfates	24-Hour	25 µg/m^3	Attainment	--	
Vinyl Chloride	24-Hour	26 µg/m^3	Attainment	--	

Source: CARB 2016b, SCAQMD 2016a, modified by MIG.

(A) This table summarizes the CAAQS and NAAQS and the Basin's attainments status. This table does not prevent comprehensive information regarding the CAAQS and NAAQS. Each CAAQS and NAAQS has its own averaging time, standard unit of measurement, measurement method, and statistical test for determining if a specific

standard has been exceeded. Standards are not presented for visibility reducing particles, which are not concentration-based. The Basin is unclassified for visibility reducing particles.

(B) Ambient air standards have changed over time. This table presents information on the standards previously used by the U.S. EPA for which the Basin does not meet attainment.

(C) All standards are shown in terms of micrograms per cubic meter (μg/m^3) rounded to the nearest whole number for comparison purposes (with the exception of lead, which has a standard less than 1 μg/m^3). The actual CAAQS and NAAQS standards specify units for each pollutant measurement.

(D) A= Attainment, N= Nonattainment, U=Unclassifiable.

Toxic Air Contaminants (TACs)

In addition to criteria air pollutants, the U.S. EPA and CARB have classified certain pollutants as HAPs or TACs, respectively. The U.S. EPA has identified 187 HAPs, including such substances as benzene and formaldehyde; CARB also considers particulate emissions from diesel-fueled engines and other substances to be TACs. Since CARB's list of TACs references and includes U.S. EPA's list of HAPs, this EIR uses the term TAC when referring to HAPs and TACs.

TACs can cause severe health effects at very low concentrations (non-cancer effects), and many are suspected or confirmed carcinogens (i.e., can cause cancer) (U.S. EPA 2019a, CARB 2019b). People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects such as (but not limited to) reduce immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and/or other health problems (U.S. EPA 2019a, CARB 2019b).

A description of the TACs associated with the proposed project and its vicinity is provided below.

- **Gasoline-Powered Mobile Sources.** According to the SCAQMD's *Multiple Air Toxics Exposure Study in the South Coast Air Basin* (SCAQMD 2015a), or MATES IV, gasoline-powered vehicles emit TACs, such as benzene, which can have adverse health risks. Gasoline-powered sources emit TACs in much smaller amounts than diesel-powered vehicles. The MATES IV study identifies that diesel emissions account for between 68% to 80% of the total air toxics and cancer risk in the Basin.
- **Diesel Particulate Matter (DPM)**. Diesel engines emit both gaseous and solid material; the solid material is known as DPM. Almost all DPM is less than 1 μm in diameter, and thus is a subset of $PM_{2.5}$. DPM is typically composed of carbon particles and numerous organic compounds. Diesel exhaust also contains gaseous pollutants, including VOCs and NO_x. The primary sources of diesel emissions are ships, trains, trucks, rail yards and heavily traveled roadways. These sources are often located near highly populated areas, resulting in greater DPM related health consequences in urban areas. The majority of DPM is small enough to be inhaled into the lungs and what particles are not exhaled can be deposited on the lung surface and in the deepest regions of the lungs where the lung is most susceptible to injury. In 1998, CARB identified DPM as a toxic air contaminant based on evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure (CARB 2016c).
- **PM from Wheel-Rail Interactions**: PM may also be generated from friction between rail and locomotive wheels (wheel-rail interaction). This abrasion process can suspend metals such as iron, chromium, manganese, and copper in the form of PM (CARB 2019d, Loxham et al. 2013); however, the potential for PM to be generated is dependent on the weight of the train and the conditions of the wheels and track on which the train rides. The Metrolink is a commuter rail that consists of a traditional diesel locomotive

commuter rail system; the rail line is also shared by freight trains. Thus, while the Metrolink may generate PM from wheel-rail interaction, this contribution is anticipated be minimal (i.e., would not have an appreciable effect on mass emission or health risk estimates) and this issue is not discussed further in this EIR.

- **Toxic elements and pollutants** such as butadiene, benzene, perchloroethylene, formaldehyde, acetaldehyde, arsenic, cadmium, and lead are found in the basin (SCAQMD, 2015). Many toxins, such as benzene, butadiene, and lead, are associated with refinery operations such as those that exist in the basin.

Local Air Quality Conditions

The SCAQMD monitors air quality within the Basin. Existing levels of ambient air quality and historical trends within the planning area are best documented by measurements taken by the SCAQMD. The Specific Plan area is located in SCAQMD Source Receptor Area (SRA) 9 (East San Gabriel Valley). Air quality monitoring stations usually measure pollutant concentrations at varying heights above ground level depending on the monitoring site and the pollutants being monitored. Therefore, air quality is often referred to in terms of ground-level concentrations. The closest air quality monitoring station is the Azusa Monitoring Station, located at 803 North Loren Avenue, Azusa, California (approximately 3.8 miles northwest of the center of the planning area). Air quality data for O_3, NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$ from the Azusa monitoring station are provided in Table 4.3-2 (Local Air Quality Conditions (2015-2017)).

Table 4.3-2:
Local Air Quality Conditions 2015-2017

Pollutant	Ambient Air Standard	Year[(A)]		
		2015	2016	2017
Ozone (O_3)				
Maximum 1-hour Concentration (ppm)		0.122	0.146	0.152
Maximum 8-hr Concentration (ppm)		0.096	0.106	0.114
Number of Days Exceeding State 1-hr Standard	>180 µg/m3	21	30	38
Number of Days Exceeding State 8-hr Standard	>137 µg/m3	28	40	62
Days Exceeding Federal 1-hr Standard	>0.124 ppm	0	4	7
Days Exceeding Federal 8-hr Standard	>0.070 ppm	27	39	62
Carbon Monoxide (CO)				
Maximum 1-hr Concentration (ppm)		2.1	1.3	1.8
Maximum 8-hr Concentration (ppm)		1.3	1.2	0.9
Days Exceeding State 1-hr Standard	>23,000 µg/m^3	--	--	--
Days Exceeding Federal/State 8-hr Standard	>10,000 µg/m^3	--	--	--
Days Exceeding Federal 1-hr Standard	>40,000 µg/m^3	--	--	--
Nitrogen Dioxide (NO_2)				
Maximum 1-hr Concentration (ppb)		71.0	74.2	65.6
Annual Arithmetic Mean Concentration (ppb)		15.4	16.6	15.8
Days Exceeding State 1-hr Standard	>180 µg/m^3	--	--	--
Coarse Particulate Matter (PM_{10})				
Maximum 24-hr Concentration (µg/m^3)		101	74	83

Pollutant	Ambient Air Standard	Year(A)		
		2015	2016	2017
Annual Arithmetic Mean (µg/m^3)		37.1	33.7	31.4
Samples Exceeding State 24-hr Standard	>50 µg/m^3	12	12	6
Samples Exceeding Federal 24-hr Standard	>150 µg/m^3	0	0	0
Fine Particulate Matter ($PM_{2.5}$)				
Maximum 24-hr Concentration (µg/m^3)		44.3	32.17	24.9
Annual Arithmetic Mean (µg/m^3)		9.4	10.15	10.42
Samples Exceeding Federal 24-hr Standard	>35 µg/m^3	1	0	0
Source: SCAQMD 2019a, 2019b, 2019c (A) "--" indicates data are not available.				

Existing Emissions Levels in the Planning Area

The City's General Plan Natural Resources and Open Space Element identifies local and regional industries, commercial businesses, and motor vehicles as the primary source of the City's pollutant emissions (City of Covina 2000). Interstate-10 (I-10) is considered a high volume roadway (carrying more than 100,000 average daily vehicle trips), but is located approximately 1.2 miles south of the center of the Planning Area. The Metrolink San Bernardino Line is a commuter rail line with eastbound and westbound service at the Covina Station every 19 to 37 minutes Monday to Friday. There are approximately 38 Metrolink trains that pull into the station on a weekday basis, 20 trains during Saturday service, and 14 trains during Sunday service; four freight trains also pass through the Planning Area on a daily basis. The Metrolink uses Tier IV diesel-fueled locomotive engines. Although these engines are a source of DPM, Tier IV locomotives produce approximately 85% less DPM than older, uncontrolled (i.e., Tier 0) locomotive engines (Metrolink 2019a and 2019b). There are no major stationary sources of air pollutants in or adjacent to the planning area.

The existing residential and non-residential land uses in the planning area generate emissions from the following sources:

- **Small "area" sources.** Existing land uses generate emissions from small area sources including landscaping equipment and the use of consumer products such as paints, cleaners, and fertilizers that result in the evaporation of chemicals to the atmosphere during product use.
- **Energy use and consumption**. Existing land uses generate emissions from the combustion of natural gas in building water and space heating equipment, as well as industrial processes.
- **Mobile sources.** Existing land uses generate emissions from vehicles travelling to and from the plan area.

Existing land uses in the planning area are summarized in Table 3-1 (Existing Land Use) of the Project Description (see Chapter 3). Existing emissions were estimated using the California Emissions Estimator Model, or CalEEMod, Version 2016.3.2. The existing emissions were estimated using default data assumptions contained within CalEEMod, with the following project-specific modifications:

- **Land Use Development:** The default acreage and square footage for each of existing land use within the planning area was adjusted to reflect existing development conditions.

- **Energy Use and Consumption:** The residential default electrical energy intensity and natural gas energy intensity values were adjusted upwards by a factor of 1.13 and a factor of 1.27, respectively, to reflect lower energy efficiency requirements of the 2013 energy code (CAPCOA 2017). Similarly, the non-residential default electrical energy intensity, light energy intensity, and natural gas energy intensity values were adjusted upwards by a factor of 1.05, 1.02, and 1.01, respectively. This is appropriate as most buildings in the planning area were constructed prior to the adoption of both the 2013 (modeled energy efficiency) and 2016 (default assumption) Title 24 building energy efficiency standards.
- **Mobile Sources:** The default, weekday trip generation rates for existing land use types were replaced with trip generation rates contained in the Transportation Impact Analysis (TIA) prepared for the Covina Town Center Specific Plan (Nelson Nygaard 2018). According to the TIA, the existing land uses generate approximately 37,161 total daily vehicle trips per weekday. CalEEMod default weekend trip rates were used to model existing emissions. As estimated using CalEEMod, the existing land uses in the planning area generate approximately 89,111,845 annual vehicle miles travelled, or VMT (see Appendix C). Of this, approximately 12,247,570 VMT (14%) are attributable to residential land uses; non-residential land uses account for approximately 76,864,270 (86%), with retail/shopping center land uses accounting for nearly 33,925,605 VMT (44% of the total non-residential VMT).

The emissions generated by current land uses in the planning area are shown in Table 4.3-3 (Covina Town Center Specific Plan Existing Land Use Emissions Estimates). The emissions are shown for two scenarios:

- **Year 2018 (current conditions)**, which are based on Year 2018 vehicle fleet characteristics (e.g., vehicle type, age, emission rates), and represent the emissions levels that exist at the time the Notice of Preparation was released for this EIR.
- **Year 2040 (future conditions)**, which are based on Year 2040 vehicle fleet characteristics and represent the projected emission that existing land uses would generate in the future (assuming no increase in population or change in land uses). This scenario provides an estimate of how emissions would change in the planning area as a result of regulations that would reduce motor vehicle emissions in the future, and allows for distinguishing the potential change in emissions that would occur from the proposed change in land uses that would occur with implementation and buildout of the Specific Plan in Year 2040, as opposed to a change in emissions that would occur from regulatory requirements that would be in place whether or not the Specific Plan is adopted.

Table 4.3-3:
Covina Town Center Specific Plan Existing Land Use Emissions Estimates

Emissions Source	Maximum Daily Pollutant Emissions (Pounds per Day) (A)							
	ROG	NOx	CO	SO_2	PM_{10}		$PM_{2.5}$	
					Dust	Exhaust	Dust	Exhaust
Year 2018 (Current Conditions)								
Area Sources	183.6	10.6	288.4	0.6	0.0	37.4	0.0	37.4
Energy	1.4	13.0	9.9	0.1	0.0	1.0	0.0	1.0
Mobile Sources	100.1	420.0	1,219.2	3.3	240.2	3.9	64.3	3.7
Year 2018 Total(B)	*285.1*	*443.5*	*1,517.6*	*4.0*	*240.2*	*42.4*	*64.3*	*42.1*
Year 2040 (Future Conditions)								
Area Sources	183.6	10.6	288.4	0.6	0.0	37.4	0.0	37.4
Energy	1.4	13.0	9.9	0.1	0.0	1.0	0.0	1.0
Mobile Sources	34.5	226.9	415.9	2.3	240.2	1.0	64.3	0.9
Year 2040 Total(B)	*219.4*	*250.1*	*713.6*	*3.0*	*240.2*	*39.4*	*64.3*	*39.3*

Source: MIG 2019, see Appendix B.
(A) Emissions estimated using CalEEMod, V 2016.3.2. Estimates are based on default model assumptions unless otherwise noted in this document. Maximum daily ROG, CO, SO_X emissions occur during the summer. Maximum daily NO_X, PM_{10}, and $PM_{2.5}$ emissions occur during the winter.
(B) Totals may not equal due to rounding.

As shown in Table 4.3-3, there is a decrease in mobile source emissions between Year 2018 and Year 2040 conditions. This decrease in emissions is due to improvements in exhaust emission control systems in newer vehicles, along with fewer older vehicles in use[1]. In contrast, PM_{10} and $PM_{2.5}$ dust emissions remain the same because these emissions are associated with paved road dust, tire and break wear, etc. and the amount of VMT does not change between the 2018 and 2040 conditions.

Sensitive Receptors

Some people are more affected by air pollution than others. Sensitive air quality receptors include specific subsets of the general population that are susceptible to poor air quality and the potential adverse health effects associated with poor air quality. Both CARB and the SCAQMD consider residences, schools, parks and playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes to be sensitive air quality land uses and receptors (SCAQMD 2017a; CARB 2005). The potential sensitive air quality receptors adjacent or in close proximity to the perimeter of the planning area (i.e., within 1,000 feet of the perimeter) include:

- The single and multifamily residential properties within the Planning Area, including, but not limited to:
    - Dwelling units along North Howard Avenue and North 1st Avenue, between East Front Street and San Bernardino Avenue

[1] For example, the U.S. EPA's Emission Standards Reference Guides indicates light duty vehicles and light duty trucks have the following NOx exhaust emissions at approximately 50,000 miles of use: 1 gram/mile for 1981 to 1993 model year vehicles, 0.4 grams/mile for 1994 to 1999 model year vehicles, and will drop to 0.05 grams/mile by 2025 (U.S. EPA 2016e and 2016f).

  - Dwelling units along West Orange Drive, West Cottage Drive, and East Italia Street, near the center of the Specific Plan area
  - Dwelling units along East and West Center Street, between South 4th Avenue and South 1st Avenue
  - Dwelling units in the northwest corner of the Specific Plan area, near the intersection of West Geneva Place and North 3rd Avenue
- Single and multifamily residential neighborhoods that generally border and surround the Planning Area on the north, south, east, and west.
- Parks within and near the Specific Plan area, including:
  - Covina Park, Civic Center Park, and Kelby Park (inside the Specific Plan Area)
  - Edna Park (adjacent to the Specific Plan's northern boundary)

The Specific Plan area also includes numerous medical office buildings and places of worship that could be considered sensitive air quality receptors depending on the specific characteristics of the development and whether these facilities include long-term occupancy by sensitive individuals (e.g., palliative care, extended care facilities, on-site dormitory or residential units).

In addition to existing sensitive receptors in and near the Specific Plan area, the implementation of the Specific Plan would result in new, sensitive residential receptors within the Specific Plan area.

Existing Air Pollution-Related Health Risks

Sensitive air quality receptors are usually most affected by local sources of air pollution. The Specific Plan area is near the I-210, but does not include any significant roadways. The Specific Plan area does include the Metrolink, which is a local source of DPM emissions. In addition, the Specific Plan area includes several small stationary sources of emissions. These sources are described below.

Under the State's Air Toxics Hot Spots Information and Assessment Act (AB 2588; see Section 4.3.2) the SCAQMD is required to prepare an annual report of activities related to facilities that emit TACs. According to the SCAQMD's July 2017 Annual Report on AB 2588 Air Toxics Hot Spots Program, there were no facilities within the planning area that were subject to AB 2588 activities (SCAQMD 2018a). Publically available data from CARB indicates there are two facilities within the planning area and one facility immediately adjacent to the planning area that report emissions pursuant to AB 2588 (CARB 2016d):

- Inter-Community Medical at 303 North 3rd Street emits criteria air pollutants and TACs, including, but not limited to, ammonia emissions, at levels that did not exceed SCAQMD prioritization thresholds and, therefore, an AB 2588 risk assessment has not been prepared for this facility.
- Topper Plastics, Inc. at 461 East Front Street emits criteria air pollutants and TACs, including, but not limited to, ammonia emissions, at levels that did not exceed SCAQMD prioritization thresholds and, therefore, an AB 2588 risk assessment has not been prepared for this facility.
- National Pacific Petrol at 504 North Barranca Avenue (directly adjacent to the planning area) is in CARB's AB 2588 data base; however, there is no emissions information available for this facility.

According to the SCAQMD's MATES IV Carcinogenic Risk Map, the Covina Town Center Specific Plan area has an estimated cancer risk of 1,005 SCAQMD 2018d).[2] This cancer risk estimate is orders of magnitude higher than the SCAQMD's significance threshold of 10 cases in one million for cancer risk. These estimates, however, are based upon regional modeling efforts that largely do not account for site specific emission rates and dispersion characteristics that typically result in refined and substantially lower health risk estimates.

CalEnviroScreen is another mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. The tool uses environmental, health, and socioeconomic information to produce scores for every census tract in the state. The scores are then mapped so that different communities can be compared. An area with a high score is one that experiences a much higher pollution burden than areas with low scores. According to the OEHHA CalEnviroScreen 3.0 Map, the plan area is in census tracts 6037406000, 6037403721, and 6037406102 and has an average pollution indicator percentile of 40% to 65% based on the CalEnviroScreen indicators (e.g., exposure, environmental effects, population characteristics, socioeconomic factors) (OEHHA 2018). These numbers also indicate relatively average health risks in the Plan Area, as compared to other areas of the state.

4.3.2 REGULATORY SETTING

Federal

Federal Clean Air Act

The Federal Clean Air Act (CAA), as amended, provides the overarching basis for both Federal and State air pollution prevention, control, and regulation. The Act establishes the U.S. EPA's responsibilities for protecting and improving the nation's air quality. The U.S. EPA oversees Federal programs for setting air quality standards and designating attainment status, permitting new and modified stationary sources of pollutants, controlling emissions of hazardous air pollutants, and reducing emissions from motor vehicles and other mobile sources. In 1971, to achieve the purposes of Section 109 of the CAA, the U.S. EPA developed primary and secondary NAAQS. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and public welfare from air pollutants in the atmosphere.

The U.S. EPA requires each State prepare and submit a State Implementation Plan (SIP) that consists of background information, rules, technical documentation, and agreements that an individual State will use to attain compliance with the NAAQS within federally-imposed deadlines. State and local agencies implement the plans and rules associated with the SIP, but the rules are also federally enforceable.

[2] According to the SCAQMD (2018b), cancer risk refers to the probability of contracting cancer associated with exposure to a substance. It is expressed as the chance per million population of a cancer case occurring. A risk of 1,005 per million means that in a population of one million individuals (exposed over a 70 year lifetime), 1,005 additional cancer cases would be expected.

State

California Clean Air Act

In addition to being subject to Federal requirements, air quality in the State is also governed by more stringent regulations under the California Clean Air Act, which was enacted in 1988 to develop plans and strategies for attaining the CAAQS.

As discussed above, in California, both the Federal and State Clean Air acts are administered by CARB. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional level.

In-Use Off-Road Diesel Equipment Program

CARB's In-Use Off-Road Diesel Equipment regulation is intended to reduce emissions of NO_x and PM from off-road diesel vehicles, including construction equipment, operating within California. The regulation imposes limits on idling; requires reporting equipment and engine information and labeling all vehicles reported; restricts adding older vehicles to fleets; and requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing exhaust retrofits for PM. The requirements and compliance dates of the off-road regulation vary by fleet size, and large fleets (fleets with more than 5,000 horsepower) must meet average targets or comply with Best Available Control Technology (BACT) requirements beginning in 2014. CARB has off-road anti-idling regulations affecting self-propelled diesel-fueled vehicles of 25 horsepower and up. The off-road anti-idling regulations limit idling on applicable equipment to no more than five minutes, unless exempted due to safety, operation, or maintenance requirements.

On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) regulation (also known as the Truck and Bus Regulation) is intended to reduce emission of NO_X, PM, and other criteria pollutants generated from existing on-road diesel vehicles operating in California. The regulation applies to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately or federally owned, and for privately and publicly owned school buses. Heavier trucks and buses with a GVWR greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. Fleets complying with the heavier trucks and buses schedule must install the best available PM filter on 1996 model year and newer engines, and replace the vehicle 8 years later. Trucks with 1995 model year and older engines had to be replaced starting in 2015. Replacements with a 2010 model year or newer engine meet the final requirements, but owners can also replace the equipment with used trucks that have a future compliance date (as specified in regulation). By 2023, all trucks and buses must have at least 2010 model year engines with few exceptions.

CARB Stationary Diesel Engines – Emission Regulations

In 1998, CARB identified DPM as a TAC. To reduce public exposure to DPM, in 2000, the Board approved the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Risk Reduction Plan) (CARB 2000). Integral to this plan is the implementation of control measures to reduce DPM such as the control measures for stationary diesel-fueled engines. As such, diesel generators must comply with regulations under CARB's

amendments *to Airborne Toxic Control Measure for Stationary Compression Ignition Engines* and be permitted by SCAQMD.

CARB Air Quality and Land Use Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a TAC. CARB's Air Quality and Land Use Handbook is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process (CARB 2005). The CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds. Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Project area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day;
- Within 300 feet of gasoline fueling stations; or
- Within 300 feet of dry cleaning operations (dry cleaning with TACs is being phased out and will be prohibited in 2023). The SCAQMD (Regulation 14, Rule 21) has established emission controls for the use of perchloroethylene, the most common dry-cleaning solvent.

Air Toxics "Hot Spots" Program

State requirements specifically address emissions of air toxics through Assembly Bill (AB) 1807 (known as the Tanner Bill) that established the State Air Toxics "Hot Spots" Program and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code Section 44300 et seq.). Under the Air Toxics Hot Spots Information and Assessment Act of 1987 (or Air Toxics "Hot Spots" Act) and Air Toxics Hot Spots Program, the State (CARB) must collect data on toxic emissions from stationary sources (facilities) throughout the State and ascertain potential health risks that these emissions pose to members of community for developing cancer or for resulting in non-cancer health effects. California's Children's Environmental Health Protection Act of 1999 (California Health and Safety Code Section 39606), also requires explicit consideration of infants and children in assessing risks from air toxics.

Substances regulated under California's Air Toxics Hot Spots Program are defined in statute and include a list of substances developed by the following sources:

- International Agency for Research on Cancer (IARC);
- U.S. Environmental Protection Agency (U.S. EPA);
- U.S. National Toxicology Program (NTP);
- CARB Toxic Air Contaminant Identification Program List;
- Hazard Evaluation System and Information Service (HESIS) (State of California);
- Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986) list of carcinogens and reproductive toxicants (State of California); and

- Any additional substance recognized by the State Board as presenting a chronic or acute threat to public health when present in the ambient air.

On May 6, 2005, the SCAQMD adopted a *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* containing numerous recommendations focused on land use planning, such as locating sensitive receptors away from substantial sources of TACs and CO hot spots (e.g., high-traffic freeways and roads, distribution centers, refineries, etc.).

Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a Joint Powers Authority under California law, established as an association of local governments and agencies that voluntarily convene as a forum to address regional issues. SCAG encompasses the counties of Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial.

SCAG is designated as a Metropolitan Planning Organization (MPO) and as a Regional Transportation Planning Agency. Under SB 375, SCAG, as a designated MPO, is required to prepare a Sustainable Communities Strategy (SCS) as an integral part of its Regional Transportation Plan (RTP). On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS). The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Information contained in Chapter 5: The Road to Greater Mobility and Sustainable Growth of the 2016 RTP/SCS forms the basis for the land use and transportation components of the Air Quality Management Plan (AQMP), and are utilized in the preparation of air quality forecasts and consistency analysis included in the AQMP.

SCAQMD Air Quality Management Plan (AQMP)

Under State law, the SCAQMD is required to prepare an overall plan for air quality improvement, known as an AQMP. The purposed of an AQMP is to bring an air basin into compliance with federal and State air quality standards. The SCAQMD 2016 AQMP was adopted on March 3, 2017. The 2016 AQMP provides new and revised demonstration's for how the SCAQMD, in coordination with federal, State, regional and local governments will bring the Basin back into attainment for the following NAAQS: 2008 8-hour ozone; 2012 annual PM2.5; 2006 24-hour PM2.5[3]; 1997 8-hour ozone; and 1997 1-hour ozone.

To achieve the reductions necessary to bring ambient air quality back into attainment the SCAQMD has identified seven primary objectives for the AQMP, which include:

1. Eliminating reliance on unknown future technology measures to demonstrate future attainment of air quality standards;

[3] Although the 2006 24-hour $PM_{2.5}$ standard was focused on in the 2012 AQMP, it has since been determined, primarily due to unexpected drought conditions, that it is impractical to meet the standard by the original attainment year. Since adoption of the 2012 AQMP, the US EPA approved a re-classification to "serious" non-attainment for the standard, which requires a new attainment demonstration and deadline.

2. Calculating and accounting for co-benefits associated with measures identified in other, approved planning efforts (e.g., SCAG RTP/SCS);
3. Developing a strategy with fair-share emission reductions at the federal, State, and local levels;
4. Investing in strategies and technologies that meet multiple objectives regarding air quality, climate change, air toxic exposure, energy, and transportation—especially in disadvantaged communities;
5. Seeking, identifying, and securing significant sources of funding for incentives to implement early deployment and commercialization of zero and near-zero technologies, particularly in the mobile source sector;
6. Enhancing the socioeconomic analysis and selecting the most efficient and cost-effective path to achieve multi-pollutant and -deadline targets; and
7. Prioritize non-regulatory, innovative approaches that can contribute to the economic vitality of the regional while maximizing emission reductions.

The emission forecasts and demonstrations presented in the 2016 AMQP rely heavily on information contained in other planning and strategy documents. For example, the 2016 AQMP's long-term emissions inventory is based on the growth and land uses projections contained in the SCAG's 2016 RTP/SCS. Additionally, the conclusions relating to ozone compliance are based on implementation of measures presented in CARB's Mobile Source Strategy and SIP strategy. The Mobile Source Strategy outlines a suite of measures targeted at on-road light- and heavy-duty vehicles, off-road equipment, and federal and international sources. A subset of the statewide strategy is a mobile source strategy for the South Coast SIP. Because the SCAQMD has limited authority in regulating mobile source emissions, coordination and cooperation between SCAQMD, CARB, and the U.S. EPA is imperative to meeting the NOx reductions required to meet ozone standards. Although not incorporated specifically from another planning document strategy, the 2016 AQMP also provides numerous control measures for stationary sources.

SCAQMD Rules and Regulations

The SCAQMD adopts rules that establish permissible air pollutant emissions and governs a variety of business, processes, operations, and products to implement the AQMP and the various federal and State air quality requirements. In general, rules that would be applicable during buildout of the updated Specific Plan include:

- **Rule 401 (Visible Emissions)** prohibits discharge into the atmosphere from any single source of emission for any contaminant for a period or periods aggregating more than three minutes in any one hour that is as dark or darker in shade than that designated as No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.
- **Rule 402 (Nuisance)** prohibits discharges of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- **Rule 403 (Fugitive Dust)** prohibits emissions of fugitive dust from any grading activity, storage pile, or other disturbed surface area if it crosses the project property line or if emissions caused by vehicle movement cause substantial impairment of visibility (defined as exceeding 20 percent capacity in the air). Rule 403 requires the

implementation of Best Available Control Measures and includes additional provisions for projects disturbing more than five acres and those disturbing more than fifty acres.

- **Rule 445 (Wood Burning Devices)** prohibits installation of woodburning devices such as fireplaces and wood-burning stoves in new development unless the development is located at an elevation above 3,000 feet or if existing infrastructure for natural gas service is not available within 150-feet of the development. All fireplaces installed within the Proposed Project area will be natural gas fueled fireplaces.
- **Rule 481 (Spray Coating Operations)** imposes equipment and operational restrictions during construction for all spray painting and spray coating operations.
- **Rule 1108 (Cutback Asphalt)** prohibits the sale or use of any cutback asphalt containing more than 0.5 percent by volume organic compounds which evaporate at 260°C (500°F) or lower.
- **Rule 1113 (Architectural Coatings)** establishes maximum concentrations of VOCs in paints and other applications and establishes the thresholds for low-VOC coatings.
- **Rule 1143 (Consumer Paint Thinners and Multi-Purpose Solvents)** prohibits the supply, sale, manufacture, blend, package or repackage of any consumer paint thinner or multi-purpose solvent for use in the District unless consumer paint thinners or other multi-purpose solvents comply with applicable VOC content limits.
- **Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities)** specifies work practice requirements to limit asbestos emissions from building demolitions and renovation activities, including the removal and associated disturbance of asbestos containing materials. The requirements for demolition and renovation activities include asbestos surveying, notification, asbestos containing materials removal procedures and time schedules, asbestos containing materials handling and clean-up procedures, and storage, disposal, and land filling requirements for asbestos containing waste materials.
- **Rule 2202 (On-Road Motor Vehicle Mitigation Options)** provides employers with options to reduce mobile source emissions generated from employee commutes. The rule applies to any employer who employs 250 or more employees on a full or part time basis at a worksite for a consecutive six-month period.

City of Covina General Plan

The City of Covina's General Plan Natural Resources and Open Space Element sets a goal for the City to provide a setting in which high environmental quality is achieved through the conservation and protection of existing natural resources. Policy Area 1, Water Resources and Air Quality, establishes the following policies (1.o to 1.v) related to air quality:

- Comply with applicable portions of Federal, State, regional, and County plans and programs pertaining to air pollution mitigation/air quality enhancement by following, in a manner that recognizes local needs, issues, views, and policy and financial constraints, various vehicular emissions-reducing and traffic congestion-reducing land use and transportation control and energy conservation measures, proposals, and policies outlined in the Land Use and Circulation Elements, to the greatest extent feasible and practical.

- Encourage and support the use of mass transit, whenever possible, and work with transit operators to provide the best, most efficient service for local residents and businesses to reduce vehicular travel and air pollution.

- Encourage the continuation of and improvement of local transportation programs.

- Encourage bikeways, where feasible, to provide an alternative mode of transportation.

- Separate sensitive areas and uses (e.g., parks, schools, child care centers, and nursing homes) from significant sources of air pollution, to the greatest extent possible.

- Preclude the development of land uses and land use practices that would contribute significantly to air quality degradation.

- Encourage and, where necessary, require the incorporation of energy conservation features in the design of all new and significantly expanded/remodeled private and public developments and encourage the installation of conservation devices in existing developments to increase energy efficiency and decrease pollution emissions from off-site electrical power plants and on-site natural gas use.

- Maintain all recycling programs to encourage the reuse of recyclable materials.

City of Covina Municipal Code

The City's Municipal Code, Title 9, Public Peace, Morals, and Safety, Chapter 9.42, environmental disturbances, declares it is the policy of the City to use its police power to prevent persons living or working on one property from being disturbed due to annoying and unnecessary odors, smoke, and other disturbances.

Section 9.42.020, Sources of Environmental Disturbances, sets forth that:

- No operation or activity of odorous gases or other odorous matter in such quantities as to be dangerous, injurious, noxious, or otherwise objectionable, which is detectable with or without the aid of instruments, shall be permitted at or beyond the lot line of the property generating the odorous gases or matter (Section 9.42.020 A.).
- No operation or activity is permitted to have operations that emit excessive smoke, fumes, or dust that exceeds the requirements or levels specified by the SCAQMD (Section 9.42.020 C.).

Covina Town Center Specific Plan

Two primary goals of the Specific Plan are to enhance mobility options, including walking, bicycling, and stronger accessibility to Covina Metrolink station, and encourage transit-oriented development. Presented below are the Covina Town Center Specific Plan Design Standards and Guidelines that are aimed at improving mobility and reducing mobile source GHG emissions and VMT.

- Sidewalk, Street Trees, and Crosswalk/Treatments: Safe, accessible, and well-designed sidewalks and crosswalks are essential for an activated Town Center setting, allowing people to "park once" and easily visit local businesses and community facilities on foot.

Paving should be simple and consistent throughout the Town Center to allow for seamless connectivity between destinations, the Covina Metrolink Station, and nearby parking.

- Curb Extensions (Bulb-outs): Curb extensions enhance pedestrian safety and reduce vehicle speeds by narrowing the roadway and shortening the crossing distances. Curb extensions also provide opportunities for additional streetscape elements such as stormwater planters, additional seating, bike parking, or public art.
- Pedestrian Alleyway: Alleyways provide utility access and midblock connections for cars and pedestrians within the city fabric. These alleys can also provide additional public space and create more comfortable pedestrian environments within the Town Center areas. Public alley design interventions should incorporate outdoor seating, pedestrian amenities, public art, planting areas, and other revitalization strategies to encourage diverse uses.

4.3.3 SIGNIFICANCE THRESHOLDS

Based on the CEQA Guidelines, Appendix G: Items III (a) through (d), implementation of the proposed Project would have a significant impact related to air quality if it would:

(a) Conflict with or obstruct implementation of applicable air quality plan;

(b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard;

(c) Expose sensitive receptors to substantial pollutant concentrations (i.e., carbon monoxide hot spots or TACs); or

(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Regional Significance Thresholds

The significance thresholds in the SCAQMD's *CEQA Air Quality Handbook* were used for evaluating the impacts associated with the implementation of the proposed Project. The SCAQMD has established mass daily thresholds for regional pollutant emissions, as shown in Table 4.3-4 (SCAQMD Regional Emission Significance Thresholds).

Table 4.3-4:
SCAQMD Regional Emission Significance Thresholds

Air Contaminant	Construction (Maximum Pounds Per Day)	Operation (Maximum Pounds Per Day)
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Lead	3	3
Source: SCAQMD 2019d		

Localized Significance Thresholds

In addition to establishing thresholds of significance for emissions of criteria air pollutants on a regional level, the SCAQMD has also developed Local Significance Thresholds (LSTs) that represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards, which would result in significant adverse localized air quality impacts. The LST methodology takes into account a number of factors, including (1) existing ambient air quality in each Source Receptor Area (SRA); (2) how many acres the project would disturb in a day; and (3) how far project construction and operational activities would take place from the nearest sensitive receptor. Unlike the regional emission significance thresholds presented in Table 4.3-4, LSTs have only been developed for NOx, CO, PM_{10} and $PM_{2.5}$. The construction and operational LSTs for one-acre, two-acre, and five-acre sites in SRA 9 (East San Gabriel Valley), the SRA in which the City of Covina is located, are shown in Table 4.3-5 (SCAQMD Localized Significance Thresholds for Source Receptor Area 9) below.

Table 4.3-5:
SCAQMD Localized Significance Thresholds for Source Receptor Area 9

Pollutant Monitored	Maximum Allowable Emissions (Pounds per Day) as a Function of Receptor Distance (in Feet) from Site Boundary				
	82 Feet	164 Feet	328 Feet	656 Feet	1,640 Feet
ONE-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	89	112	159	251	489
Carbon Monoxide (CO)	623	945	1,914	4,803	20,721
Particulate Matter (PM_{10})	5	14	34	75	199
Particulate Matter ($PM_{2.5}$)	3	5	9	22	94
Pollutant Monitored	**Maximum Allowable Emissions (Pounds per Day) as a Function of Receptor Distance (in Feet) from Site Boundary**				
	82 Feet	**164 Feet**	**328 Feet**	**656 Feet**	**1,640 Feet**
ONE-ACRE SITE					
Operational Thresholds					
Nitrogen Oxides (NO_x)	89	112	159	251	489
Carbon Monoxide (CO)	623	945	1,914	4,803	20,721
Particulate Matter (PM_{10})	2	4	9	19	48
Particulate Matter ($PM_{2.5}$)	1	2	3	6	23
TWO-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	128	151	200	284	513
Carbon Monoxide (CO)	953	1,344	2,445	5,658	22,093
Particulate Matter (PM_{10})	7	22	42	84	207
Particulate Matter ($PM_{2.5}$)	5	7	12	26	100
Operational Thresholds					
Nitrogen Oxides (NO_x)	128	151	200	284	513
Carbon Monoxide (CO)	953	1,344	2,445	5,658	22,093
Particulate Matter (PM_{10})	2	6	11	20	50
Particulate Matter ($PM_{2.5}$)	2	2	3	7	25

Pollutant Monitored	Maximum Allowable Emissions (Pounds per Day) as a Function of Receptor Distance (in Feet) from Site Boundary				
	82 Feet	164 Feet	328 Feet	656 Feet	1,640 Feet
FIVE-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	203	227	286	368	584
Carbon Monoxide (CO)	1,733	2,299	3,680	7,600	25,558
Particulate Matter (PM_{10})	14	43	63	105	229
Particulate Matter ($PM_{2.5}$)	8	11	17	35	116
Operational Thresholds					
Nitrogen Oxides (NO_x)	203	227	286	368	584
Carbon Monoxide (CO)	1,733	2,299	3,680	7,600	25,558
Particulate Matter (PM_{10})	4	11	16	26	55
Particulate Matter ($PM_{2.5}$)	2	3	5	9	28

Source: SCAQMD 2008, modified by MIG
Note: The localized thresholds for NOx in this table account for the conversion of NO to NO_2. The emission thresholds are based on NO_2 levels, as this is the compound associated with adverse health effects.

Carbon Monoxide "Hot Spot" Thresholds

Historically, to determine whether a project poses the potential for a CO hotspot, the quantitative CO screening procedures provided in the *Transportation Project-Level Carbon Monoxide Protocol* (the Protocol) were used (UCD ITS 1997). The Protocol determines a project may worsen air quality if the project increases the percentage of vehicles in cold start modes by two percent or more; significantly increases traffic volumes by five percent or more; or worsen traffic flow, defined for signalized intersections as increasing average delay at intersections operating at level of service (LOS) E or F or causing an intersection that would operate at LOS D or better without the project, to operate at LOS E or F. With new vehicles and improvements in fuels resulting in fewer emissions, the retirement of older polluting vehicles, and new controls and programs, CO concentrations have declined dramatically in California. As a result of emissions controls on new vehicles, the number of vehicles that can idle and the length of time that vehicles can idle before emissions would trigger a CO impact has increased, so the use of LOS as an indicator is no longer applicable for determining CO impacts.

The Bay Area Air Quality Management District (BAAQMD) developed a screening-level analysis for CO hotspots in 2010 which finds that projects that are consistent with the applicable congestion management program, and that do not cause traffic volumes at affected intersections to increase to more than 44,000 vehicles per hour, would not result in a CO hotspot that could exceed State or Federal air quality standards (BAAQMD 2017 pg. 3-4). CO modeling was conducted for the SCAQMD's 2003 AQMP at four busy intersections during morning and evening peak hour periods as well. The busiest intersection studied in this analysis, Wilshire Boulevard and Veteran Avenue, had 8,062 vehicles per hour during morning peak hours, 7,719 vehicles per hour during evening peak hours, and approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour CO concentration for this intersection was 4.6 ppm, which is less than a fourth of the 1-hour CAAQS CO standard (20 ppm) (SCAQMD 2003a). The BAAQMD screening threshold is generally consistent with the results of the CO modeling conducted for the SCAQMD's 2003 AQMP.

Therefore, for purposes of this EIR, the Project would pose the potential for a CO hotspot if it would exceed the BAAQMD's screening traffic level for peak hour intersection traffic volumes (44,000 vehicles per hour) (thereby having the potential to result in CO concentrations that exceed 1-hour State [20 ppm], 1-hour Federal [35 ppm], and/or State and Federal 8-hour [9 ppm] ambient air quality standards for CO).

Toxic Air Contaminant Thresholds

The SCAQMD recommends preparation of a Health Risk Assessment (HRA) for large commercial or industrial projects to determine the specific health risks posed by long-term emissions of TACs from a project. Following OEHHA and SCAQMD guidance, health risks from TAC emissions are estimated based on "Individual Cancer Risk," which is the likelihood that a person exposed to TACs over 70-year lifetime will get cancer or suffer some other "non-cancer" effect (measured by what is called as a "hazard index"). Numerous weighting factors (e.g., age sensitivity factors, breathing rates, etc.) are applied during health risk calculations to account for those members of the public who may be more sensitive to pollution than others (e.g., sensitive receptors). A project is considered to have a significant impact if it results in any of the following:

- A maximum incremental cancer risk greater than or equal to 10 in one million;
- A population-wide cancer burden greater than 0.5 (in areas were cancer risk is greater than or equal to 1 in one million); or
- A chronic or acute hazard index greater than or equal to 1.0.

The California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) ruled CEQA review is focused on a project's impact on the environment "and not the environment's impact on the project." The opinion also holds that when a project has "potentially significant exacerbating effects on existing environmental hazards" those impacts are properly within the scope of CEQA because they can be viewed as impacts of the project on "existing conditions" rather than impacts of the environment on the project. The Supreme Court provided the example of a project that threatens to disperse existing buried environmental contaminants that would otherwise remain undisturbed. The Court concluded that it is proper under CEQA to undertake an analysis of the dispersal of existing contaminants because such an analysis would be focused on how the project "would worsen existing conditions." The court also found that the limited number of express CEQA provisions that require analysis of the impacts of the existing environment on a project – such as impacts associated with school siting and airports – should be viewed as specific statutory exceptions to the general rule that such impacts are not properly within CEQA's scope.

In another recent Supreme Court Ruling – Sierra Club v. County of Fresno 6 Cal. 5th 502 (2018) – the Supreme Court held that CEQA requires a Lead Agency to make a reasonable effort to provide an appropriate, project-specific context and connection between mass pollutant emissions estimates (i.e., pounds per day or tons per year) and the potential health impacts associated with such emissions estimates, or to explain what is and is not yet known about the Project's "bare" emissions numbers and their potential adverse health impacts.

Consistent with these court rulings, the impact discussion presented below focuses on the proposed Project's effect on air quality and existing health risks, rather than the effect of existing air quality and its potential risks on the proposed Project's residents. The analysis evaluates whether the proposed Project would create or exacerbate adverse public health risk conditions at sensitive receptor locations, as identified in the SCAQMD's CEQA significance criteria.

4.3.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts that could result from the implementation of the project related to conflicts with an applicable air quality plan, cumulatively considerable net increases of criteria pollutants, exposure of sensitive receptors to substantial pollutant concentrations, and objectionable odors. Where necessary, the section identifies mitigation measures to reduce project impacts to the extent feasible.

Impact AIR-1 Consistency with the SCAQMD AQMP

As described in Section 4.3.1, the proposed Project is within the South Coast Air Basin, which is under the jurisdiction of the SCAQMD. Pursuant to the methodology provided in Chapter 12 of the SCAQMD *CEQA Air Quality Handbook*, consistency with the AQMP is affirmed if the Project:

1) Is consistent with the growth assumptions in the AQMP; and
2) Does not increase the frequency or severity of an air quality standards violation, or cause a new one.

Consistency Criterion 1 refers to the growth forecasts and associated assumptions included in the 2016 AQMP. The 2016 AQMP was designed to achieve attainment for all criteria air pollutants within the Basin while still accommodating growth in the region. Projects that are consistent with the AQMP growth assumptions would not interfere with attainment of air quality standards, because this growth is included in the projections used to formulate the AQMP. Therefore, if the growth under the Project is consistent with the regional population, housing, and employment forecasts identified by SCAG in the RTP/SCS, plan implementation would be consistent with the AQMP, even if emissions could potentially exceed the SCAQMD's recommended daily emissions thresholds.

The proposed Specific Plan Update includes land use designations that support development of up to 746 dwelling units accommodating a population of up to 2,137 residents. This represents a potential increase of 259 dwelling units, a potential increase in population of up to 745 residents, and an increase in potential employment of up to 866 employees over existing conditions within the Planning Area (see Chapter 4.13, Population and Housing). The 2016 RTP/SCS population and employment projections for the City of Covina, as well as the increase in population and employment that would occur with the implementation of the proposed Specific Plan Update, are shown in Table 4.3-6 (RTP/SCS and Specific Plan Growth Assumptions).

Table 4.3-6:
RTP/SCS and Specific Plan Growth Assumptions

Proposed Project	Population	Employment
Covina Town Center SP Update	*745*	*866*
Other City Projects		
Other Past, Present, and Future Projects	711 [(A)]	79[(A)]
Total Growth	**1,456**	**945**
RTC/SCS Growth 2012 - 2040	**3,400**	**4,200**
Within Growth Assumptions?	**Yes**	**Yes**
Source: SCAG 2016, City of Covina 2019.		

As shown in Table 4.3-6, the implementation of the proposed Project, along with other City projects currently under review, would not exceed the growth assumptions contained in the AQMP.

Consistency Criterion 2 refers to the CAAQS and NAAQS. As described in Section 4.3.1, the South Coast Air Basin is designated nonattainment for national and state O_3 standards, national and state $PM_{2.5}$ standards, and national PM_{10} standards. The analyses of potential buildout emissions under Impact AIR-2 indicates buildout of the Specific Plan could result in emissions of NO_X, an ozone precursor pollutant, that exceed SCAQMD thresholds of significance, even with the implementation of feasible mitigation measures. Although the mass amount of emissions attributable to a single project (i.e., pounds per day) does not necessarily contribute to air pollution levels measured throughout the South Coast Air Basin and in or near the City, the SCAQMD, in developing its CEQA significance thresholds, considered the emission levels at which a project's individual emissions would be cumulatively considerable (SCAQMD 2003b; page D-3). The SCAQMD considers projects that result in emissions that exceed its CEQA significance thresholds to result in individual impacts that are cumulatively considerable and significant. NO_X emissions at buildout of the Specific Plan could exceed the SCAQMD's regional significance thresholds and, therefore, have the potential to cause or contribute to new or more frequent exceedances of national and state ozone standards.

Level of Significance Before Mitigation

Impacts are potentially significant before mitigation.

Mitigation Measures

Mitigation Measure AIR-2A: Residential Electric Vehicle and Bicycle Parking Requirements

The following Residential and Non-Residential Voluntary Measures from the CalGreen Code (Appendix A4) shall apply to new residential (or residential mixed use) development projects located in the Covina Town Center Specific Plan:

- New one and two-family dwellings and townhomes shall include electric vehicle infrastructure consistent with Section A4.106.8.1 of the CalGreen Code.
- New multifamily dwellings with 17 or more units shall provide electric vehicle charging spaces capable of supporting electric vehicle supply equipment pursuant to Section A4.106.8.2.

- New multifamily dwelling units shall provide bicycle parking pursuant to Section A4.106.9.2.

Mitigation Measure AIR-2B: Non-Residential Electric Vehicle and Bicycle Parking Requirements

The following Non-Residential Voluntary Measures from the CalGreen Code (Appendix A5) shall apply to new non-residential (or mixed use) development projects located in the Covina Town Center Specific Plan:

- New non-residential development with more than 10 tenant-occupants shall provide changing/shower facilities for tenant-occupants in accordance with Table A5.106.4.3 of the CalGreen code.
- New non-residential development shall provide designated parking for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles pursuant to the Tier 1 requirements of Table A5.106.5.1.1 of the CalGreen code. Such parking spaces shall be marked pursuant to Section A5.106.5.1.3 of the CalGreen code.
- New non-residential development shall provide electric vehicle charging spaces capable of supporting electric vehicle supply equipment pursuant to the Tier 1 requirements of Section A5.106.5.3.1 of the CalGreen code. Such spaces shall be marked pursuant to Section A5.106.5.3.3 of the CalGreen code.

Mitigation Measure AIR-2C: Non-Residential Travel Demand Management

The following travel demand management provisions shall apply to new non-residential development in the Specific Plan area:

- New commercial and industrial projects greater than 25,000 square feet in size shall incorporate travel demand management TDM strategies that achieve a 10% reduction in trip generation rates below the standard rate published in the latest Institute of Transportation Engineers (ITE) Trip Generation Manual (10th edition), or other reputable source. This trip reduction level may be achieved through site design, transit, bicycle, shuttle, parking restriction, carpooling, or other TDM measures. All TDM plans shall have a designated coordinator who will track the effectiveness of the TDM Program over time.
- New commercial and industrial projects that employ 250 or more employees at a work site, on a full or part-time basis, shall implement an Employee Commute Reduction Program pursuant to South Coast Air Quality Management District Rule 2202, On-Road Motor Vehicle Mitigation Option.

Level of Significance After Mitigation

As discussed above and under Impact AIR-2, buildout of the Specific Plan could result in emissions of NO_X, an ozone precursor pollutant, that exceed SCAQMD thresholds of significance. As shown in Table 4.3-11, mobile sources account for nearly 97% of the NO_X emissions estimated to occur with buildout of the Specific Plan. As explained in more detail under Impact AIR-2, the Specific Plan includes land use, parking, and TDM measures such as transit oriented development and carshare services estimated to avoid 926 vehicle trips associated with implementation of the Specific Plan, or approximately 1.7% of the total vehicle trips that would be generated under buildout of the Specific Plan (53,481 total daily weekday

trips). An additional 10% reduction in mobile source emissions would be required to bring NO_X emissions associated with buildout of the Specific Plan to levels below SCAQMD-recommended thresholds. Mitigation Measures AIR-2A, AIR-2B, and AIR-2C reduce residential and non-residential vehicle trip emissions by promoting electric vehicle infrastructure, bicycle parking, and non-residential TDM programs. These measures would reduce exhaust emissions of NO_X and other pollutants from vehicles; however, since specific development projects are unknown, and some of the measures are voluntary, the emissions reductions that would be achieved by Mitigation Measures AIR-2A, AIR-2B, and AIR-2C are not certain and cannot be quantified or guaranteed by the City at this time. Therefore, buildout of the Specific Plan Impact AIR-2 could result in NO_X emissions that exceed SCAQMD thresholds and conflict with the 2016 AQMP. This impact would be significant and unavoidable even with the incorporation of feasible mitigation measures.

Impact AIR-2 Result in a Cumulatively Considerable Increase in Non-Attainment Criteria Pollutants

Implementation of the Covina Town Center Specific Plan would generate short-term construction and long-term operational emissions of regulated air pollutants (i.e., criteria air pollutants and TACs). These emissions would be released to the ambient air and disperse according to the topographic and meteorological influences that prevail near the Specific Plan area and in the greater South Coast Air Basin (see Section 4.3.1).

Although future projects occurring within the Planning Area would be guided by the goals and policies outlined in the Covina Town Center Specific Plan update and the City's General Plan, the City's adoption of the proposed Specific Plan update would not authorize nor permit any individual projects to move forward at this time. Nonetheless, the City has prepared an air quality analysis that focuses on the nature and magnitude of the change in the air quality environment due to implementation and build-out of the proposed Specific Plan. The SCAQMD has not adopted plan-level significance thresholds. The SCAQMD and/or CARB monitor levels of criteria air pollutant concentrations in ambient air to evaluate attainment of CAAQS and NAAQS; the significance of the net change in criteria air pollutant emissions that the implementation of the Specific Plan could emit during construction and operation is evaluated below by comparing the potential levels of emissions from these activities against the SCAQMD's regional and localized significance thresholds (see Table 4.3-4 and Table 4.3-5 above). As explained under Impact AQ-1, the SCAQMD, in developing its CEQA significance thresholds, considered the emission levels at which a project's individual emissions would be cumulatively considerable (SCAQMD 2003b; page D-3). The SCAQMD considers projects that result in emissions that exceed its CEQA significance thresholds to result in individual impacts that are cumulatively considerable and significant.

Neither the SCAQMD nor CARB conduct regular and routine monitoring of TACs because most TACs do not have an established ambient air quality standard against which ambient air concentrations can be compared[4]; however, TAC emissions could result in local effects if substantial concentrations were to occur at sensitive receptor locations as a result of the proposed project. The proposed project's TAC emissions are discussed under Impact AIR-3 below.

[4] Ambient air quality standards have been adopted for lead and vinyl chloride, both of which are TACs; however, these pollutants are monitored at far fewer locations than criteria air pollutants like ozone precursor and PM. In addition, the SCAQMD does periodically conduct monitoring and modeling of TAC emissions sources; however, these efforts are usually source specific.

Construction Emissions

Regional Construction Emissions. Implementation of the updated Covina Town Center Specific Plan would lead to new uses in, and redevelopment of, the Planning Area. These development activities would generally involve demolition, site preparation, grading, building construction, paving, and architectural coating (i.e., painting) activities. Fugitive dust (PM_{10}) emissions would typically be greatest during building demolition, site preparation, and grading due to the disturbance of soils and transport of material. NOx and other emissions would also result from the combustion of diesel fuels used to power off-road heavy-duty pieces of equipment (e.g., backhoes, bulldozers, excavators, etc.) and worker, vendor, and other construction-related vehicle trips. The types and quantity of equipment, as well as duration of construction activities, would be dependent on project specific conditions. Larger projects would require more equipment over a longer timeframe than required for smaller projects; however, specific information is not available for future projects at this time because build-out of the Specific Plan is expected to occur over 20 years and the location, type, and timing of construction would be driven by market demand.

To determine if anticipated typical construction activities could result in a significant air quality impact, construction emissions were modeled using CalEEMod V. 2016.3.2. CalEEMod utilizes construction survey data to estimate construction phase lengths and equipment needs based on the area of a project site. Due to the uncertainty of timing and methods of construction activities that would occur under the proposed Specific Plan, the construction emissions analysis assumed that a maximum of 10 percent of the Specific Plan could be under construction in any given year, as shown in Table 4.3-7 (Specific Plan Build-Out, Average Year, and Worst-Case Year Construction Activity) .[5]

Table 4.3-7:
Specific Plan Build-Out, Average Year, and Worst-Case Year Construction Activity

CalEEMod Land Use Input		Specific Plan Development(A)		
Type	**Subtype**	**Build-Out Development(B)**	**Average Year Development(C)**	**Worst-Case Year Development(D)**
Commercial	Medical Office Building	27,600 sq ft	1,380 sq ft	2,760 sq ft
Commercial	Civic Center	16,100 sq ft	805 sq ft	1,610 sq ft
Educational	Place of Worship	34,050 sq ft	1,700 sq ft	3,405 sq ft
Residential	Single Family Housing	162 dwelling units	8 dwelling units	16 dwelling units
Residential	Apartments Low Rise	255 dwelling units	13 dwelling units	26 dwelling units
Retail	Shopping Center	465,681 sq ft	23,285 sq ft	46,570 sq ft

(A) Development values are approximate.

(B) The build-out values in this table do not represent the total development square footage that would exist in the Plan's horizon year (2040). Rather, these values are estimates of the total d new square footage and dwelling units that would be constructed by 2040. The values do not include remodeling of existing buildings, which would not result in significant construction emissions.

(C) Values reflect build-out development divided by 20 years.

(D) Values reflect twice the average year development intensity, or approximately 10% of buildout development levels.

[5] This is considered a conservative assumption because it represents a doubling of the overall average activity that could occur over a 20-year build-out period.

Potential construction emissions were modeled using CalEEMod, Version 2016.3.2 (see Appendix B). The modeling assumes default construction phase and duration information based on the land use inputs shown in Table 4.3-7. Construction was assumed to start in 2021; the type and amount of equipment used during construction was generated using CalEEMod default assumptions. Due to the changeover in construction fleets as old equipment is replaced with newer, cleaner equipment, it is anticipated that maximum daily emissions would decrease as development occurs beyond 2021. The, modeled potential annual construction emissions are presented in Table 4.3-8 (Specific Plan Construction Emissions Estimates). It is mandatory for all construction projects in the South Coast Air Basin to comply with SCAQMD Rule 403 Fugitive Dust. Therefore, the emissions presented in Table 4.3-8 include the application of dust control measures commensurate with SCAQMD Rule 403.[6]

Table 4.3-8:
Specific Plan Construction Emissions Estimates

Season	Maximum Daily Emissions (lbs/day)					
	ROG	NO_X	CO	SO_2	PM_{10}(A)	$PM_{2.5}$(B)
Summer 2021	3.97	40.55	22.17	0.04	7.85	5.01
Winter 2021	3.97	40.56	22.13	0.04	7.85	5.01
Summer 2022	42.53	16.93	18.24	0.03	1.37	0.92
Winter 2022	42.53	16.94	18.13	0.03	1.37	0.92
Worst-Case Overlap Scenario(C)	46.5	57.49	40.37	0.07	9.22	5.93
SCAQMD CEQA Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: MIG, 2019 (see Appendix B) and SCAQMD 2019d.

(A) PM_{10} emissions estimates include both exhaust and dust emissions. Fugitive dust emissions include application of control measures as required by SCAQMD Rule 403, including watering exposed areas three times (3x) daily and cleaning paved roads.

(B) $PM_{2.5}$ emissions estimates include both exhaust and dust emissions. Fugitive dust emissions include application of fugitive dust control measures as required by SCAQMD Rule 403, including watering exposed areas

(C) The worst-case overlap scenario combines Winter 2021 emissions with Summery 2022 emissions and is meant to provide an estimate of potential overlapping construction emissions associated with implementation of the proposed Specific Plan in any given year.

As shown in Table 4.3-8, the maximum daily construction emissions associated with implementation of the Specific Plan would be below the SCAQMD's regional pollutant thresholds for all pollutants. Thus, this impact would be **less than significant**.

Level of Significance Before Mitigation

Impacts related to construction emissions will be less than significant before mitigation.

Mitigation Measures

No significant impact has been identified; thus, no mitigation is required.

[6] Specifically, the CalEEMod project file applies a 69% total reduction in PM_{10} and $PM_{2.5}$ fugitive dust emissions through site watering (four times daily)

Localized Construction Emissions. The Specific Plan's maximum daily construction emissions (for the 10% development scenario shown in Table 4.3-7) are compared against the SCAQMD's-recommended LSTs in Table 4.3-9 (Construction Emissions Localized Significance Thresholds Analysis). Consistent with the SCAQMD's LST methodology, the emissions included in the construction LST analysis are on-site emissions only, and the LST thresholds against which potential on-site emissions are compared against are based on the project size, in acres, as determined using the specific equipment list generated by CalEEMod and the equipment activity estimates contained in the SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* (SCAQMD 2016b).[7] The LST thresholds are for SRA 9 (East San Gabriel Valley), the SRA in which the proposed Project is located, and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

Based on the use of one excavator, one grader, one rubber tired dozer, and three crawler tractors during the grading construction phase, potential on-site construction emissions were estimated against the SCAQMD's thresholds for a 2.5-acre project size. The emissions presented in Table 4.3-9 include the application of dust control measures commensurate with SCAQMD Rule 403, as described above under the regional construction emissions discussion.

Table 4.3-9:
Construction Emissions Localized Significance Thresholds Analysis

Construction Phase(B)	Maximum On-Site Pollutant Emissions (lbs/day)(A)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Demolition	31.4	21.6	1.6	1.4
Site Preparation	40.5	21.2	7.6	5.0
Grading	24.7	15.9	3.2	2.1
Building Construction	17.4	16.6	1.0	0.9
Paving	11.1	14.6	0.6	0.5
Architectural Coating	1.4	1.8	0.1	0.1
SCAQMD LST Threshold(C)	135.4	1,057.42	8.28	5.13
Threshold Exceeded?	No	No	No	No

Source: MIG, 2019 (see Appendix B) and SCAQMD 2009, 2016b.
(A) Emissions estimated using CalEEMod, V 2016.3.2. Estimates are based on default model assumptions unless otherwise noted in this report.
(B) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. In general, due to rounding, there is no difference between summer and winter emissions levels for the purposes of this table.
(C) LST threshold is based on 2.5-acre project size and 25-meter receptor distance. Pursuant to the SCAQMD's *Final Localized Significance Threshold Methodology* (SCAQMD 2008, page 3-3), the threshold for a 25-meter receptor distance was evaluated.

As shown in Table 4.3-9, the maximum daily on-site emissions generated during project construction would not exceed the SCAQMD's recommended LST thresholds. Thus, this impact would be **less than significant**.

[7] According to the SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*, the maximum number of acres disturbed on the peak day of use per crawler tractor, grader, and rubber tired dozer is 0.5 acres per 8 hour day, while the maximum number of acres disturbed on the peak day of use per scraper is 1 acre per 8 hour day.

Level of Significance Before Mitigation

Impacts related to localized construction emissions will be less than significant before mitigation.

Mitigation Measures

No significant impact has been identified; thus, no mitigation is required.

Operational Emissions

Regional Operational Emissions. The Specific Plan area is currently occupied largely by various residential and non-residential uses. With implementation of the Specific Plan, some of these land uses would remain the same, some would be removed and reconstructed either as the same or different land uses, and some would change land use without demolition and construction. Overall, implementation of the Specific Plan would result in an increase in residential dwelling units and non-residential square footage under build-out (year 2040) conditions. The corresponding change in land uses associated with the implementation of the Specific Plan is shown in 4.3-10 (Specific Plan Net Land Use Change (Square Feet)).

Table 4.3-10:
Specific Plan Net Land Use Change (Square Feet)

CalEEMod Land Use Inputs		Specific Plan Area Development Levels		
Type	**Subtype**	**Existing (2018)**	**Buildout (2040)**	**Net Change**
Commercial	General Office Building	209,088 sq ft	178,769 sq ft	-30,319 sq ft
Commercial	Medical Office Building	82,764 sq ft	110,360 sq ft	+27,596 sq ft
Commercial	Hospital	412,078 sq ft	406,127 sq ft	-5,951 sq ft
Commercial	Civic Center	116,218 sq ft	132,315 sq ft	+16,097 sq ft
Educational	Place of Worship	211,702 sq ft	245,755 sq ft	+34,053 sq ft
Industrial	Industrial Park	381,760 sq ft	252,937 sq ft	-128,823 sq ft
Parking	Parking lot	803,246 sq ft	743,115 sq ft	-60,131 sq ft
Residential	Apartments Mid Rise	344 dwelling units	207 dwelling units	-137 dwelling units
Residential	Mobile Home Park	21 dwelling units	--	-21 dwelling units
Residential	Single Family Housing	78 dwelling units	240 dwelling units	+162 dwelling units
Residential	Apartments Low Rise	44 dwelling units	299 dwelling units	+255 dwelling units
Retail	Strip Mall	485,259 sq ft	950,940 sq ft	+465,681 sq ft
Source: MIG 2019 (see Appendix B).				

Build out of the Specific Plan would result in long-term regional emissions of criteria air pollutants and ozone precursors associated with the operation of area sources, energy sources, and mobile sources. Area source emissions, which are widely distributed and made of many small emissions sources (e.g., landscaping equipment, consumer products, painting operations, etc.), were modeled according to the size and type of land use proposed. Energy sources, which include natural gas combustion for heating and other purposes, were also modeled based on the size and type of build-out land uses included in the Specific Plan. Mobile-source emissions were modeled based on the daily vehicle trips that would result from

the proposed Specific Plan. The net change in emissions of regulated air pollutants that would occur with implementation of the Specific Plan was modeled using CalEEMod, V. 2016.3.2. The net change in operational emissions for the Project was modeled based on the Specific Plan's horizon year (2040), using default data assumptions provided by CalEEMod, with the following project-specific modifications:

- **Land Use Development:** The default acreage and square footage for proposed development intensities within the planning area was adjusted to reflect proposed development conditions (considering allowable floor-to-area ratio, acreage in the planning area, etc.).
- **Area Sources:** Woodstoves and hearths were excluded pursuant to City General Plan requirements and SCAQMD Rule 445.
- **Energy Use and Consumption:** The residential default electrical energy intensity values were adjusted downwards by a factor of 0.5 to reflect increased energy efficiency and solar photovoltaic requirements of the 2019 energy code (CEC, 2018). Similarly, the non-residential default light energy intensity value was adjusted downwards by a factor of 0.7 to reflect increased lighting efficiency in the 2019 energy code.
- **Mobile Sources:** The default, weekday trip generation rates for existing land use types were replaced with trip generation rates contained in the Transportation Impact Analysis (TIA) prepared for the Covina Town Center Specific Plan (Nelson Nygaard 2018). According to the TIA, the proposed land uses generate approximately 53,471 total daily vehicle trips per weekday. CalEEMod default weekend trip rates were used to model existing emissions. As estimated using CalEEMod, the existing land uses in the planning area generate approximately 121,959,900 annual vehicle miles travelled, or VMT (see Appendix C). Of this, approximately 19,194,105 VMT (16%) are attributable to residential land uses; non-residential land uses account for approximately 102,765,795 (84%), with retail/shopping center land uses accounting for nearly 60,111,170 VMT (58% of the total non-residential VMT).

The net change in long-term operational emissions that would be generated by build out of the proposed Specific Plan are shown in Table 4.3-11 (Specific Plan Build-Out Operational Emissions Estimates). As explained in Section 4.3.1, under the "Existing Emissions Levels in the Planning Area" discussion, the net change in emissions evaluated in this EIR is based on the difference between the existing land uses under future year 2040 conditions and the proposed Specific Plan land uses under 2040 buildout conditions.

Table 4.3-11:
Specific Plan Build-Out Operational Emissions Estimates

Emission Scenario	Maximum Daily Emissions (Pounds Per Day)[A]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Specific Plan Build-Out Emissions in Year 2040						
Area Sources	74.5	11.9	66.3	0.1	1.2	1.2
Energy Sources	1.6	14.7	10.8	0.1	1.1	1.1
Mobile Sources	50.4	334.5	592.6	3.3	339.9[C]	91.9[D]
Total Emissions[B]	*126.6*	*361.7*	*669.8*	*3.4*	*342.3*	*94.2*
Existing Land Uses Year 2040 Condition[E]						
Area Sources	183.6	10.6	288.4	0.6	37.4	37.4
Energy	1.4	13	9.9	0.1	1	1
Mobile Sources	34.5	226.9	415.9	2.3	241.2	65.2
Total Emissions[B]	*219.4*	*250.1*	*713.6*	*3*	279.6	103.6
Net Change in Emissions Levels						
Area Sources	-109.1	1.3	-222.1	-0.5	-36.2	-36.2
Energy	0.2	1.7	0.9	0	0.1	0.1
Mobile Sources	15.9	107.6	176.7	1	98.6	26.7
Total Emissions[B]	-93.0	110.6	-44.5	0.5	62.5	-9.4
SCAQMD CEQA Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	Yes	No	No	No	No

Source: MIG 2019 (see Appendix B), SCAQMD 2019d

(A) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. Maximum daily ROG, CO, SO_X emissions occur during the summer. Maximum daily NO_X emissions occur during the winter. In general, due to rounding, there is no difference between summer and winter PM_{10} and $PM_{2.5}$ emissions levels for the purposes of this table.
(B) Totals may not equal due to rounding.
(C) PM_{10} values include both dust and exhaust emissions. For Specific Plan Buildout, the total includes 338.6 lbs/day of PM_{10} dust and 3.7 pounds per day of PM_{10} exhaust (see Appendix B).
(D) $PM_{2.5}$ values include both dust and exhaust emissions. For Specific Plan Buildout, the total includes 90.6 lbs/day of $PM_{2.5}$ dust and 1.3 pounds per day of $PM_{2.5}$ exhaust (see Appendix B).
(E) See Table 4.3-3.

As shown in Table 4.3-11, the modeled, maximum daily operational emissions associated with build-out of the Specific Plan do not exceed the SCAQMD's recommended regional pollutant thresholds for all pollutants, except NO_X. The increase in NO_X, as well as other mobile source emissions, is attributable to the increase in VMT that would occur with implementation of the Specific Plan. As described in Section 4.3.1, the South Coast Air Basin is designated nonattainment for national and state ozone standards, and NO_X is an ozone precursor pollutant. Therefore, the potential increase in NO_X emissions that could occur with buildout of the Specific Plan is is considered a potentially significant impact.

As shown in Table 4.3-11, mobile sources account for nearly 97% of the NO_X emissions estimated to occur with buildout of the Specific Plan. The TIA prepared for the project indicates the land use trip generation rates were reduced to reflect the parking and transportation demand

management (TDM) recommendations contained in the Specific Plan. Specifically, the TIA included the following trip reductions:

- Mixed Use Districts/Projects and Transit Oriented Development: A 1% to 10% reduction in base trip generation rates was applied, depending on proximity to transit and zoning of mixed use components.
- Unbundled Parking for new residential development: A 1% reduction in base trip generation rates for multi-family residential land uses was applied.
- Future Rideshare and Carshare Services: A 0.5% reduction in base trip generation rates was applied for residential and commercial land uses.

The above measures would reduce a total of 926 vehicle trips associated with implementation of the Specific Plan, or approximately 1.7% of the total vehicle trips that would be generated under buildout of the General Plan (53,481 total daily weekday trips). An additional 10% reduction in mobile source emissions would be required to bring NO_X emissions associated with buildout of the Specific Plan to levels below SCAQMD-recommended thresholds.

To reduce mobile source emissions associated with buildout of the Specific Plan, the City would implement Mitigation Measures AIR-2A, AIR-2B, and AIR-2C below. Mitigation Measures AIR-2A, AIR-2B, and AIR-2C would reduce residential and non-residential vehicle trip emissions by promoting electric vehicle infrastructure, bicycle parking, and non-residential TDM programs. These measures would reduce exhaust emissions of NO_X and other pollutants from vehicles; however, since specific development projects are unknown, and some of the measures are voluntary, the emissions reductions that would be achieved by Mitigation Measures AIR-2A, AIR-2B, and AIR-2C are not certain and cannot be guaranteed by the City at this time. Therefore, buildout of the Specific Plan Impact AIR-2 could result in NO_X emissions that exceed SCAQMD thresholds. This impact would be significant and unavoidable even with the incorporation of feasible mitigation measures. The potential adverse health effects associated with the increase in NO_X emissions that could occur with implementation of the Specific Plan are discussed under Impact AIR-3 below.

Level of Significance Before Mitigation

Impacts related to regional operational emissions are potentially significant before mitigation.

Mitigation Measures

See Mitigation Measures **AIR-2A**, **AIR-2B**, and **AIR-2C**

Level of Significance After Mitigation

This impact is considered significant and unavoidable after mitigation.

Localized Operational Emissions. The Project's maximum daily operational emissions are compared against the SCAQMD's-recommended LSTs in Table 4.3-12 (Operational Emissions Localized Significance Thresholds Analysis). Consistent with the SCAQMD's LST methodology, the emissions included in the operational LST analysis are on-site emissions only, and the LST thresholds against which these on-site emissions are compared are based on the average project size, in acres. The LST thresholds are for SRA 9 (East San Gabriel Valley), the SRA in which the Project is located, and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

Table 4.3-12:
Operational Emissions Localized Significance Thresholds Analysis

Emissions Source[B]	Maximum On-Site Pollutant Emissions (lbs/day)[A]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Total Area Emissions	11.9	66.3	1.2	1.2
Total Energy Emissions	14.7	10.8	1.1	1.1
Total On-site Mobile Emissions[C]	33.5	59.3	34.0	9.2
Total On-site Emissions in Plan Area	60.1	136.4	36.3	11.5
Average Emissions per Acre[D]	0.3	0.6	0.2	0.1
SCAQMD LST Threshold[E]	91	664	1	1
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix B) and SCAQMD 2009, 2016b.
(A) See Table 4.3-11.
(B) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. In general, due to rounding, there is no difference between summer and winter emissions levels for the purposes of this table.
(C) Total on-site emissions are equal to 10% of the total mobile emissions estimated in Table 4.3-11.
(D) The Specific Plan area is approximately 236 acres in size.
(E) LST threshold is based on 1.0-acre project size and 25-meter receptor distance. See Table 4.3-5.

As shown in Table 4.3-12, the total emissions from all on-site operational activities within the planning area would be below the SCAQMD's recommended LST threshold for a one-acre project for all pollutants. The radius of a one-acre circle is approximately 25 meters. Therefore, the emissions occurring within one acre of the planning area would not subject a sensitive receptor within 25 meters of the planning area to criteria air pollutant emissions exceeding the LSTs. The use of one-acre LSTs at a distance of 25 meters is considered a conservative approach, since they are the lowest LST values applicable within the planning area (see Table 4.3-5). This impact would be less than significant.

Level of Significance Before Mitigation

Impacts related to localized operational emissions will be less than significant before mitigation.

Mitigation Measures

No significant impact has been identified; thus, no mitigation is required.

Impact AIR-3 Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Buildout of the proposed Specific Plan could expose existing and new sensitive receptors to substantial concentrations of criteria air pollutants and TAC emissions that pose adverse health effects; however, as described in more detail below, these emissions would be less than significant with standard environmental review practices.

Construction Emissions

The implementation of the proposed Specific Plan would generate emissions, including emissions of DPM (a TAC), during construction activities that would occur intermittently over the approximately 20-year build-out period associated with the Specific Plan. As shown in Table 4.3-9, emissions of construction-related criteria air pollutants would not exceed SCAQMD LSTs during any phases of construction. The LSTs reflect the emissions level at which an individual project's criteria air pollutant emissions have the potential to exceed applicable state and federal air quality standards, based on meteorological conditions observed in the project's designated SRA. In addition to criteria air pollutant emissions, construction activities occurring within the Specific Plan area would generate DPM. Heath risks associated with receptor exposure to DPM would be less than significant, since 1) the use of off-road heavy-duty diesel equipment would be temporary and would combine with the highly dispersive properties of DPM; 2) additional reductions in exhaust emissions will occur in the future; and 3) construction-related activities would be short-term, incremental through time, and would occur at scattered locations throughout the planning area such that an individual receptor location would not be exposed to DPM exposure for a prolonged period of time. Since the proposed Specific Plan would not exceed applicable construction LSTs or expose receptors to substantial DPM concentrations, this impact would be less than significant.

Level of Significance Before Mitigation

Impacts related emissions of toxic air contaminants during construction will be less than significant before mitigation.

Mitigation Measures

No significant impact has been identified; thus, no mitigation is required.

Operational Emissions - Increases in ROG, NOx, and PM

As described in Section 4.3-1, both the U.S. EPA and CARB regulate common air pollutants on the basis of human health and/or environmental criteria, and most commonly regulated air pollutants including NO_X, PM, CO, etc. can cause adverse human health effects (see also Section 4.3-1). As shown in Table 4.3-11, the potential emissions of ROG, NO_X, and PM occurring with build out of the Specific Plan would not exceed SCAQMD-recommended localized significance thresholds. These thresholds represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards. In developing the CAAQS and NAAQS, the U.S. EPA and CARB considered scientific evidence linking exposure to air pollutants to health risks. Although each individual's health characteristics, environment, and pre-disposition to adverse respiratory health effects is different, compliance with the CAAQS and NAAQS is intended to protect the most sensitive individuals. Since the amount of emissions (in terms of pounds per day) occurring under the Specific Plan would not exceed SCAQMD LSTs, it is reasonable to assume these emissions levels would not result in significant local adverse health impacts.

As shown in Table 4.3-10, the potential emissions of ROG and PM occurring with build out of the Specific Plan would not exceed SCAQMD-recommended regional significance thresholds; however, potential emissions of NO_X would exceed SCAQMD regional significance thresholds.

NO_X is an ozone precursor pollutant, and the South Coast Air Basin is designated nonattainment of state and federal ozone standards. This designation is due to a combination of "emissions from the nation's second largest urban area, meteorological conditions adverse to the dispersion of those emissions, and mountainous terrain surrounding the Basin that traps pollutants as they are pushed inland with the sea breeze (SCAQMD 2017b, pg. 2-1). Seven of the country's top ten locations most frequently exceeding the 2015 8-hour ozone NAAQS were located within the South Coast Air Basin (SCAQMD 2017b, pg. 2-11). NO_X combines with VOCs in the presence of sunlight to form ground-level ozone. The chemical reactions that lead to ozone formation is typically highest on hot, sunny days (the SCAQMD's 2016 AQMP considered ozone season to be May to September).

Although implementation of the Specific Plan Update would increase NO_X emissions within the South Coast Air Basin by approximately 111 pounds per day (and approximately 14.5 tons per year, see Appendix B), it is not possible, at this time to estimate, what the adverse health effects associated with this mass increase in NO_X emissions would be for several reasons. First, to estimate potential adverse health effects from regional ozone emissions, it is necessary to have information on the sources of the ozone emissions location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors exposed to the emissions (SCAQMD 2015b). While the general nature of the emissions sources occurring with implementation of the Specific Plan Update is known (i.e., area source, energy source, mobile source, etc.), the specific location of these sources within the Planning Area is not known, nor is other information, including source emission rate, exit velocity, operating characteristics (e.g., daytime or nighttime, seasonal or steady-state), etc. In addition, as described under Impact AIR-2, nearly 97% of the NO_X emissions estimated to occur with buildout of the Specific Plan would be from mobile sources (i.e., vehicle trips) that would potentially travel on numerous local and regional roadways throughout the Planning Area and beyond that would be subject to varying meteorological and topographical influences.

Also, the SCAQMD has stated (SCAQMD 2015b, pgs. 10-11):

> "For the so-called criteria pollutants, such as ozone, it may be more difficult to quantify health impacts . . . It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources . . . Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes . . . However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NOx by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects"

Although it is not possible to specifically quantify the adverse health effects that may or may not occur due to the increase in NO_X emissions that would occur with implementation of the Specific Plan, the SCAQMD has also stated (SCAQMD 2015b, pgs. 13-14):

> "A project emitting only 10 tons per year of NOx or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or NOx with specific health

> impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission."

The emissions modeling conducted for the project indicates implementation of the Specific Plan would increase NOx emissions by approximately 14.4 tons per year (see Appendix B). Although this is slightly above the 10 tons per year referenced in the above SCAQMD statement, it is a similar order of magnitude. As described above, it is not possible for the City to transform the mass increase in NOx emissions that could occur with implementation of the Specific Plan Update into quantifiable health risks for several specific reasons; however, given that implementation of the Specific Plan would would not result in NOx emissions that exceed SCAMQD LSTs, this impact is considered to be less than significant.

Operational Emissions - CO Hotspots

Based on the TIS prepared for the Project (see Appendix C), the maximum number of vehicles moving through any study analysis zone would be substantially below the screening threshold of 44,000 vehicles per hour for a CO hotspot analysis (See Section 4.3.3). Therefore, the Project would not cause or significantly contribute to CO concentrations that exceed State or Federal ambient air quality standards for CO. This impact would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Metrolink Emissions

Implementation of the proposed Town Center Specific Plan could locate new, sensitive receptors in proximity of the Metrolink rail corridor. Combustion of fuel in the Metrolink engines produces DPM, which as described previously, could increase health risks if exposed to over a long-period of time. Per the recent ruling by the California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015), projects are not required to analyze how existing conditions might impact a project's future users or residents. As such, this analysis does not focus on potential, future receptor exposure to existing emissions from the Metrolink. Rather, it focuses the incremental increase in health risk that could occur if Metrolink operations were to change as a result of buildout of the Specific Plan.

Under buildout conditions, the proposed Specific Plan would increase the number of residents in the Planning Area from approximately 1,392 people to approximately 2,137 people, an approximately 53% increase. Since the Planning Area is in a transit oriented area (i.e., near the Covina Metrolink station), it is likely many of these new receptors would utilize the Metrolink. Although it is unknown at this time how potential ridership increases could affect Metrolink operation, it is possible additional, passenger cars could be added to the trains, or train service could increase. Additional emissions would be generated if the engines powering the trains have another car to move, or if new trains are added for service to meeting the increased

ridership demand. Under both scenarios, DPM concentrations in the vicinity of the Metrolink rail corridor could increase as a result of Specific Plan buildout. Though DPM concentrations could increase, incremental health risks would not be significant. In fall 2017, Metrolink phased Tier 4 locomotives into service. The Tier 4 engine reduces PM and NOx emissions by approximately 85 percent (Metrolink 2019a and 2019b). The use of Tier 4 engines would substantially reduce DPM concentrations near the rail corridor and would thus substantially reduce any potential increase in health risk from additional or more intense Metrolink operations. This impact would be less than significant.

Level of Significance Before Mitigation

Impacts related to Metrolink emissions will be less than significant before mitigation.

Mitigation Measures

No significant impact has been identified; thus, no mitigation is required.

Impact AIR-4 Odors

While odors do not present a health risk of themselves, they are often considered a nuisance by people who live, work, or otherwise are located near outdoor odor sources. According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). The proposed Specific Plan does not support such sources, and there are no such sources in proximity of the Planning Area. The City's prohibits the production of odors that would otherwise be dangerous, injurious, noxious, or otherwise objectionable, and enforces this requirement through Municipal Code Section 9.42.020.

The proposed Specific Plan would increase residential development within the City, including mixed-use residential development that could be located close to retail, restaurant, and other commercial land uses that may generate localized sources of odors that may or may not be objectionable to nearby residential land uses; however, the Specific Plan in and of itself does not permit or authorize any new, major sources of potential odors (e.g., wastewater treatment plant), and odor impacts would be less than significant with standard environmental review practices and enforcement of Municipal Code Section 9.42.020.
Though not objectionable enough to be enforced though Municipal Code Section 9.42.020, there are some sources of odors that could affect future receptors in the Planning Area. For example, operation of the Metrolink produces exhaust emissions that could be smelt temporarily by people in proximity to the engine. Similarly, construction occurring within the Planning Area could also produce odors from fuel combustion or solvents/paints used. These odors would be temporary, quickly disperse, and would not affect a substantial number of people. As such, potential impacts associated with objectionable odors within the Project area would be less than significant.

Level of Significance Before Mitigation

Impacts related to odors will be less than significant before mitigation.

Mitigation Measures

No significant impact has been identified; thus, no mitigation is required.

Impact Conclusions

As described above, the implementation of the proposed project would result conflict with the AQMP and result in a significant increase in NOX emissions, an ozone precursor pollutant for which the South Coast Air Basin is designated nonattainment of national and state air quality standards. This increase in NOX emissions would occur even with the incorporation of feasible mobile source Mitigation Measures AIR-2A, AIR-2B, and AIR-2C, and would be a significant and unavoidable impact of the project. The implementation of the Specific Plan would not expose sensitive receptors to substantial pollutant concentrations or odors and, therefore, would result in less than significant pollutant concentration and odor impacts.

Impact Conclusions

As discussed under Impact AIR-2, Result in a Cumulatively Considerable Increase in Non-Attainment Criteria Pollutants, implementation of the proposed Specific Plan would result in a significant and unavoidable cumulative impact with regard to air quality. Even after the implementation of the Mitigation Measures AIR-2A, AIR-2B, AIR-2C, this cumulative impact would remain significant and unavoidable.

Mitigation Measures

See Mitigation Measure **AIR-2A**, **AIR-2B**, and **AIR-2C**.

Level of Significance after Mitigation

This impact is considered significant and unavoidable after mitigation.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
AB	Assembly Bill
AMSL	Above Mean Sea Level
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
CAA	Clean Air Act
Cal-EPA	California Environmental Protection Agency
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CO	Carbon monoxide
DPM	Diesel particulate matter
EIR	Environmental Impact Report
GVWR	Gross vehicle weight rating
H_2S	Hydrogen sulfide
HAP	Hazardous Air Pollutants
HESIS	Hazard Evaluation System and Information Service
HRA	Health Risk Assessment
I	Interstate
IARC	International Agency for Research on Cancer
ITE	Institute of Transportation Engineers
lbs	Pounds
L	Liter
LOS	Level of Service
LST	Localized Significance Threshold
m^3	Cubic meter
mg	Milligram
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NO	Nitrogen oxide
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
NTP	United State National Toxicology Program
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
PM	Particulate matter
ppb	Parts per billion
ppm	Parts per million
$PM_{2.5}$	Fine particulate matter
PM_{10}	Coarse particulate matter
PRC	Public Resources Code
ROG	Reactive organic gases
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SO_4^{2-}	Sulfates
SO_x	Oxides of sulfur
SRA	Source Receptor Area
SQ FT	Square Feet
TAC	Toxic Air Contaminants
TDM	Travel Demand Management
TIA	Transportation Impact Analysis
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
V.	Version
VMT	Vehicle Miles Traveled
VOC	Volatile organic compounds
µg	Micrograms
§	Section
%	Percent
° F	Degrees Fahrenheit

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4.4 Biological Resources

This EIR chapter identifies existing biological resources and the regulatory framework associated with biological resources. Potential impacts to these resources resulting from the implementation of the amended Specific Plan and mitigation measures are provided to address such impacts.

4.4.1 ENVIRONMENTAL SETTING

The City of Covina (City) is generally flat land with little elevation rise. Hilly portions are found in the southeastern section of the City. The Angeles National Forest is located approximately 8.7 miles north of the City of Covina and urbanized cities of West Covina, San Dimas, Glendora, and Baldwin Park surround the City. The Planning Area is located within the highly urbanized central portion of the City.

There are no natural open space areas within the 236 acres comprising the Planning Area. The Planning Area includes 2 acres of vacant land and 17 acres of park lands. A low species and habitat diversity occur within and in the vicinity of the Planning Area.

Vegetation Communities

According to the Covina General Plan 2004, no native plant communities are located within the Planning Area. Planning Area habitats include developed and open space areas with little or no native vegetation.

Existing Habitats

Developed

The majority of the Planning Area (approximately 218.35 acres) is dominated by commercial/residential buildings, planted ornamentals, and paved areas. Landscape ornamentals such as red gum *(Eucalyptus tereticornis),* blue gum (*Eucalyptus globulus*), sweet gum *(Liquidambar styraciflua)*, and oleander *(Nerium oleander)* can be found in this area. Non-native herbs and grasses are found throughout the Planning Area in vacant parcels. These include, African daisy *(Dimorphotheca sinuate),* rosemary *(Rosmarinus officinalis*), fountain grass *(Pennisetum setaceum),* prickly sow-thistle *(Sonchus asper)*, wild radish *(Raphanus raphanistrum)*, agapanthus *(Agapanthus africanus),* and English ivy *(Hedera helix).*

Open Space

The open space areas within the Planning Area (approximately 17 acres) are dominated by parks with landscaped ornamental vegetation. As identified in the Covina Park System Master Plan and site visit conducted by MIG on October 25, 2018, vegetation in these areas consists primarily of non-native species such as, red ironbark *(Eucalyptus sideroxylon)*, red gum (*Eucalyptus tereticornis),* blue gum *(Eucalyptus globulus)*, Brazilian pepper *(Schinus terebinthifolius),* Peruvian pepper *(Schinus molle)*, jacaranda *(Jacaranda mimosifolia)*, queen palm *(Syagrus romanzoffiana)*, tree of heaven *(Ailanthus altissima),* iceplant *(Carpobrotus*

edulis), acacia *(Acacia sp.),* bird of paradise *(Strelitzia reginae),* aloe *(Aloe sp.)*, and castor bean *(Ricinus communis)*.

Wildlife

Wildlife known to occur within the Planning Area consists of avian, reptile, and mammal species that occupy urban areas. The vast majority of wildlife species diversity in the City of Covina occurs outside of the Planning Area within the Covina Hills area. Avian species are known to occur within all areas of the City of Covina including the Planning Area.

Sensitive Natural Communities and Habitats

Regionally sensitive natural communities or habitat types are an important indicator of the existence of sensitive species. According to the California Native Diversity Database (CNDDB) and General Plan 2004, no known regionally sensitive natural communities or habitat types occur within the Planning Area.

Sensitive Species

The "sensitive" or "special" label denotes a species as a State or Federally listed threatened or endangered species and/or a potential candidate for threatened or endangered listing. Table 4.4-1 (Federally- and State-Listed Species and other Special Status Species) lists Federally- and State-listed species known to occur in the Planning Area, as identified by the CNDDB and the City of Covina General Plan 2004. The City of Covina is located on the Baldwin Park, California 7.5-minute series United States Geological Survey (USGS) topographic quadrangle map. The United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), California Native Plant Society (CNPS), California Natural Diversity Database (CNDDB) recorded the following species in Table 4.4-1 as historically occurring within 1-mile of the Planning Area. Most of these species have low potential to occur or are not expected to occur within Planning Area due to the marginal suitable habitat available or lack of habitat.

Table 4.4-1:
Federally- and State-Listed Species and other Special Status Species

Type	Scientific Name	Common Name	Federal, State, or Other Status	Occurrence in Planning Area
Plants	*Calochortus plummerae*	Plummer's mariposa lily	CA Endemic	No potential to occur.
	Calochortus weedii var. intermedius	intermediate mariposa lily	CA Endemic	No potential to occur.
	Centromadia parryi ssp. australis	southern tarplant	1B.1	No potential to occur.
	Dudleya multicaulis	Many-stemmed dudleya	1B2	No potential to occur.
	Horkelia cuneate var. puberula	mesa horkelia	1B.2	No potential to occur.
	Juglans californica var. californica	Southern California black walnut	Not listed.	No potential to occur.
	Pseudognaphalium	white rabbit-	Not listed.	No potential to

Type	Scientific Name	Common Name	Federal, State, or Other Status	Occurrence in Planning Area
	leucocephalum	tobacco		occur.
	Symphyotrichum defoliatum	San Bernardino Aster	1B.2	No potential to occur.
Reptiles	*Clemmys marmorata pallida*	Southwestern pond turtle	FSC, FS Sensitive, SSC	No potential to occur.
	Aspidoscelis tigris stejnegeri	coastal whiptail	SSC	Low potential to occur.
	Phrynosoma blainvillii	coast horned lizard	SSC	No potential to occur.
Birds	*Accipiter cooperii*	Cooper's hawk	SSC	Low potential to occur.
	Coccyzus americanus occidentalis	Western yellow-billed cuckoo	Not listed.	No potential to occur.
	Icteria virens	Yellow-breasted chat	SSC	No potential to occur.
	Polioptila californica	Coastal California gnatcatcher	FT, CSC	No potential to occur.
	Riparia riparia	Bank swallow	Not listed.	Low potential to occur.
	Vireo bellii pusillus	Least Bell's vireo	FE, CEW	Low potential to occur.
Mammals	Antrozous pallidus	Pallid bat	SSC	Low potential to occur.
	Eumops perotis californicus	Western mastiff bat	SSC	Low potential to occur.
	Lasiurus cinereus	Hoary bat	Not listed.	Low potential to occur.
	Lasiurus xanthinus	Western yellow bat	Not listed.	Low potential to occur.
	Lepus californicus bennettii	San Diego black-tailed jackrabbit	SSC	No potential to occur.
	Nyctinomops femorosaccus	Pocket free-tailed bat	SSC	Low potential to occur.
	Nyctinomops macrotis	Big free-tailed bat	SSC	Low potential to occur.

Relevant Species Status Codes:
FE = Federally listed as endangered
FT = Federally Threatened
FSC = Federal Special Concern Species (a "term-of-art" for former Category 2 candidates)
SE = State-listed as Endangered
SSC = California Special Concern species by CDFW
FS Sensitive = Forest Service "Sensitive Species" recovery program (in cooperation with CDFW and USFWS) identifies and manages species whose populations are declining.

Source:California Natural Diversity Database. November 2018

Aquatic Resources

According to the General Plan 2004, United States Geological Survey National Hydrography Dataset (NHD), USFWS National Wetlands Inventory (NWI), and Federal Emergency Management Agency (FEMA) Flood Panel FIRM Map 6037C1700F, no aquatic resource features occur within the Planning Area.

4.4.2 REGULATORYFRAMEWORK

Federal

Federal Endangered Species Act.

The Federal Endangered Species Act of (FESA) protects plants and wildlife that are listed by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (NMFS) as endangered or threatened. Section 9 of the FESA prohibits the taking of endangered wildlife; which is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct. ” For plants, this statute pertains to removing, possessing, maliciously damaging, or destroying any endangered plant on Federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-Federal land in knowing violation of State Law (16 USC 1538). Under Section 7 of the FESA, Federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing the take of the species that is incidental to another authorized activity provided that the action will not jeopardize the continued existence of the species. Consultation would be triggered if a particular project within the City affects wetlands or Waters of the U.S., requiring the U.S. Army Corps of Engineers to issue a 404 permit. Section 10 of FESA provides for issuance of incidental take permits to private parties provided a habitat conservation plan is developed.

Migratory Bird Treaty Act.

The Migratory Bird Treaty Act (MBTA) (16 U.S. Code 703 et seq.). Title 50 Code of Federal Regulations (CFR) Part 10, prohibits taking, killing, possessing, transportation, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term “take” is defined as meaning, “to pursue, hunt, capture, collect, kill, or attempt to pursue, hunt, unless the context otherwise requires.” With a few exceptions, most birds are considered migratory under the MBTA. Disturbances that causes nests abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend would be in violation of the MBTA. The MBTA requires that project-related disturbances at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (1 February to 31 August, annually). Migratory bird species protected by this act are defined in Title 50, CFR Section 10.13.

Under the MBTA express interpretation codified by the United States Department of the Interior December 22, 2017 Memorandum, the explicit and willful taking, killing or possessing of migratory birds is unlawful, unless expressly permitted by other Federal regulations and or is considered incidental. The MBTA express interpretation provides that it is unlawful to willfully pursue, hunt, take, capture or kill any migratory bird, nest, egg, or product.

Federal Clean Water Act.

The purpose of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters; which includes rivers, streams, estuaries, the territorial seas, ponds, lakes and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the United States" without a permit from the United States Army Corps of Engineers (USACE). The U.S. Environmental Protection Agency (U.S. EPA) also has authority over wetlands and may override a USACE permit. Substantial impacts on wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

State

California Endangered Species Act.

The California Endangered Species Act (CESA) (Fish and Game Code, Section 2050 et seq.) generally parallels the main provisions of FESA and is administered by the California Department of Fish and Wildlife (CDFW). Under CESA the term endangered species is defined as a species of plant, fish, or wildlife that is "in serious danger of becoming extinct throughout all, or a significant portion of its range" and is limited to species or subspecies native to California. CESA prohibits the taking of listed species, except as provided in State Law. Specifically, section 2053 of CESA prohibits projects that would jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat that would prevent jeopardy. Any future development or redevelopment in the Planning Area that has the potential to affect wildlife is subject to the restrictions contained in the CESA.

Fully Protected Species.

The State of California first began to designate species as "Fully Protected" prior to the creation of the CESA and the FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, mammals, amphibians, reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, the CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

California Fish and Game Code.

Sections 3503, 3503.5, and 3800 of the California Fish and Game Code prohibit the "take, possession, or destruction of birds, their nests or eggs." Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is

considered a “take.” Such a take would violate the Migratory Bird Treaty Act. The act is implemented as part of the review process for any required State agency authorization, agreement, or permit.

Native Plant Protection Act.

The Native Plant Protection Act (NPPA) of 1977 was created with the intent to “preserve, protect and enhance rare and endangered plants in this state.” The NPPA is administered by the CDFW. The Fish and Game Commission has the authority to designate native plants as “endangered” or “rare” and to protect endangered and rare plants from take. The CESA provides further protection for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code.

California Streambed Alteration Notification/Agreement.

Section 1602 of the California Fish and Game Code requires that a Streambed Alteration Application be submitted to the CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFW reviews the proposed actions and, if necessary, submits a proposal for measures to protect affected fish and wildlife resources to the applicant. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Streambed Alteration Agreement. Often projects that require a Streambed Alteration Agreement also require a permit from the Corps under Section 404 of the Clean Water Act. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

Porter-Cologne Water Quality Control Act.

The Porter-Cologne Water Quality Control Act (Porter-Cologne) imposes stringent controls on any discharges into the "waters of the state" (California Water Code § 13000, et seq.). Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code § 13050(e)). Pursuant to Porter-Cologne, the State Water Resources Control Board (SWRCB) has the ultimate authority over state water rights and water quality policy. However, Porter-Cologne also establishes nine RWQCBs to oversee water quality at the local/regional level. Under Porter-Cologne, the state retains authority to regulate discharges of waste into any waters of the state, regardless of whether the USACE has concurrent jurisdiction under Section 404 of the CWA. This applies specifically to isolated wetlands considered non-jurisdictional by the Corps (in accordance with the Solid Waste Agency of Northern Cook County v. Corps decision, which limited the Corps’ jurisdiction over isolated wetlands). Required RWQCB certification would be under the jurisdiction of the Los Angeles RWQCB, and would include consultation with the CDFW under the provisions of California Fish and Game Code section 5650F, which gives CDFW jurisdiction over the input of any deleterious substances, such as silt, into the waters of the State, that result from construction activities.

Local

City of Covina General Plan

In accordance with City standards for both aesthetic and ecological issues, goals and distinct policies are presented for the open space areas of the City of Covina. Listed in the Policy Area 2: Vegetation and Wildlife section of the Natural Resources and Open Space Element, these

goals and policies envision a complete, well-balanced, and functional system of parks, open space facilities, and trails and appurtenant through, viable programs and services that meet the diverse active and passive recreational needs of current and future Covina residents.

According to the Natural Resources and Open Space Element Policy Area 2 (Vegetation and Wildlife) (page D-31), the City shall:

a. Continue to enforce the Covina Oak Tree Ordinance as a means of protecting oak tree resources, particularly the coast live oak woodland community in the Covina Hills area, except where infeasible.
b. Retain existing trees, such as oak woodlands, in their natural setting or incorporate into planned landscaping, to the greatest extent feasible.
c. In new construction or redevelopment proposals, preserve existing mature trees, whenever feasible, particularly those located within forty feet of any public right-of-way or within any existing or proposed parking lot.
d. Preserve and protect, through appropriate land use controls, development standards, and any other reasonable measures, the ecologically, biologically, and aesthetically important riparian woodland communities in and abutting the unimproved segments of the Charter Oak Wash and Walnut Creek.
e. Designate all Covina parks and recreational facilities and unimproved flood control channels and concomitant riparian woodland communities as open space because of their ecological and biological importance and, to the greatest extent possible, restrict adjacent land uses to ensure compatibility thereon.
f. Follow appropriate measures to handle and/or protect any officially recognized sensitive plant, animal, or other species that may be identified in the City.
g. Require that new and significantly expanded/remodeled private, quasi-public, and public developments, including parking lots, incorporate adequate landscaping, in accordance with City Zoning, Design Guidelines, and general landscape installation provisions, for both aesthetic and ecological reasons.
h. Provide for landscape improvements to the City's sidewalks, streets, civic properties, and related public spaces and facilities, in accordance with all applicable standards and provisions, for aesthetic and ecological reasons to the greatest extent possible.
i. Provide for needed landscape improvements to the City's parks and recreational facilities, as described in the Covina Park System Master Plan and other sources, in accordance with all applicable standards and provisions, for aesthetic and ecological reasons, to the greatest extent possible.
j. Encourage the preservation of existing mature street and other public trees in conjunction with all public works projects, except where infeasible and/or unsafe.
k. Require the reasonable upkeep and maintenance of landscaping in all private and quasi-public properties, in accordance with all applicable City standards and guidelines.
l. Require that the owners of residential, commercial, industrial, institutional, and other properties maintain all landscaping in City right-of-way areas.
m. Preserve and maintain the quality and health of existing landscaping in public areas, to the greatest extent possible, and, when necessary, replace landscaping that is unhealthy or dead, ensuring that such actions are in accordance with applicable City plans, standards, and policies.
n. Encourage the administrators of schools and other large public, landscaping-rich sites to preserve and maintain and, where greatly needed, improve their landscaping resources.

4.4.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to biological resources if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;

c) Have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan;

4.4.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to biological resources result from implementation of the Project and, where necessary, recommends mitigation measures as needed to reduce significant impacts.

Sensitive Species

Impact BIO-1– ***Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?***

Analysis of Impacts

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service (USFWS) to identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973. Impacts to special status species and migratory birds would be considered significant if development under the proposed Specific Plan results in the “take” of special status species. As discussed in the certified General Plan 2004, no endangered, threatened, or rare species listed by the USFWS or CDFW are known to occur within the Planning Area. The Planning Area is built out, and therefore does not contain habitat that would support endangered, threatened, or rare species. Table 4.4-1 lists the special status species that have the potential to occur in the Planning Area. According to the CNDDB

database, however, no occurrence of sensitive species known to occur within the one mile of the Planning Area has the likelihood of occurrence in Planning Area. Therefore, with adherence to existing Federal, State, and local regulations no impact would occur.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Riparian Habitat and Sensitive Natural Communities

Impact BIO-2 – ***Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?***

Analysis of Impacts

The Planning Area is located in an urbanized area of the City of Covina. The City of Covina General Plan 2004 notes that the Planning Area does not contain areas that would support riparian habitat or other sensitive natural communities. The existing Planning Area is completely urbanized and lacks any riparian habitat or other sensitive habitats, and no wetlands are known to occur in the Specific Plan area. Therefore, the Specific Plan would have no impact on riparian habitat or sensitive natural communities.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

State or Federally Protected Wetlands

Impact BIO 3 – ***Would the project*** h***ave a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

Analysis of Impacts

No State or Federally protected wetlands occur within the Planning Area. The Project does not propose constructing or altering any wetlands. Therefore, Project impacts on State or federally protected wetlands would be less than significant.

Level of Significance Before Mitigation

No known wetlands occur within the Planning Area. The Specific Plan would not impact any State or Federally protected wetlands; therefore, no mitigation is required.

Mitigation Measures

No mitigation is required, no impacts would occur.

Substantial Interference with Migratory Wildlife Species

Impact BIO 4 – ***Would the Project Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.***
Analysis of Impacts

The Covina Hills area in the southeastern portion of the City of Covina and has the potential to support native resident or migratory wildlife species; however, the General Plan 2004 Land Use Element and Conservation Element did not identify any wildlife corridors in the Planning Area that would connect to the Covina Hills area. Therefore, impacts would be less than significant to with respect wildlife corridors.

The Migratory Bird Treaty Act (MBTA) prohibits taking, killing, possessing, transportation, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. With few exceptions, most birds are considered migratory under the MBTA. Disturbance that causes nest abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend would be in violation of the MBTA. The MBTA requires project-related disturbances at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (1 February to 31 August, annually). The Planning Area does include landscaped areas with native and non-native trees, shrubs, and vegetative ground cover. Avian species may occupy landscaped areas for nesting habitat. The increase in residential units and non-residential square footage throughout the Planning Area would have minimal additional effect on migratory species as this area has already been developed and no native habitat removal is proposed. Nonetheless nesting birds may occupy trees and other landscape areas within the Planning Area. Without mitigation there could be significant and substantial interference to movement of migratory birds through disturbance damage or destruction of nests. In order to minimize impacts to avian species as a result of implementation of the Project, Mitigation Measures BIO-1 has been incorporated to reduce impacts to a less than significant impact on native resident or migratory wildlife species.

Level of Significance Before Mitigation

This is a potentially significant impact with respect to potential impacts to migratory birds.

Mitigation Measures

BIO-1: If vegetation removal is scheduled during the nesting season (typically February 1 to September 1), then a focused survey for active nests shall be conducted by a qualified biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) no more than five (5) days prior to the beginning of project-related activities (including but not limited to equipment mobilization and staging, clearing, grubbing, vegetation removal, and grading).

Surveys shall be conducted in proposed work areas, staging and storage areas, and soil, equipment, and material stockpile areas. For passerines and small raptors, surveys shall be conducted within a 250-foot radius surrounding the work area (in areas where access is feasible). For larger raptors, such as those from the genus *Buteo*, the survey area shall encompass a 500-foot radius. Surveys shall be conducted during weather conditions suited to maximize the observation of possible nests and shall concentrate on areas of suitable habitat.

If a lapse in project-related work of five (5) days or longer occurs, an additional nest survey shall be required before work can be reinitiated. If nests are encountered during any preconstruction survey, a qualified biologist shall determine if it may be feasible for construction to continue as planned without impacting the success of the nest, depending on conditions specific to each nest and the relative location and rate of construction activities. If the qualified biologist determines construction activities have potential to adversely affect a nest, the biologist shall immediately inform the construction manager to halt construction activities within minimum exclusion buffer of 50 feet for songbird nests, and 200 to 500 feet for raptor nests, depending on species and location. Active nest(s) within the Project Site shall be monitored by a qualified biologist during construction if work is occurring directly adjacent to the established no-work buffer. Construction activities within the no-work buffer may proceed after a qualified biologist determines the nest is no longer active due to natural causes (e.g. young have fledged, predation, or other non-anthropogenic nest failure).

Level of Significance After Mitigation

Less than significant.

Tree Preservation Policy

Impact BIO 5 –***Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;***

Analysis of Impacts

The Planning Area may contain trees that would qualify for preservation and or protections. The City of Covina Municipal Code (CMC) Chapter 17.83 Tree Preservation specifies heritage trees are protected that meet one or more of the following criteria:

1. Trees of the following species with a trunk diameter, as measured at standard height, of at least 10 inches for a single-trunk tree or with a combined diameter of at least 22 inches for multiple-trunk trees:

a. Quercus, all species (oaks).

2. Individual trees or groups of trees designated as heritage tree(s) by the city council pursuant to CMC 17.83.150.

Future development and activities within the Planning Area would be required to comply with these requirements. Removal of any trees protected under the CMC 17.83.150 would continue

to comply with City requirements. With adherence to existing regulations, no anticipated conflicts with any local policies or tree policies would occur.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Conflict with Conservation Plans

Impact BIO 6 –Would the project c*onflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

Analysis of Impacts

The Planning area is not located within close proximity to a habitat conservation plan or natural community conservation plan area. Therefore, no impact will occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation is required.

Biological Resources Cumulative Impacts

BIO Cumulative Impacts- ***Would the project cause substantial adverse cumulative impacts with respect to biological resources?***

The Planning Area is an existing developed site within an urbanized portion of the City of Covina. Implementation of the Project does not involve removal of any native habitat, conversion of wetlands, or other water resource feature and or conflict with a habitat conservation plan or natural community conservation plan. With respect to cumulative impacts, all biological impacts associated with implementation of the proposed Specific Plan would remain less than significant with implementation of Mitigation Measure BIO-1 and adherence to existing regulations. Therefore, no significant, unavoidable, cumulative impacts to biological resources would result from projects associated with the proposed Specific Plan.

4.4.5 REFERENCES

City of Covina General Plan 2004 [Accessed November 5, 2018].

City of Covina Municipal Code CMC 17.83.150 [Accessed November 5, 2018].

CDFW's California Natural Diversity Database (CNDDB) tool, Baldwin Park 7.5-minute quad search for CNPS's Inventory of Rare and Endangered Plants [Accessed January 20, 2019].

Federal Emergency Management Agency National Flood Insurance Program Flood Hazard Mapping [Accessed November 18, 2018].

USFWS. Migratory Bird Treaty Act Protected Species https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php. [Accessed December 2, 2018].

USFWS. Birds of Conservation Concern. https://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php [Accessed November 5, 2018]

United States Fish and Wildlife Service National Wetlands Inventory [Accessed November 18, 2018]

4.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

This EIR chapter addresses cultural, historic, and tribal cultural resource impacts associated with Covina Town Center Specific Plan Update. Issues of interest are cultural and historic impacts identified by the CEQA Guidelines: whether the Project will cause a substantial adverse change in an archaeological or historic resource, destroy a unique paleontological resource or disturb human remains.

4.5.1 ENVIRONMENTAL SETTING

Covina was originally settled in the late 1800s for agricultural purposes and soon thereafter became a major citrus producing area. After World War II, growth pressures sweeping the region resulted in tremendous population and acreage increases that transformed Covina into a prosperous, highly-regarded, and well-balanced suburban community (City of Covina, 2000).

Natural Resources

The topography and demographics of the City of Covina is characterized as a flat, inland, mature, and generally built-out community, that contains limited natural resources due to long term urbanization. The City does not contain any forests; noteworthy, usable agricultural soils, rivers, lakes or related water bodies; harbors; fisheries; significant, endangered wildlife; extractable minerals; or important agricultural areas (City of Covina, 2000). Geologically, the City is underlain by surficial layers of younger Quaternary Alluvium Fan Deposits, consisting of sand gravel, sandy silt, sandy clay, clay, sandstone, and conglomerates (Cutsforth, David H. 1949).

4.5.2 REGULATORY FRAMEWORK

Federal

National Historic Preservation Act of 1966

Enacted in 1966, the National Historic Preservation Act (NHPA) (16 U.S.C §§ 470 et seq.) declared a national policy of historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer (SHPO), provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assist Native American tribes in preserving their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP).

In summary, the NHPA establishes the nation's policy for historic preservation and sets in place a program for the preservation of historic properties by requiring federal agencies to consider effects to significant cultural resources (i.e. historic properties) prior to undertakings.

Section 106 of the Federal Guidelines

Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the NRHP and that the ACHP and SHPO must be afforded an opportunity to comment, through a process outlined in the ACHP regulations at 36 Code of Federal Regulations (CFR) Part 800, on such undertakings.

National Register of Historic Places

The NRHP was established by the NHPA of 1966 as "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, or association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B: It is associated with the lives of persons who are significant in our past.

Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.

Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Cemeteries, birthplaces, or graves of historic figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; and properties that are primarily commemorative in nature are not considered eligible for the NRHP unless they satisfy certain conditions. In general, a resource must be at least 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

State

California Environmental Quality Act

Pursuant to CEQA, a historical resource is a resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources or identified as significant in a local survey conducted in accordance with state guidelines are also considered historic resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude a Lead Agency, as defined by CEQA, from determining that the resource may be a historic resource as defined in California Public Resources Code (PRC) Section 5024.1.

CEQA applies to archaeological resources when (1) the archaeological resource satisfies the definition of a historical resource or (2) the archaeological resource satisfies the definition of a "unique archaeological resource." A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:

1. The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

2. The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

California Register of Historical Resources

Created in 1992 and implemented in 1998, the California Register of Historical Resources (CRHR) is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate properties that are to be protected, to the extent prudent and feasible, from substantial adverse change."[1] Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks (CHLs) numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria[2]:

Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

Criterion 2: It is associated with the lives of persons important in our past.

[1] *California Public Resources Code § 5024.1(a).*
[2] *California Public Resources Code § 5024.1(b).*

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.

Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to be recognizable as historic resources and to convey the reasons for their significance. It is possible that a resource whose integrity does not satisfy NRHP criteria may still be eligible for listing in the CRHR. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Resources that have achieved significance within the past 50 years also may be eligible for inclusion in the CRHR, provided that enough time has lapsed to obtain a scholarly perspective on the events or individuals associated with the resource.

California Historic Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have statewide historical significance by meeting at least one of the criteria listed below. The resource must also be approved for designation by the County Board of Supervisors or the City or Town Council in whose jurisdiction it is located, be recommended by the State Historical Resources Commission, or be officially designated by the Director of California State Parks. The specific standards in use now were first applied in the designation of CHL No. 770. CHLs No. 770 and above are automatically listed in the CRHR.

To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region

  (Northern, Central, or Southern California)
- Associated with an individual or group having a profound influence on the history of California
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or one of
- the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder

California Points of Historical Interest

California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical

Interest (Points) designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historic resource may be designated as both a Landmark and a Point. If a Point is later granted status as a Landmark, the Point designation will be retired. In practice, the Point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a Point, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type within the local geographic region (city or county)
- Associated with an individual or group having a profound influence on the history of the local area
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or one of
- the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder

Native American Heritage Commission, Public Resources Code Section 5097.9-5097.991

Section 5097.91 of the Public Resources Code (PRC) established the Native American Heritage Commission (NAHC), whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Under Section 5097.9 of the PRC, a state policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites or sacred shrines located on public property. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner. Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

California Native American Graves Protection and Repatriation Act of 2001

Codified in the California Health and Safety Code Sections 8010–8030, the California Native American Graves Protection Act (NAGPRA) is consistent with the federal NAGPRA. Intended to "provide a seamless and consistent state policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect," the California NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants. Section 8025 established a Repatriation Oversight Commission to oversee this process. The act also provides a process for non–federally recognized tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

Senate Bill 18

Senate Bill (SB) 18 (California Government Code, Section 65352.3) incorporates the protection of California traditional tribal cultural places into land use planning for cities, counties, and agencies by establishing responsibilities for local governments to contact, refer plans to, and consult with California Native American tribes as part of the adoption or amendment of any

general or specific plan proposed on or after March 1, 2005. SB18 requires public notice to be sent to tribes listed on the Native American Heritage Commission's SB18 Tribal Consultation list within the geographical areas affected by the proposed changes. Tribes must respond to a local government notice within 90 days (unless a shorter time frame has been agreed upon by the tribe), indicating whether or not they want to consult with the local government. Consultations are for the purpose of preserving or mitigating impacts to places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code that may be affected by the proposed adoption or amendment to a general or specific plan.

Assembly Bill 52

Assembly Bill (AB) 52 specifies that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. AB 52 requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. AB 52 specifies examples of mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. The bill makes the above provisions applicable to projects that have a notice of preparation or a notice of negative declaration filed or mitigated negative declaration on or after July 1, 2015. AB 52 amends Sections 5097.94 and adds Sections 21073, 21074, 2108.3.1., 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 to the California Public Resources Code (PRC), relating to Native Americans.

Health and Safety Code, Sections 7050 and 7052

Health and Safety Code Section 7050.5 declares that, in the event of the discovery of human remains outside a dedicated cemetery, all ground disturbances must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

Penal Code, Section 622.5

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

Local

City of Covina Municipal Code Section 17.81 "Historic Preservation"

The City of Covina Municipal Code (CMC) 17.81 is to preserve, conserve and maintain the City of Covina's cultural, architectural and archaeological and historical heritage and resources as living parts of community life by encouraging the voluntary designation of such properties and resources for protection, which will benefit and enrich the lives of its present and future residents and visitors (City of Covina, 1997). To that end, CMC 17.81is intended to improve the quality of the City's environment through preservation, conservation and maintenance of its neighborhoods as follows:

A. Preserve the City of Covina's architectural history and encourage complementary development and use on surrounding property.

B. Build and strengthen civic pride in the beauty and notable accomplishments of the past and promote their continued use today.

C. Protect, enhance and perpetuate the City's historic attractions for residents desiring a pleasant way of life, as well as tourists and visitors seeking a pleasant shopping and recreational experience.

D. Strengthen the economy of the City, stabilize and improve property values, and increase community vitality by encouraging adaptive reuse, increased social activity and increased community awareness of the attractions associated with historic resources.

E. Promote the private and public use and preservation of designated structures or areas for the education, appreciation and general welfare of the people. (Ord. 97-1812 § 1, 1997.)

City of Covina Municipal Code Section 17.81.020 "Definitions"

- "Archaeological site" is an area of land formerly occupied by ancient people upon which are found evidence of their existence and customs evidenced by monuments, sites, tools, artifacts, and relics.

- "Historic landmark" shall mean any improvement, archaeological site, natural feature or property that has special historical, cultural, aesthetic, or architectural character, interest, or value as part of the development, heritage, or history of the City of Covina, the state of California, or the nation and that has been nominated and designated by the city council with owner consent pursuant to CMC 17.81.050. The designation statement shall specify the significant exterior and interior elements and natural features which are expressly found by the planning commission to contribute to the historic landmark's significance. Unless otherwise stated in the designation statement, the protection afforded an historic landmark shall encompass the entire parcel and any adjoining parcels under the same ownership.

- "Historic structure modification certificate" is a certificate issued by the planning commission or chief planning official authorizing significant exterior alteration, restoration, rehabilitation, construction, removal, relocation, or demolition, in whole or in part, of or to a designated resource

4.5.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update (CTSPU) would have a significant impact related to historic, cultural, and tribal cultural resources if it would:

a) Cause a substantial adverse change in the significance of a historic resource as defined by CEQA Guidelines Section 15064.5;

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5;

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;

d) Disturb any human remains, including those interred outside of dedicated cemeteries; or

e) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

   1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

   2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.5.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to historic resources, paleontological resources, archaeological resources, tribal cultural resources and human remains, which could result from the implementation of the project and recommends mitigation measures as needed to reduce significant impacts.

Historic Resources

Impact CUL-1 - ***Would the project cause a substantial adverse change in the significance of a historic resource as defined by CEQA Guidelines Section 15064.5?***

Analysis of Impacts

The Covina Town Center Historic Resources Survey conducted in 2007, by Historic Preservation Partners have identified 68 buildings within the Planning Area that have a high potential to be eligible as historic resources under CEQA, either as individual resources or as part of a potential historic district (Historic Preservation Partners, 2007). Since the 2007 survey, the size of the Planning Area has been increased, therefore, the buildings and other structures located south and along East Center Drive and east of North First Street within the revised Planning Area have not been evaluated and as such their significance under CEQA has yet to be determined.

Therefore, buildings or structures that were not part of the 2007 historic survey or have become age eligible (45 years old or older) since the survey, will require an evaluation to determine if they have historic significance and are eligible for listing in the National Register for Historic Places (NRHP), the California Register for Historic Resources (CRHR), or Local Register. Development under the amended Specific Plan could result in potential significant impacts to historic resources, if not documented as set forth in the National Park Service: Historic American Building Survey (HABS) and as specified in the City Historic Preservation Ordinance Section 17.81. Therefore, Mitigation Measure CUL-1 is necessary to ensure that structures with potential historic value are not damaged or destroyed.

Level of Significance before Mitigation

Significant.

Mitigation Measure

CUL 1: Preparation of a Historic American Building Survey (HABS) Level III (Standard) historic site evaluation by a qualified architectural historian who meets the U.S. Secretary of Interior Standards shall be required of all buildings and structures 45 years old or older. The site evaluation shall contain historical information, historical photographs, and largescale digital photographs of the exterior of the building/structure. The HABS documentation shall be reviewed and approved by the City prior to any alterations, re-use, adaptation, or demolition to a potentially historic property.

Level of Significance After Mitigation

Less than significant.

Archaeological Resources

Impact CUL-2 - ***Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?***

Analysis of Impacts

Ground-disturbing activities associated with development carried out under the proposed Project could result in damage to or destruction of previously undiscovered archaeological and/or Native American cultural resources. Impacts would be less than significant with mitigation incorporated. The City of Covina has a long cultural history and is known to have been the home to Native American groups prior to settlement by Euro-Americans. Archaeological materials associated with past occupation within the City are known to exist and have the potential to provide important cultural and scientific information regarding the prehistory and history of the City and the region.

The Project supports high-intensity redevelopment including road improvements and multiple-story subsurface parking, resulting in the disturbance of soils at depths not previously disturbed by existing or past development.

The potential for uncovering significant resources within the Planning Area during earthmoving construction activities is unknown. Nevertheless, ground-disturbing activities associated with proposed development projects where excavation depths exceed those previously attained, have the potential to damage or destroy prehistoric or historic archaeological resources that may be present below the ground surface. Consequently, damage to or destruction to newly discovered sub-surface cultural resources, could result in potential significant impacts. Failure to properly evaluate, assess, survey, and if necessary, monitor proposed development sites could result in significant impacts to newly discovered archaeological (prehistoric and historic) resources.

Level of Significance Before Mitigation

Significant.

Mitigation Measures

The following mitigation measures are required to reduce impacts from development on potential subsurface archaeological and/or Native American cultural resources to less than significant.

CUL-2: Prior to the issuance of a grading permit, future development projects are required to prepare a Phase I Cultural Resources Technical Report in accordance with the California Office of Historic Preservation: Archaeological Resources Management Report Guidelines, with the purpose to assess, avoid, and mitigate potential impacts to archeological and tribal cultural resources as set forth in CEQA Regulations: Appendix G and as specified in the City of Covina Municipal Code 17.81.

CUL-3: In the event that archaeological and/or cultural resources relating to Tribal Cultural Resources are unearthed during ground-disturbing activities, ground-disturbing activities must be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet must be established around the find where construction activities cannot be allowed to continue until a qualified archaeologist examines the newly discovered artifact(s) and evaluates the area of the find. Work may be allowed to continue outside of the buffer area. All archaeological resources unearthed by project construction activities must be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards and is approved by the City of Covina. Should the newly discovered artifacts be determined to be prehistoric, Native American Tribes/Individuals must be contacted and consulted, and Native American construction monitoring must be initiated. The Project Applicant must coordinate with the archaeologist to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing, analysis, and curation.

Level of Significance After Mitigation

Less than significant.

Paleontological Resources

Impact CUL-3 - ***Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?***

Analysis of Impacts

Ground-disturbing activities associated with development under the Project could result in damage to or destruction of unique paleontological resources within rock units or geologic features. No paleontological resources have been recorded within the Planning Area. However, the Project supports high-intensity redevelopment that could include road improvements, and multiple-story subsurface parking, resulting in the disturbance of soils at depths not previously disturbed by existing or past development. Paleontological resources may be present in fossil-bearing soils and rock formations below the ground surface. Ground-disturbing activities in fossil-bearing soils and rock formations have the potential to damage or destroy paleontological resources that may be present below the ground surface. Therefore, activities resulting from implementation of the proposed project, including construction-related and earth-disturbing actions, could damage or destroy fossils resulting in a significant impact.

Failure to properly evaluate, assess, survey, and if necessary, monitor proposed development sites could result in significant impacts to paleontological resources or unique geological features.

Level of Significance Before Mitigation

Impacts are potentially significant before mitigation.

Mitigation Measures

The following mitigation measures are required to reduce impacts from development on potential subsurface paleontological or unique geological features to less than significant.

CUL-4: Prior to the issuance of a grading permit, future development projects are required to conduct a paleontological record search, commissioned through the Natural History Museum of Los Angeles County: Vertebrate Paleontology Section in order to assess and evaluate potential impacts to paleontological resources and unique geological features as set forth in CEQA Regulations: Appendix G and as specified in the City of Covina Municipal Code 17.81.

CUL- 5 In the event that paleontological resources or unique geological features are discovered during construction related activities, a qualified paleontological monitor shall observe all ground disturbing activities at all depths. The paleontological monitor will recover any significant fossil materials that would potentially be impacted by ground disturbing activities. To avoid construction delays, the paleontological monitor should be equipped to salvage fossils immediately as they are unearthed and to remove samples of sediments that are likely to contain the remains of small fossil vertebrates, in accordance with standards for such recovery established by the Society of Vertebrate Paleontology (SVP).

Monitoring of ground disturbance shall consist of the surface collection of visible vertebrate and invertebrate fossils within the project site. If recovery of a large or unusually productive fossil occurrence is warranted, earthmoving activities should be diverted temporarily around the fossil site and a recovery crew should be mobilized to remove the material as quickly as possible. The monitor shall be permitted to photograph and/or draw stratigraphic profiles of cut surfaces and take samples for analysis of microfossils, dating, or other specified purposes, in accordance with SVP protocols. Recovered specimens shall be prepared to a point of identification, including washing of sediments to recover smaller fossil remains. Once excavation has reached specified depths, salvage of fossil material from the sidewalls of the cut may resume. Specimens shall be identified and curated into a museum repository with retrievable storage.

Level of Significance After Mitigation

Less than significant.

Human Remains

Impact CUL-4 - ***Would the project disturb any human remains, including those interred outside of formal cemeteries?***

Analysis of Impacts

Human burials, in addition to being potential archaeological resources, have specific provisions for treatment in Section 5097 of the California Public Resources Code. The California Health and Safety Code (Sections 7050.5, 7051, and 7054) has specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains, and protects them from disturbance, vandalism, or destruction, and established procedures to be implemented if Native American skeletal remains are discovered. Public Resources Code §5097.98 also addresses the disposition of Native American burials, protects such remains, and established the Native American Heritage Commission (NAHC) to resolve any related disputes.

Ground-disturbing activities associated with project implementation could result in damage to or destruction of currently unknown human remains. Impacts would be less than significant with mitigation incorporated. Human burials outside of formal cemeteries often occur in prehistoric archeological contexts. Although the majority of the City is built out, the potential still exists for these resources to be present. Excavations during construction activities within the Planning Area would have the potential to disturb these resources, including Native American burials.

Level of Significance Before Mitigation

Impacts are potentially significant before mitigation.

Mitigation Measures

Compliance with Section 5097 of the California Public Resources Code, as well as Mitigation Measures MM-CUL 3 would reduce impacts to human remains and burial grounds to a less than significant level.

Level of Significance After Mitigation

Less than significant.

Tribal Cultural Resources

Impact CUL-5 - **Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a Cultural Native American tribe*?***

Analysis of Impacts

Ground-disturbing activities associated with development carried out under the proposed CTCSPU could result in damage to or destruction of Tribal Cultural Resources *as defined in Public Resources Code section 5020.1(k).* Impacts would be less than significant with mitigation

incorporated. Native American tribes and bands have occupied areas in and around the City of Covina for at least 3,000 years. Tribal Cultural Resources are the physical artifacts associated with the spiritual and religious lives of native people that ties them together with their environment, each other, and their place in the universe. Archaeological materials associated with past occupation within the City are known to exist and have the potential to provide important cultural and religious significance to contemporary Native American tribes as well as scientific information regarding the history and prehistory of the City and the region.

The Project supports high-intensity redevelopment that could include road improvements and multiple-story subsurface parking, resulting in the disturbance of soils at depths not previously disturbed by existing or past development. Failure to properly evaluate, assess, survey, and if necessary, monitor proposed development sites could result in significant impacts to newly discovered tribal cultural (prehistoric and historic) resources could result in significant cumulative impacts.

On April 27, 2019 the City notified by mail six local Native American tribal governments and requested their assistance and consultation in avoiding impacts to known Native American cultural resources, as specified in Senate Bill 18. The City did not receive any response to these notices.

The Gabrieleno Band of Mission Indians-Kizh Nation, did send a letter, dated February 9, 2018, requesting consultation in accordance with AB 52. The letter indicated that the Kizh Nation stated that the Planning Area is situated within a culturally sensitive area and requested consultation in order to avoid adverse effects to their tribal cultural resources. Application of Mitigation Measures CUL-6 and CUL-7 would result in less than significant impacts with respect to tribal cultural resources.

Level of Significance Before Mitigation

Significant before mitigation.

Mitigation Measures

The following mitigation measures are required to reduce impacts from development on potential subsurface archaeological and/or Native American cultural resources to less than significant.

CUL-6: Prior to the issuance of a grading permit, future development projects are required to prepare a Phase I Cultural Resources Technical Report in accordance with the California Office of Historic Preservation: Archaeological Resources Management Report Guidelines, with the purpose to assess, avoid, and mitigate potential impacts to tribal cultural resources as set forth in CEQA Regulations: Appendix G and as specified in the City of Covina Municipal Code 17.81.

CUL-7: In the event that artifacts relating to tribal cultural resources are unearthed during ground-disturbing activities, ground-disturbing activities must be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet must be established around the find where construction activities cannot be allowed to continue until a qualified archaeologist or tribal historian examines the newly discovered artifact(s) and evaluates the area of the find. Work may be allowed to continue outside of the buffer area. All tribal cultural resources unearthed by project construction activities must be evaluated by a qualified professional archaeologist,

who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards and is approved by the City of Covina. Should the newly discovered artifacts be determined to be prehistoric, Native American Tribes/Individuals must be contacted and consulted, and Native American construction monitoring must be initiated. The Project Applicant must coordinate with the archaeologist and tribal monitor(s) to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing, analysis, and curation.

Level of Significance After Mitigation

Less than significant.

Cumulative Impacts - ***Would the project cause substantial adverse cumulative impacts with respect to historical, archeological, paleontological and/or tribal cultural resources?***

No existing cultural resources have been identified within or proximate to the planning area which is almost completely developed. Nonetheless, the analysis does indicate that potential impacts could occur with respect to historical resources, tribal cultural resources, archaeological resources, paleontological resources and human remains: the possibility exists that such resources could be discovered as properties are redeveloped.

Due to the age of many of the existing structures in the planning area, buildings that may have historic significance could be demolished unless appropriate mitigation is provided. Although there are no known archaeological, paleontological or tribal cultural resources present on the surface of the planning area, such resources could be discovered as demolition, excavation, grading and redevelopment occur on individual properties. To address potential project-level impacts with respect to these potential cultural resources mitigation measures would be imposed as described in each of the cultural issue areas (Impacts CUL 1 through Impact CUL 5) evaluated in this Chapter. With the implementation of these mitigation measures, potential cumulative as well as project-level impacts would be less than significant.

Level of Significance Before Mitigation

Less than Significant.

Mitigation Measures

None required.

4.5.5 REFERENCES

The City of Covina. 27 April 2017. SCH# 2018081009 Covina Town Center Specific Plan Update: Tribal Notification Letters pursuant to Senate Bill 18. Prepared by the City of Covina: prepared for Gabrieleno/Tongva San Gabriel Band of Mission Indians; Gabrieleno Band of Mission Indians-Kizh Nation; Gabrieleno/Tongva Nation; Gabrieleno/Tongva Indians of California Tribal Council; Gabrieleno/Tongva Tribe; San Fernando Band of Mission Indians, and the Torres Martinez Desert Cahuilla Indians. The City's Senate Bill 18 Tribal Notification Letters are on file at City Hall.

The City of Covina. 6 September 2018. SCH# 2018081009 Covina Town Center Specific Plan Update: Tribal Notification Letters, pursuant to Assembly Bill 52. Prepared by the City of Covina: prepared for Gabrieleno/Tongva San Gabriel Band of Mission Indians; Gabrieleno Band of Mission Indians-Kizh Nation; Gabrieleno/Tongva Nation; Gabrieleno/Tongva Indians of California Tribal Council; Gabrieleno/Tongva Tribe; San Fernando Band of Mission Indians, and the Torres Martinez Desert Cahuilla Indians. The City's Assembly Bill 52 Tribal Notification Letters are on file at City Hall.

The California Office of Historic Preservation February 1990. Archaeological Resource Management Reports (ARMR) Recommended Contents and Format. Electrically available at: http://ohp.parks.ca.gov/pages/1054/files/armr.pdf

The City of Covina. 14 March 2000. The City of Covina General Plan: Natural Resources and Open Space Element (Pg. D-3) Prepared by the Covina Community Development Department, Planning Division Staff. Electronically available at: https://covinaca.gov/sites/default/files/fileattachments/planning_commission/page/1073/natural_resources_and_open_space.pdf

The City of Covina. 1997. City of Covina Municipal Code Chapter 17.181: Historic Preservation. Electronically available at: https://www.codepublishing.com/CA/Covina/#!/Covina17/Covina1781.html#17.81

The City of Covina. 1997. City of Covina Municipal Code Chapter 17.181: Historic Preservation. Electronically available at: https://www.codepublishing.com/CA/Covina/#!/Covina17/Covina1781.html#17.81

The Gabrieleno Band of Mission Indians-Kizh Nation. 9 February 2018. AB 52 Consultation Request and Cultural Resource Mitigation Measures for the Town Center Specific Plan Update. Prepared by the Gabrieleno of Band of Mission Indians; prepared for the City of Covina. Kizh Nation Letter is available at City Hall.

Historic Preservation Partners. 2007. Covina Town Center Historic Resources Survey. Prepared by Historic Preservation Partners; prepared for the City of Covina. Electronically available at: https://covinaca.gov/sites/default/files/fileattachments/community_development/page/1254/covina_historic_survey_report_6-07.pdf

Native American Heritage Commission Letter. 25 April 2017. SCH# 2018081009 Covina Town Center Specific Plan Update. Letter pursuant to Senate Bill 18. Prepared by the Native American Commission (NAHC); prepared for the City of Covina. NAHC Senate Bill 18 Letter is on file at City Hall.

Native American Heritage Commission Letter. 4 September 2018. SCH# 2018081009 Covina Town Center Specific Plan Update. Letter pursuant to Assembly 52. Prepared by the Native American Commission (NAHC); prepared for the City of Covina. NAHC Assembly Bill 52 Letter is on file at City Hall.

4.6 Geology and Soils

This EIR chapter describes geology and soils information related to the Covina Town Center Specific Plan Update and the City of Covina. This section also evaluates potential geology and soils impacts associated with implementation of the Specific Plan Update and identifies mitigation measures, if required.

4.6.1 ENVIRONMENTAL SETTING

Seismic Activity

The City of Covina lies within a metropolitan area with a history of seismic activity. Earthquakes occur as the result of movement along breaks in the earth's crust, which are called faults. Faults are prevalent throughout California and are commonly classified as either "active" or "potentially active." An active fault is a break that has moved in recent geologic time (the last 11,000 years) and that is likely to move within the next approximately 100 years. No active faults have been identified within or adjacent to the boundaries of the City of Covina (Covina Community Development Department Planning Division Staff, 2000).

A potentially active fault is one that has shifted but not in the recent geologic period (or between 11,000 and 3,000,000 years ago) and is therefore considered dormant or unlikely to move in the future. There are two potentially active earthquake faults that pass through the City of Covina; the Indian Hill Fault, which runs through a portion of the northeastern section of the City, and; the Walnut Creek Fault, which traverses southeastern Covina along Walnut Creek. Based on a Fault Activity Map of California (California Department of Conservation, 2010), portions of the Indian Hill Fault may lie within the Specific Plan area; however, as noted in the General Plan, this fault is considered dormant. However, in conformance with Genera Plan policies, the City monitors the dormant/potentially active Indian Hill Fault and Walnut Creek Fault systems in Covina for any officially documented movement.

While there are no active faults within the City of Covina, there are a number of active faults in Southern California that could potentially result in hazards to the City and the Specific Plan area. The closest active faults to Covina are the Sierra Madre and Duarte and Lower Duarte Faults, which are between two and four miles north of the City. Other active faults in the region include the Whittier-Elsinore Fault (10 miles to the southwest), the Norwalk Fault (20 miles to the southwest), and the Raymond Fault (15 miles to the northwest). Additionally, a segment of the San Andreas Fault is 20 miles northeast of the City. A significant earthquake originating along any of these or other regional faults could affect residents, structures and infrastructure within the Specific Plan area and the City of Covina.

Ground Shaking

Ground shaking is the movement of the earth's surface in response to a seismic event and, in general, is the primary cause for the collapse of buildings and other structures, injury, and loss of life. The intensity of the ground shaking is a function of the magnitude of the earthquake, distance from the fault movement, the characteristics of the surface and subsurface, geology, and a community's building types. Because of the City's proximity to several previously-

identified active faults and because of the prevalent, motion-susceptible alluvium that underlies the community, the City will experience earthquake-related ground shaking in the future.

Liquefaction

Liquefaction is a phenomenon that occurs when water-laden, loose, and cohesionless soils are subject to intense seismic shaking and form a quicksand- or fluid-like soil condition below the ground surface. As a result, structural damage may occur as building foundations lose ground support. Liquefaction typically occurs in areas where the ground water is less than 30 feet from the surface and where the soils are composed of predominantly poorly consolidated fine sand.

In Covina, liquefaction has not been a problem in the past and appears to have very limited future hazard potential because the water table is generally more than 50 feet deep and there are believed to be no areas of loose, cohesionless soils (Covina Community Development Department Planning Division Staff, 2000). A map prepared by the California Department of Conservation does not identify the Planning Area as within a liquefaction zone indicating where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacement (California Department of Conservation, 1999).

Settlement

Settlement of the ground may occur in poorly consolidated or particular soils or improperly compacted fills during earthquake shaking, though the problem could also arise during heavy rains. As a consequence, structural damage may take place. However, this activity is not of major concern to Covina because of generally favorable soil conditions and because the City has long-adhered to all applicable building code provisions in hillside developments (Covina Community Development Department Planning Division Staff, 2000).

Subsidence

Although it is typically not induced by seismic activity, subsidence may result in settling, tilting, or uneven land surfaces. Subsidence generally occurs in areas of loose and soft soil materials when ground water is withdrawn to the extent that surface deformation takes place. Because of decreasing amounts of water extracted from below the surface in Covina in recent years, subsidence has not been viewed as a problem (Covina Community Development Department Planning Division Staff, 2000).

Landslides

A landslide is the downhill movement of masses of earth material under the force of gravity. The factors contributing to landslide potential are steep slopes, unstable terrain, and proximity to earthquake faults. The Planning Area is largely developed and has an elevation that generally decreases across the plan area from northeast to southwest. There are no extremely steep slopes within the or Earthquake-Induced Landslide Zones with the Planning Area as mapped by the California Department of Conservation (California Department of Conservation, 1999).

4.6.2 REGULATORY FRAMEWORK

Federal

National Earthquake Hazards Reduction Program

Established by Congress in 1977, the National Earthquake Hazards Reduction Program (NEHRP) leads the federal government's efforts to reduce the fatalities, injuries and property losses caused by earthquakes. The four basic NEHRP goals are:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation.
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems.
- Improve earthquake hazards identification and risk assessment methods, and their use.
- Improve the understanding of earthquakes and their effects.

In its initial NEHRP authorization in 1977, and in subsequent reauthorizations, Congress has recognized that several key Federal agencies can contribute to earthquake mitigation efforts.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning (AP) Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the AP Act is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. The AP Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. Local agencies must regulate most development projects within the zones.

Seismic Hazard Mapping Act

The Seismic Hazards Mapping Act (SHMA) of 1990 directs the Department of Conservation, California Geological Survey to identify and map areas prone to earthquake hazards of liquefaction, earthquake-induced landslides and amplified ground shaking. The purpose of the SHMA is to reduce the threat to public safety and to minimize the loss of life and property by identifying and mitigating these seismic hazards. Staff geologists in the Seismic Hazard Mapping Program (Program) gather existing geological, geophysical and geotechnical data from numerous sources to compile the Seismic Hazard Zone Maps. They integrate and interpret this data regionally in order to evaluate the severity of the seismic hazards and designate Zones of Required Investigation for areas prone to liquefaction and earthquake-induced landslides. Cities and counties are then required to use the Seismic Hazard Zone Maps in their land use planning and building permit process.

California Building Code

The state regulations protecting structures from seismic hazards are contained in the California Code of Regulations, Title 24 (the California Building Code (CBC)), which is updated on a

triennial basis. These regulations apply to public and private buildings in the State. Provisions of the CBC address (among other topics) fire safety, access for disabled persons, seismic-resistant construction design.

Local

Covina General Plan Safety Element

The Safety Element of the General Plan serves to protect the community from any unreasonable risks associated with the effects of potential natural and man-made disasters, including earthquakes, geologic hazards, such as landslides, floods, fires, and hazardous materials accidents. The Safety Element aims to reduce death, injuries, property damage, and the economic and social dislocation resulting from major disasters by establishing and applying safety-related policies, standards, designations, and programs to land use and development decisions and actions.

The Safety Element identifies potential seismic and geologic hazards to the extent applicable to Covina. The key issues in this area include: 1) monitoring the two potentially active earthquake faults in Covina for any movement and, if detected, taking appropriate actions; 2) coping with possible ground shaking hazards and effects and risks in Covina that could occur as a result of movement along any of the several active earthquake faults throughout southern California; 3) coping with possible landslide and mudslide hazards and effects and risks in Covina Hills that could occur as a result of continuous erosion processes or the simultaneous interaction of an unstable surface condition with either an earthquake or a heavy rain; and 4) promoting earthquake preparedness in the community by participating in various programs. Other salient issues here pertain to: 1) maintaining current seismic- and structural-related codes and standards and grading and construction practices; 2) continuing to retrofit older, unreinforced masonry and similar buildings; and 3) recognizing and appropriately handling the unique geological, soil, and topographic conditions in and near the Covina Hills area. General Plan policies related to potential seismic and geologic hazards can be found in Safety Element Policy Area1: Potential Seismic and Geologic Hazards (page E-47) and are listed below.

According to Safety Element Policy Area 1 (Potential Seismic and Geologic Hazards), the City shall:

a. Require all new and expanded or improved buildings and structures to comply with current seismic-related codes, standards, and construction practices.

b. Require adequate soils, geologic, and/or structural studies/evaluations prior to any building construction, particularly in the Covina Hills area, to identify appropriate, development-accommodating engineering and development siting measures.

c. Ensure, to the greatest extent possible, that buildings/uses of which the State has permitting authority over, such as public schools, hospitals, and mobile home parks, comply with current, applicable seismic and general building codes, standards, and construction practices.

e. Continue to review and, where necessary, modify general building-related codes and seismic design standards to better protect the City against the adverse effects of strong ground shaking.

f. Continue with voluntary seismic retrofitting of older, unreinforced masonry and similar buildings in conjunction with ongoing commercial revitalization, community development, and general renovation activities for the orderly and effective abatement of potentially hazardous structures.

g. Attempt to regularly update its inventory of unreinforced masonry structures in the community.

h. Consider to adopt a mandatory seismic retrofitting program, if necessary and feasible, including a funding mechanism, to assist applicable property owners.

i. Consider the aesthetic, historic, and/or cultural significance of a building to be upgraded for seismic safety and, to the greatest extent possible, avoid demolition or alteration of a structure's appearance or character in seismic retrofitting.

j. Regard the cost of seismic reinforcement as an inadequate justification for demolition of a structure in Covina determined to be historic.

l. Monitor the dormant/potentially active Indian Hill Fault and Walnut Creek Fault systems in Covina for any officially documented movement.

m. Should either of Covina's two dormant faults become active, closely investigate the fault, including determining the exact location and nature of the fault and probable extent of earthquake activity, follow applicable State mandates, and adopt appropriate development policies and standards.

o. Further investigate and collect additional data on seismic, geologic, and soil conditions affecting the community, particularly in the Covina Hills area.

p. Should liquefaction, settlement, or subsidence be identified in any areas, closely investigate the hazard, including determining the exact location and extent of the problem, and require special, site-specific studies to identify engineering and development siting measures to permit construction to occur.

q. Promote earthquake preparedness within the community by participating in quake awareness programs, including, but not limited to, the distribution of brochure materials or informative literature on methods to safeguard lives and property during seismic events.

r. Maintain and periodically update, as appropriate, the Covina Emergency Plan with respect to emergency procedures to be followed in a potential seismic hazard or geologic incident.

4.6.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to geology and soils if it would:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

I. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

II. Strong seismic ground shaking?

III. Seismic-related ground failure, including liquefaction?

IV. Landslides?

b) Result in substantial soil erosion or the loss of topsoil;

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.6.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related geology and soils which could result from the implementation of the Specific Plan and recommends mitigation measures as needed to reduce significant impacts.

Rupture of Faults, Seismic Ground Shaking, Liquefaction and Landslides

Impact GEO-1 - ***Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides?***

Analysis of Impacts

Rupture of Known Earthquake Faults. There are no active faults within the Planning Area and the area is not within an Alquist-Priolo Earthquake Fault zone (California Department of Conservation, 1999). Portions of the Indian Hill Fault, a potentially active fault, may lie within the Specific Plan area; however, as noted in the General Plan, this fault is considered dormant. As there are no known active faults within the Specific Plan area, rupture of a known earthquake fault would be unlikely.

Strong-Seismic Ground Shaking. While no known active faults are located within Specific Plan area, the City of Covina is located within a seismically active region; a seismic event, resulting in strong-seismic ground shaking, will likely occurring during the operational lifetime of development associated with implementation of the Specific Plan. Generally, adequate engineering and construction techniques have been developed to reduce the risk of damage to

structures from ground shaking. Development within the Planning area would be required to be designed in accordance with the criteria contained in the California Building Code, which includes measures to address seismic conditions. To further address seismic-related hazards the Safety Element Requires adequate soils, geologic, and/or structural studies/evaluations prior to any building construction, particularly in the Covina Hills area, to identify appropriate, development-accommodating engineering and development siting measures. Compliance with this requirement, including site specific geotechnical reports where warranted ensures that risk from ground shaking would be less than significant.

Liquefaction. A map prepared by the California Department of Conservation does not identify the Specific Plan area within a liquefaction zone (California Department of Conservation, 1999). Design and construction of potential development projects in accordance with the California Building Code and local requirements, as well as adherence to the recommendations provided in site-specific geotechnical evaluation when required would limit potential risks associated with liquefaction to less than significant levels.

Landslides. The Planning Area is largely developed and has an elevation that generally decreases across the plan area from northeast to southwest. There are no extremely steep slopes within the Planning Area, and it is not within an Earthquake-Induced Landslide Zone (California Department of Conservation, 1999).

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Soil and Topsoil Erosion

Impact GEO-2 - ***Would the project result in substantial soil erosion or the loss of topsoil?***

Analysis of Impacts

Implementation of the Project would include construction activities that would expose soils and could potentially result in erosion. Soil erosion could have detrimental effects to stormwater quality. Short-term erosion effects during the construction phase of development associated with the Project would be prevented through required implementation of a storm water pollution prevention plan (SWPPP) through compliance with the National Pollutant Discharge Elimination System (NPDES) program and the incorporation of best management practices (BMPs) intended to reduce soil erosion, such as covering exposed soil stockpiles and working slopes, lining the perimeter of the construction site with sediment barriers, and protecting storm drain inlets. Further, Municipal Code Chapter 8.50 (Storm Water Quality and Urban Runoff Control) identifies permits, BMPs, and other requirements for construction projects. With the implementation of required erosion control measures and adherence to existing regulations, impacts related to soil erosion would be considered less than significant.

Level of Significance Before Mitigation

Less than Significant

Mitigation Measures

No mitigation is required.

Unstable Soils

Impact GEO-3 - ***Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?***

***A*nalysis of Impacts**

Landslides. The Planning Area is generally flat and is an urban and developed area with elevations decreasing from northeast to southwest. There are no extremely steep slopes within the Planning Area, and it is not identified as within an Earthquake-Induced Landslide Zone in a map prepared by the California Department of Conservation (California Department of Conservation, 1999).

Lateral Spreading. Lateral spreading is a form of horizontal displacement of soil toward an open channel or other "free" face, such as an excavation boundary. Lateral spreading may also occur where open banks and unsupported cut slopes provide a free face. Due to the generally flat topography of the Planning Area lateral spreading is not expected. In addition, project-level compliance with the requirements of the Safety Element would ensure that potential impacts would be less-than-significant.

Subsidence. Subsidence generally occurs in areas of loose and soft soil materials when ground water is withdrawn to the extent that surface deformation takes place and may result in differential settling, tilting, or uneven land surfaces. Groundwater removal is not anticipated as part of Specific Plan implementation, and this potential impact would be less than significant.

Liquefaction. A map prepared by the California Department of Conservation does not identify the Specific Plan area as within a liquefaction zone (California Department of Conservation, 1999). Design and construction of potential development projects in accordance with the California Building Code and the Safety Element would further limit risks of liquefaction.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required

Expansive Soils

Impact GEO-4 - ***Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?***

Analysis of Impacts

Site specific soil conditions throughout the Planning Area may vary. Structural damage of buildings or utilities may occur if the potentially expansive and corrosive soils are not considered in the design and construction of development. The Safety Element of the General Plan requires adequate soils, geologic, and/or structural studies/evaluations prior to any building construction, particularly in the Covina Hills area, to identify appropriate, development-accommodating engineering and development siting measures. Compliance with this requirement will insure that potential impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No Mitigation is required.

Septic Tanks

Impact GEO-5 - ***Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?***

Analysis of Impacts

Development associated with the Project would connect to the existing City sewer system; no septic tanks or alternative wastewater disposal system are proposed as part of the project.

Level of Significance Before Mitigation

No Impact

Mitigation Measures

None Required

Geology and Soils Cumulative Impacts

GEO-Cumulative Impacts - ***Would the project cause substantial adverse cumulative impacts with respect to geology and soils?***

Impacts related to geology and soils are generally site specific and not cumulative in nature because each project area has unique geologic considerations that would be subject to uniform site development and construction standards. As such, the potential for cumulative impacts is limited. Impacts associated with potential geologic hazards related to soil or other conditions

occur at individual building sites. These effects are site-specific, and impacts would not be compounded by additional development. Compliance with the requirements of the General Plan Safety Element described above would reduce impacts from geologic hazards to a less-than significant level. Implementation of the Project would not result in a cumulatively considerable impact.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No Mitigation is required.

4.6.5 REFERENCES

Covina Community Development Department, Planning Division Staff, 2000. *Covina General Plan, Safety Element,* April 18.

California Department of Conservation, 1999. *Map of Earthquake Zones of Required Investigation, Baldwin Park Quadrangle, California Geological Survey,* March 25. (http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/BALDWIN_PARK_EZRIM.pdf accessed November 28, 2018).

California Department of Conservation, 2010. *Fault Activity Map of California.* (http://maps.conservation.ca.gov/cgs/fam/ accessed November 28, 2018).

4.7 Greenhouse Gas Emissions and Energy

This Chapter describes existing and projected emissions of greenhouse gases (GHG) and energy usage and provides an evaluation of the potential effects of the proposed Covina Town Center Specific Plan on climate change. The methodologies and assumptions used in the preparation of this Section follow guidance from the South Coast Air Quality Management District (SCAQMD). Information on existing GHG emissions levels and applicable Federal and State regulations were obtained from the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and SCAQMD. This EIR GHG analysis has been closely coordinated with the air quality analysis in Chapter 4.3 of this EIR. Please refer to Appendix B for detailed air quality and greenhouse gas emissions estimates (MIG, 2019).

4.7.1 ENVIRONMENTAL SETTING

Climate Change

Climate change is the distinct change in measures of climate for a long period of time. Climate change can result from natural processes and from human activities. Natural changes in the climate can be caused by indirect processes such as changes in the Earth's orbit around the Sun or direct changes within the climate system itself (i.e. changes in ocean circulation). Human activities can affect the atmosphere through emissions of gases and changes to the planet's surface. Emissions affect the atmosphere directly by changing its chemical composition, while changes to the land surface indirectly affect the atmosphere by changing the way the Earth absorbs gases from the atmosphere. The term "climate change" is preferred over the term "global warming" because "climate change" conveys the fact that other changes can occur beyond just average increase in temperatures near the Earth's surface. Elements that indicate that climate change is occurring on Earth include:

- Rising of global surface temperatures by 1.3° Fahrenheit (F) over the last 100 years
- Changes in precipitation patterns
- Melting ice in the Arctic
- Melting glaciers throughout the world
- Rising ocean temperatures
- Acidification of oceans
- Range shifts in plant and animal species

Climate change is intimately tied to the Earth's greenhouse effect. The greenhouse effect is a natural occurrence that helps regulate the temperature of the planet, and without it, life as we know it on Earth would not exist. Human activities since the beginning of the industrial revolution (approximately 150 years) have been adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap energy, thereby contributing to an average increase in the Earth's temperature. Human activities that enhance the greenhouse effect are detailed below.

Greenhouse Gases

Gases that "trap" heat in the atmosphere and affect regulation of the earth's temperature are known as "greenhouse gases" (GHG). Many chemical compounds in the Earth's atmosphere exhibit the GHG property. GHG allow sunlight to enter the atmosphere freely. When the sunlight strikes the earth's surface, it is either absorbed or reflected back toward space. Earth, or materials near the Earth's surface, that have absorbed energy from sunlight warm up during the daytime and emit infrared radiation back toward space during both the daytime and nighttime hours. GHG absorb this long-wave, infrared radiation and trap the energy in the Earth's atmosphere. The term "climate change" is preferred over the term "global warming" because climate change conveys the fact that other changes can occur beyond just average increase in temperatures near the earth's surface.

GHG that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHG are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide, or CO_2), and off-gassing from low-oxygen environments such as swamps or exposed permafrost (methane or CH_4). However, GHG emissions from human activities such as fuel combustion (e.g., CO_2) and refrigerants use (e.g., hydrofluorocarbons, or HFCs) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. Human production of GHG has increased steadily since pre-industrial times (approximately pre-1880), and atmospheric CO_2 concentrations have increased from a pre-industrial value of 280 parts per million (ppm) in the early 1800s to approximately 411 ppm in January 2019 (NOAA 2019). The effects of increased GHG concentrations in the atmosphere include increasing shifts in temperature and precipitation patterns and amounts, reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn will impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare.

The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific greenhouse gases—CO_2, CH_4, nitrous oxide (N_2O), and sulfur hexafluoride (SF_6) – and two groups of gases—HFCs and perfluorocarbons (PFCs). These GHG are the primary GHG emitted into the atmosphere by human activities. Water vapor is also a common GHG that regulates the Earth's temperature; however, the amount of water vapor in the atmosphere can change substantially from day to day, whereas other GHG emissions remain in the atmosphere for longer periods of time. Black carbon consists of particles emitted during combustion; although a particle and not a gas, black carbon also acts to trap heat in the Earth's atmosphere. The most common GHG are described below.

- **Carbon Dioxide (CO_2)** is emitted and removed from the atmosphere naturally. Animal and plant respiration involves the release of CO_2 from animals and its absorption by plants in a continuous cycle. The ocean-atmosphere exchange results in the absorption and release of CO_2 at the sea surface. CO_2 is also released from plants during wildfires. Volcanic eruptions release a small amount of CO_2 from the Earth's crust. Human activities that affect CO_2 in the atmosphere include burning of fossil fuels, industrial processes, and product uses. Combustion of fossil fuels used for electricity generation and transportation are the largest source of CO_2 emissions in the United States. When fossil fuels are burned, the carbon stored in them is released into the atmosphere entirely as CO_2. Emissions from industrial activities also emit CO_2 such as cement, metal, and chemical production and use of petroleum produced in plastics, solvents, and lubricants.

- **Methane (CH_4)** is emitted from human activities and natural sources. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, soils, and wildfires. Human activities that cause CH_4 releases include fossil fuel production, animal digestive processes from farms, manure management, and waste management. It is estimated that 50 percent of global CH_4 emissions are human generated. Releases from animal digestive processes at agricultural operations are the primary source of human-related CH_4 emissions. CH_4 is produced from landfills as solid waste decomposes. CH_4 is a primary component of natural gas and is emitted during its production, processing, storage, transmission, distribution, and use. Decomposition of organic material in manure stocks or in liquid manure management systems also releases CH_4. Wetlands are the primary natural producers of CH_4 because the habitat is conducive to bacteria that produce CH_4 during decomposition of organic material.
- **Nitrous Oxide (N_2O)** is emitted from human sources such as agricultural soil management, animal manure management, sewage treatment, combustion of fossil fuels, and production of certain acids. N_2O is produced naturally in soil and water, especially in wet, tropical forests. The primary human-related source of N_2O is agricultural soil management due to use of synthetic nitrogen fertilizers and other techniques to boost nitrogen in soils. Combustion of fossil fuels (mobile and stationary) is the second leading source of N_2O, although parts of the world where catalytic converters are used (such as California) have significantly lower levels than those areas that do not.
- **Sulfur Hexafluoride (SF_6)** is commonly used as an electrical insulator in high-voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF_6 occur during maintenance and servicing as well as from leaks of electrical equipment.
- **Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs)** are entirely human made and are mainly generated through various industrial processes. These types of gases are used in aluminum production, semiconductor manufacturing, and magnesium production and processing. HFCs and PFCs are also used as substitutes for ozone-depleting gases like chlorofluorocarbons (CFCs) and halons.

In 1997, the U.S was a signatory to the Kyoto Protocol, however, the treaty was not sent to Congress for ratification. Thus, while a signatory to the Kyoto Protocol, the U.S. is not an official party to this international agreement and is not subject to any emissions reductions goals established pursuant to the Kyoto Protocol. Although the U.S. is not a party to this agreement, the GHG's targeted for reduction by the Kyoto Protocol are also targeted under federal and state GHG reporting and emissions reduction programs.

GHG can remain in the atmosphere long after they are emitted. The potential for a particular greenhouse gas to absorb and trap heat in the atmosphere is considered its global warming potential. The reference gas for measuring global warming potential is CO_2, which has a global warming potential of one. By comparison, CH_4 has a global warming potential of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHG by their global warming potential determines their CO_2 equivalent (CO_2e), which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions. The global warming potentials and estimated atmospheric lifetimes of the common GHG are shown in Table 4.7-1 (Global Warming Potential (GWP) of Common GHG (100-Year Horizon)).

Table 4.7-1:
Global Warming Potential (GWP) of Common GHG (100-Year Horizon)

GHG	GWP(A)	GHG	GWP(A)
Carbon Dioxide (CO_2)	1	Perfluorocarbons (PFCs)	
Methane (CH_4)	25	CF_4	6,500
Nitrous Oxide (N_2O)	298	C_2F_6	9,200
Hydrofluorocarbons (HFCs)		C_4F_{10}	7,000
HFC-23	14,800	C_6F_{14}	7,400
HFC-134a	1,430	Sulfur Hexafluoride (SF_6)	22,800
HFC-152a	140		
HCFC-22	1,700		

Source: CARB, 2014
(A) GWPs are based on the United Nations Intergovernmental Panel on Climate Change 4th Assessment Report.

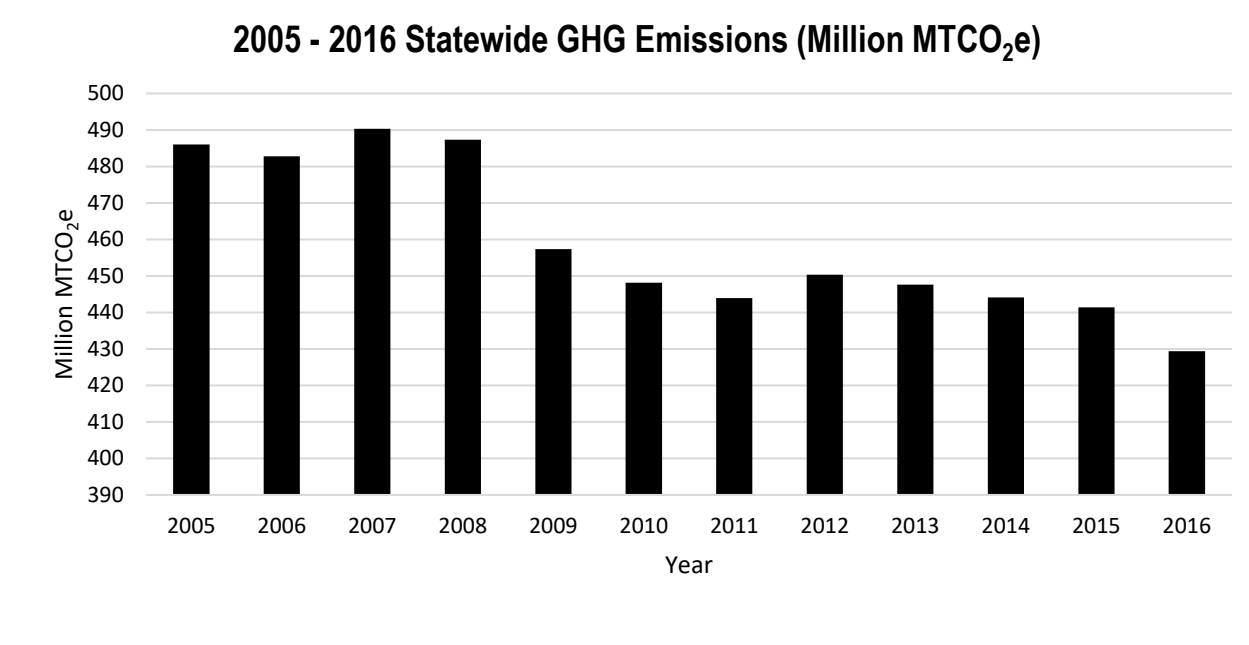
Statewide GHG Emissions

CARB prepares an annual statewide GHG emissions inventory using regional, State, and federal data sources, including facility-specific emissions reports prepared pursuant to the State's Mandatory GHG Reporting Program. The statewide GHG emissions inventory helps CARB track progress towards meeting California's AB 32 GHG emissions target of 431 million metric tons of CO_2 equivalents ($MTCO_2e$), as well as establish and understand trends in GHG emissions.[1] Statewide GHG emissions for the 2005 to 2016 time period are shown in Table 4.7-2.

Table 4.7-2:
2005-2016 Statewide GHG Emissions (in the Million $MTCO_2e$)

Scoping Plan Sector	Year											
	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16
Agriculture	34	35	36	36	33	34	35	36	35	36	34	34
Commercial/Residential	42	43	43	44	44	45	46	43	44	37	38	39
Electric Power	108	105	114	120	101	90	88	95	90	88	84	69
High GWP	9	10	11	12	12	14	15	16	17	18	19	20
Industrial	96	93	90	91	88	91	91	91	94	94	92	90
Recycling and Waste	8	8	8	8	8	8	8	8	9	9	9	9
Transportation	189	189	189	178	170	165	162	161	161	162	166	169
Total Million $MTCO_2e$(A)	***486***	***483***	***490***	***487***	***457***	***448***	***444***	***450***	***448***	***444***	***441***	***429***

[1] CARB approved use of 431 $MMCO_2e$ as the state's 2020 GHG emission target in May 2014. Previously, the target had been set at 427 $MMCO_2e$



Source: CARB, 2018
(A) Totals may not equal due to rounding. CARB inventory uses GWPs based on the United Nations' IPCC's 4th Assessment Report.

As shown in Table 4.7-2, statewide GHG emissions have generally decreased over the last decade, with 2016 levels (429 million $MTCO_2e$) approximately 11 percent less than 2005 levels (486 million $MTCO_2e$) and below the State's 2020 reduction target of 431 million $MTCO_2e$. The transportation sector (165 million $MTCO_2e$) accounted for more than one-third (approximately 39.4%) of the State's total GHG emissions inventory (429 million $MTCO_2e$) in 2016.

Climate Change and California

The 2019 California Climate Adaptation Strategy prepared by the California Natural Resources Agency (CNRA) identified anticipated impacts to California due to climate change through extensive modeling efforts. General climate changes in California indicate that:

- California is likely to get hotter and drier as climate change occurs with a reduction in winter snow, particularly in the Sierra Nevada Mountain Range.
- Some reduction in precipitation is likely by the middle of the century.
- Sea levels will rise up to an estimated 55 inches.
- Extreme events such as heat waves, wildfires, droughts, and floods will increase.
- Ecological shifts of habitat and animals are already occurring and will continue to occur (CNRA 2009).

It should be noted that changes are based on the results of several models prepared under different climatic scenarios; therefore, discrepancies occur between the projections and the interpretation. The potential impacts of global climate change in California are detailed below.

In January 2018, the CNRA adopted Safeguarding California Plan: 2018 Update, which builds on nearly a decade of adaptation strategies to communicate current and needed actions state government should take to build climate change resiliency. It identifies hundreds of ongoing actions and next steps state agencies are taking to safeguard Californians from climate impacts

within a framework of 81 policy principles and recommendations. The 2018 update also has two new chapters and incorporates a feature showcasing the many linkages among policy areas. A new "Climate Justice" chapter highlights how equity is woven throughout the entire plan (CNRA 2018).

Existing Planning Area GHG Emissions

The existing land uses within the Project area contribute to existing city, regional, and statewide GHG emissions. The Project area's existing GHG emissions, presented below in Table 4.7-3, were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. GHG emissions generated within the Project area primarily come from the area, energy, and mobile sources described in Section 4.7.1, Air Quality, as well as the following additional sources specific to GHG emissions:

- **Energy use and consumption:** Emissions generated from purchased electricity and natural gas. As estimated using CalEEMod, the existing land uses in the project area use and consume approximately 29,318,302 kWh of electricity per year and 48,814,468 kBtus of natural gas per year.
- **Solid waste disposal:** Emissions generated from the transport and disposal of waste generated by land uses. CalEEMod estimates approximately 7,463.6 tons of solid waste are generated per year by the people working and living within the Project area.
- **Water/wastewater:** Emissions from electricity used to supply water to land uses, and treat the resulting wastewater generated. As estimated in CalEEMod, existing land uses within the Project area use approximately 383.8 million gallons of water per year.

The Project area's existing GHG emissions were estimated using default emissions assumptions provided by CalEEMod, with the Project-specific modifications described in Section 4.7.1 and below:

- **Mobile Sources.** As described in Section 4.7.1, the default weekday trip generation rates for the proposed land use types were replaced with trip generation rates contained in the Traffic Impact Assessment (TIA) prepared for the Project (Nelson Nygaard 2018). According to the TIA, the existing land uses generate approximately 37,161 trips per weekday.[2] CalEEMod does not estimate N_2O emissions from on-road vehicle travel or off-road construction sources. To account for this, CalEEMod emissions estimates were adjusted as follows:
    - N_2O emissions were estimated for the Project by comparing the ratio of CO_2 and N_2O emissions for the on-road (light-duty vehicles) contained in the State's most recent GHG inventory (CARB 2018b, 2018c). In 2016, statewide CO_2 and N_2O emissions estimates for the on-road transportation sector (light-duty gasoline vehicles) were 115.4 and 0.005 million metric tons, respectively (N_2O emissions are therefore equal to 0.004% of CO_2 emissions for this sector).
    - Based on the latest estimate available from CARB, the LCFS regulation resulted in a 3.7% reduction in average carbon intensity content in 2017, thus the CalEEMod estimate of CO2 emissions was reduced by accordingly (CARB 2018).

[2] Due to minor differences and rounding in square footages and trip rates, the CalEEMod emissions estimates for existing 2019 conditions are based on a total of 37,157 daily weekday trips.

- **Energy use and consumption:** In addition to natural gas usage, the existing land uses in the Project area would generate indirect GHG emissions from electricity use. Southern California Edison (SCE) provides electricy service in the City of Covina. The CalEEMod default GHG intensity values for this electric service provider are from 2012 and do not represent existing and future reductions in GHG intensity that have been achieved under the State's Renewable Portfolio Standard (RPS, see Section 4.7.2). To account for this, CalEEMod default assumptions regarding energy use were adjusted as follows:

    - The SCE GHG intensity value was reduced based on an increase in renewable energy mix from 20% under estimated Year 2012 conditions (the CalEEMod default data year) to 32% under existing conditions (2018, based on 2017 available data from SCE). This adjustment reduced the estimated amount of CO_2 produced by the SCE energy mix from approximately 702 pounds/megawatt-hour (lbs/mWh) to 539 lbs/mWh.
    - Electricity generation emission factors for CH_4 (0.033 lbs/mWh) and N_20 (0.004 lbs/mWh were obtained from the U.S. EPA's EGRID database for year 2016 (U.S. EPA 2016).

The Project area's existing GHG emissions are summarized in Table 4.7-3 below.

Table 4.7-3:
Existing GHG Emissions in the Project Area

Source	GHG Emissions (Metric Tons / Year)			
	CO_2	CH_4	N_2O	Total $MTCO_2e$
Area	159.4	0.2	0.0	164.5
Energy	10,381.5	0.5	0.1	10,426.1
Mobile(A)	40,805.7	2.6	1.7	41,376.0
Waste	1,760.0	104.0	0.0	4,360.3
Water	1,271.2	9.4	0.2	1,573.8
Total Existing GHG(B)	54,378.5	116.7	2.0	57,900.7
Service Population (SP)(C)	-	-	-	4,872
Existing GHG Efficiency(D)				11.8

Source: MIG, 2019 (see Appendix B)

(A) CalEEMod 2016.3.2 does not incorporate GHG emissions reductions resulting from the State's Low Carbon Fuel Standards (LCFS). Although LCFS largely reduces GHG from upstream fuel processing (and not individual tailpipe emissions) the aggregate effect on transportation fuels is a reduction in GHG emissions throughout the state from lower fuel carbon content. Accordingly, this EIR analysis reduces transportation combustion emissions pursuant to LCFS requirements. Based on the latest estimate available from CARB, the LCFS regulation resulted in a 3.7% reduction in average carbon intensity content in 2017. Thus, CalEEMod transportation emissions were adjusted by multiplying by a factor of .963 to account for the LCFS regulation (CARB 2018).

(B) Totals may not equal due to rounding.

(C) Service Population is defined as the sum of the number of residents and number of jobs supported by the project (CAPCOA, 2010).

(D) The GHG efficiency metric averages GHG emissions over the number of people the Planning Area the project serves, and provides valuable information about the project's ability to help obtain GHG reduction goals.

Energy Setting

Energy use can affect air quality and other natural resources adversely. Energy is primarily categorized in three areas: electricity, natural gas, and fuels used for transportation. According to the U.S. Energy Information Administration (U.S. EIA), California is the most populous state in the U.S., representing 12 percent of the total national population, has the largest economy, and is second only to Texas in total energy consumption. However, California has one of the lowest per capita energy consumption levels in the U.S. This is a result of California's mild climate, extensive efforts to increase energy efficiency, and implementation of alternative technologies. California leads the nation in electricity generation from solar, geothermal, and biomass resources (U.S. EIA, 2018).

Total annual energy consumption in the U.S. as of October 2018 was approximately 83.7 quadrillion British thermal units (Btu) (U.S. EIA 2019). Fossil fuels provided approximately 79% of this energy, consisting of petroleum (approximately 30 %), natural gas (approximately 33%), and coal (approximately 16%) resources. Total renewable sources accounted for approximately 12% of energy consumption, and nuclear electric power accounted for approximately 9% of the energy consumed in the U.S. In 2016, California was ranked the forth lowest state in terms of energy use on a per capita basis (199 million Btu per person).

Electricity

Almost half of California's net electricity generation was from renewable resources, including hydropower, in 2017 (U.S. EIA 2019). In 2017 the California electric system used 292,039 Gigawatt hours (GWh) of electricity, of which 206,336 GWh was produced in-state (CEC 2018a). Los Angeles County consumed 67,598 GWh of electricity, about 23 percent of the state's electricity consumption (CEC, 2019a). SCE is the utility provider for the City of Covina. In the 2017 fiscal year, SCE sold approximately 85,879 million kilowatt-hours (kWh) of electricity in total (SCE 2018a); approximately 46% of the electricity that SCE delivered to customers came from carbon-free resources, including solar energy (approximately 13%, wind energy (approximately 10%), and geothermal energy (approximately 8%)(SCE 2018b).

Natural Gas

California accounts for less than one percent of total U.S. natural gas reserves and production; however, almost two-thirds of California households use natural gas for home heating (U.S> EIA 2019). In 2017, California consumed about 25,142 million therms of natural gas. Approximately 18% of natural gas was consumed by the residential sector. Los Angeles County consumed approximately 2,956 million therms of natural gas in the same year, accounting for 12% of statewide consumption. The residential sector made up approximately 38% of county-wide consumption (CEC 2019b).

The Southern California Gas Company (SoCalGas) provides natural gas service to the City. SoCalGas is the principal distributor of natural gas in Southern California and provides natural gas for residential, commercial, and industrial markets. The annual natural gas sale to all markets in 2017 was approximately 5,142 million Btu (CEC 2019c).

Based on the CalEEMod emissions estimates prepared for the project (see Section 4.3.1 and Appendix B), the existing development in the project area is estimated to consume approximately 48,814,468 kBtu per year. Based on a service population of approximately 4872, this works out to approximately 10,019 kBtu / service population, annually.

Transportation

California's transportation sector consumed 79.3 million Btu of energy per capita in 2017, which ranked 32nd in the nation (U.S. EIA 2017). Most gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet state-specific formulations required by CARB
.
According to the Board of Equalization (BOE), statewide taxable sales figures indicate a total of 15,584 million gallons of gasoline and 3,124 million gallons of diesel fuel were sold in 2017 (CEC, 2019d; CDFTA 2018a and 2018b). Although exact estimates are not available by County, retail fuel outlet survey data indicates Los Angeles County accounted for approximately 23.4% and 9.7% of total statewide gasoline and diesel sales, respectively (CEC, 2018b).

It is not possible to know the exact amount of vehicle miles travelled, or VMT, in the Los Angeles County region; however, several estimates are available. According to Caltrans' Traffic Data Branch, there were approximately 201 billion vehicle miles travelled on the State Highway System alone from January 2018 to January 2019 (Caltrans 2019). The Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) estimates VMT in the six-county SCAG region to be approximately 152 billion miles per year and approximately 179 billion miles per year in its 2012 and 2040 baseline VMT modeling scenarios (see Section 4.7.2 for a discussion of SCAG's RTP/SCS).[3] For Los Angeles County, the SCAG RTP/SCS estimates annual VMT to be approximately 78 and 85 billion miles per year for the 2012 and 2040 baseline VMT modeling scenarios. The 2016 RTP/SCS does not contain an estimate of annual VMT for the year 2020. According to CARB's Emission Factor (EMFAC) Model 2017 Web Database, annual VMT estimates for the SCAG region and Los Angeles County are equal to approximately 195 billion miles per year and 104 billion miles per year, respectively (CARB 2019).[4]

The TIA prepared for the Project identifies that the existing land uses in the Planning Area generate approximately 37,161 net new trips per weekday (Nelson Nygaard 2018). This level of trip generation was estimated by CalEEMod to produce 89,111,843 VMT per year (see Appendix C).

4.7.2 REGULATORY FRAMEWORK

This section summarizes key federal, State, and city statutes, regulations, and policies that would apply to the Covina Town Center Specific Plan. Global climate change resulting from GHG emissions is an ongoing environmental concern being discussed at the international, national, and statewide levels. At each level, agencies are considering strategies to control emissions of gases that contribute to global climate change.

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[3] SCAG 2016 RTP/SCS VMT estimates are derived by multiplying the 2012 and 2040 SCAG region population estimates shown on page 63 of the 2016 RTP/SCS by the 2012 and 2040 baseline VMT per capita estimates shown on page 167 of the 2016 RTP/SCS (SCAG 2016). These values align with the baseline values reported by CARB in Appendix B of its evaluation of the performance of the 2016 RTP/SCS (CARB 2016).

[4] CARB's EMFAC 2017 Web Database includes VMT estimates for vehicles such as heavy duty trucks that are not covered by the SCAG 2016 RPT/SCS and thus is a higher estimate of VMT in the SCAG and Los Angeles County regions.

International and Federal

International Regulation and the Kyoto Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the "United Nations' Framework Convention on Climate Change" agreement with the goal of controlling greenhouse gas emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan currently consists of more than 50 voluntary programs for member nations to adopt.

Federal Regulation and the Clean Air Act

On December 7, 2009, the U.S. EPA issued an endangerment finding that current and projected concentrations of the six Kyoto GHGs in the atmosphere (CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs) threaten the public health and welfare of current and future generations. This finding came in response to the Supreme Court ruling in *Massachusetts v. EPA*, which found that GHGs are pollutants under the Federal Clean Air Act. As a result, the U.S. EPA issued its GHG Tailoring Rule in 2010, which applies to facilities that have the potential to emit more than 100,000 MTCO2e. In 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA* (No. 12-1146), finding that the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a permit pursuant to the "Clean Air Act's Prevention of Significant Deterioration" or "Title V" operating permit programs. The U.S. EPA's Greenhouse Gas Reporting Program requires facilities that emit 25,000 MTCO2e or more of GHG to report their GHG emissions to the U.S. EPA to inform future policy decisionmakers.

The Current Administration

President Trump and the U.S. EPA have stated their intent to halt various federal regulatory activities to reduce GHG emission. California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. The timing and consequences of these types of federal decisions and potential responses from California and other states are speculative at this time.

State and Regional

Assembly Bill (AB) 32 (California Global Warming Solutions Act) and Related GHG Goals

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 establishes the caps on Statewide greenhouse gas emissions proclaimed in Executive Order S-3-05 and established the timeline for meeting State GHG reduction targets. The deadline for meeting the 2020 reduction target is December 31, 2020.

As part of AB 32, CARB determines 1990 GHG emissions levels and projected a "business-as-usual" (BAU)[5] estimate for 2020, to determine the amount of GHG emission reductions that would need to be achieved. In 2007, CARB approved a Statewide 1990 emissions level and

[5] BAU is a term used to define emissions levels without considering reductions from future or existing programs or technologies.

corresponding 2020 GHG emissions limit of 427 million $MTCO_2e$ (CARB 2007). In 2008, CARB adopted its *Climate Change Scoping Plan*, which projects 2020 Statewide GHG emissions levels of 596 million $MTCO_2e$ and identifies numerous measures (i.e., mandatory rules and regulations and voluntary measures) that will achieve at least 174 million $MTCO_2e$ of GHG reductions and bring Statewide GHG emissions to 1990 levels by 2020 (CARB 2009).

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, set a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. To achieve this ambitious target, Governor Brown identified five key goals for reducing GHG emissions in California through 2030:

- Increase renewable electricity to 50 percent.
- Double energy efficiency savings achieved in existing buildings and make heating fuels cleaner.
- Reduce petroleum use in cars and trucks by up to 50 percent.
- Reduce emissions of short-lived climate pollutants.
- Manage farms, rangelands, forests and wetlands to increasingly store carbon.

By directing State agencies to take measures consistent with their existing authority to reduce GHG emissions, Executive Order B-30-15 establishes coherence between the 2020 and 2050 GHG reduction goals set by AB 32 and seeks to align California with the scientifically established GHG emissions levels needed to limit global warming below two degrees Celsius.
To reinforce the goals established through Executive Order B-30-15, Governor Brown went on to sign Senate Bill (SB) 32 and AB 197 on September 8, 2016. SB 32 made the GHG reduction target (to reduce GHG emissions by 40 percent below 1990 levels by 2030) a requirement, as opposed to a goal. AB 197 gives the Legislature additional authority over CARB to ensure the most successful strategies for lowering emissions are implemented, and requires CARB to, "protect the State's most impacted and disadvantaged communities …[and] consider the social costs of the emissions of greenhouse gases."

Scoping Plan. The CARB Scoping Plan is the comprehensive plan primarily directed at identifying the measures necessary to reach the GHG reduction targets stipulated in AB 32. The key elements of the 2008 Plan were to expand and strengthen energy efficiency programs, achieve a Statewide renewable energy mix of 33 percent, develop a cap-and-trade program with other partners (including seven States in the United States and four territories in Canada) in the Western Climate Initiative, establish transportation-related targets, and establish fees (CARB 2009). CARB estimated that implementation of these measures will achieve at least 174 million $MTCO_2e$ of reductions and reduce Statewide GHG emissions to 1990 levels by 2020 (CARB 2009).

In a report prepared on September 23, 2010, CARB indicated 40 percent of the reduction measures identified in the Scoping Plan had been secured (CARB 2010). Although the cap-and-trade program began on January 1, 2012 (after CARB completed a series of activities dealing with the registration process, compliance cycle, and tracking system), covered entities did not have an emissions obligation until 2013. In August 2011, the Scoping Plan was reapproved by CARB with the program's environmental documentation.

On February 10, 2014, CARB released the public draft of the "First Update to the Scoping Plan." "The First Update" built upon the 2008 Scoping Plan with new strategies and recommendations, and identified opportunities to leverage existing and new funds to further drive GHG emission

reductions through strategic planning and targeted low carbon investments. “The First Update” defined CARB’s climate change priorities over the next five years, and set the groundwork to reach post-2020 goals set forth in Executive Orders S-3-05 and B-16-12. It also highlighted California’s progress toward meeting the 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. “The First Update” evaluated how to align the State’s long-term GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. “The First Update” to the Scoping Plan was approved by the Board on May 22, 2014.

The second update to the scoping plan, the *2017 Climate Change Scoping Plan* update (CARB 2017c), was adopted by CARB in December 2017. The primary objective for the *2017 Climate Change Scoping Plan* is to identify the measures required to achieve the mid-term GHG reduction target for 2030 (i.e., reduce emissions by 40 percent below 1990 levels by 2030) established under Executive Order B-30-15 and SB 32. The *2017 Climate Change Scoping Plan* identifies an increased need for coordination among State, Regional, and local governments to realize the potential for GHG emissions reductions that can be gained from local land use decisions. It notes that emissions reductions targets set by more than one hundred local jurisdictions in the State could result in emissions reductions of up to 45 Million $MTCO_2e$ and 83 Million $MTCO_2e$ by 2020 and 2050, respectively. To achieve these goals, the 2017 Scoping Plan Update includes a recommended plan-level efficiency threshold of six metric tons or less per capita by 2030 and no more than two metric tons by 2050. The major elements of the *2017 Climate Change Scoping Plan* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero emission vehicle (ZEV) buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewable Portfolio Standard (RPS) to 50 percent and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH_4 and hydrocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

Senate Bill 375 (Sustainable Communities and Climate Protection Act)

In January 2009, California SB 375 went into effect known as the Sustainable Communities and Climate Protection Act. The objective of SB 375 is to better integrate regional planning of transportation, land use, and housing to reduce sprawl and ultimately reduce greenhouse gas emissions and other air pollutants. SB 375 tasks CARB to set GHG reduction targets for each of California’s 18 regional Metropolitan Planning Organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP). The SCS is a growth strategy in combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an

Alternative Planning Strategy may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

In August 2010, CARB released the proposed GHG reduction targets for the MPOs to be adopted in September 2010. The proposed reduction targets for the SCAG region were eight percent by year 2020 and 13 percent by year 2035. In September 2010 and February 2011, the eight percent and the 13 percent targets were adopted, respectively.

On April 4, 2012, SCAG's Regional Council adopted the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy: Towards a Sustainable Future.* The 2012 RTP/SCS included a strong commitment to reduce emissions from transportation sources to comply with SB 375. The document contained a host of improvements to the region's multimodal transportation system. These improvements included closures of critical gaps in the network that hinder access to certain parts of the region, as well as the strategic expansion of the transportation system where there is room to grow in order to provide the region with greater mobility. The RTP/SCS demonstrated the region's ability to attain and exceed the GHG emission-reduction targets set forth by the CARB, and outlined a plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands.

SCAG's Regional Council adopted an update to the 2012 RTP/SCS on April 7, 2016, the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS). The 2016 RTP/SCS expands upon the 2012 RTP/SCS's goal of balancing future mobility and housing needs with economic, environmental, and public health goals. Included in the 2016 RTP/SCS are 13 major initiatives primarily focused around preserving and maintaining the existing transportation system, expanding and improving mass transit (with a specific emphasis on passenger rail), decreasing reliance on vehicular modes of transportation through the expansion of pedestrian and bicycle infrastructure, and focusing new growth around transit. Through proactive land use planning and improvements to the transportation network, implementation of the 2016 RTP/SCS will result in an eight percent reduction in greenhouse gas emissions per capita by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040 when compared with 2005 levels. These reductions meet or exceed the State's mandate, which require an eight percent reduction by 2020 and 13 percent by 2035.

In March 2018, CARB established new regional GHG reduction targets for SCAG and other MPOs in the state (CARB, 2018b). The new SCAG targets are an 8% reduction in per capita passenger vehicle GHG reductions by 2020 and a 19% reduction by 2035. The 2016 RTP/SCS, however, remains the approved SCS for the SCAG MPO until such time as SCAG prepares an updated SCS.

Senate Bill 350 (Clean Energy & Pollution Reduction Act)

SB 350 was signed into Law in September 2015 and establishes tiered increases to the Renewable Portfolio Standard (RPS). The Bill requires 40 percent of the State's energy supply come from renewable sources by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Assembly Bill 1493

With the passage of AB 1493 (Pavley I) in 2002, California launched an innovative and pro-active approach for dealing with GHG emissions and climate change at the State level. AB 1493 requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards apply to automobiles and light trucks from 2009 through 2016. Although litigation was filed challenging these regulations and the U.S. EPA initially denied California's related request for a waiver, a waiver has since been granted (CARB 2017b). In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 among light-duty vehicles. In January 2012, CARB approved the Advanced Clean Cars (ACC) program (formerly known as Pavley II) for model years 2017 through 2025. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations and the Zero-Emission Vehicle (ZEV) regulation. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards.

Executive Order (EO) B-30-15, Senate Bill 32 & Assembly Bill 197 (Statewide Interim GHG Targets)

California EO B-30-15 (April 29, 2015) set an "interim" statewide emission target to reduce greenhouse emissions to 40 percent below 1990 levels by 2030, and directed state agencies with jurisdiction over greenhouse gas emissions to implement measures pursuant to statutory authority to achieve this 2030 target and the 2050 target of 80 percent below 1990 levels. Specifically, the Executive Order directed CARB to update the Scoping Plan to express this 2030 target in metric tons. Assembly Bill 197 (AB 197) (September 8, 2016) and Senate Bill 32 (SB 32) (September 8, 2016) codified into statute the GHG emissions reduction targets of at least 40 percent below 1990 levels by 2030 as detailed in EO B-30-15. AB 197 also requires additional GHG emissions reporting that is broken down to sub-county levels and requires CARB to consider the social costs of emissions impacting disadvantaged communities.

Title 24 Energy Standards

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality." The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC).

CALGreen contains both mandatory and voluntary measures. For non-residential land uses there are 39 mandatory measures including, but not limited to exterior light pollution reduction, wastewater reduction by 20 percent, and commissioning of projects over 10,000 square feet. Two tiers of voluntary measures apply to non-residential land uses, for a total of 36 additional elective measures.

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards, adopted May 9, 2018, will go into effect on January 1, 2020 and improve upon existing standards, focusing on three key areas: proposing new requirements for installation of solar photovoltaics for newly constructed low-rise residential buildings; updating current ventilation and Indoor Air Quality (IAQ) requirements, and extending Title 24 Part 6 to apply to healthcare facilities. The 2019 standards also propose several smaller improvements in energy efficiency.

Center for Biological Diversity v. California Department of Fish and Wildlife

In its decision in *Center for Biological Diversity v. California Dep't of Fish and Wildlife* (*Newhall*) 62 Cal.4th 204 (2015), the California Supreme Court set forth several options that lead agencies may consider for evaluating the cumulative significance of a proposed project's GHG emissions:

1. A calculation of emissions reductions compared to a "business as usual" (BAU) scenario based upon the emissions reductions in CARB's Scoping Plan, including examination of the data to determine what level of reduction from BAU a new land use development at the proposed location must contribute in order to comply with statewide goals.
2. A lead agency might assess consistency with AB 32's goals by looking to compliance with regulatory programs designed to reduce GHG emissions from particular activities.
3. Use of geographically specific GHG emission reduction plans to provide a basis for tiering and streamlining of project-level CEQA analysis.
4. A lead agency may rely on existing numerical thresholds of significance for GHG emissions, though use of such thresholds is not required.

Local

The City of Covina has implemented an Energy Action Plan that summarizes the City's existing and future energy uses, projects City's future energy use, though 2020, identifies energy efficiency goals and targets, and creates a strategy to meet the City and State energy and GHG reduction goals. The Energy Action Plan sets the following energy efficiency targets:

- Support achievement of a 15 percent reduction below baseline community GHG emissions levels by 2020.
- Reduce existing residential electricity use 5 percent below baseline 2006 levels by 2020.
- Reduce nonresidential energy use 5 percent below baseline 2006 levels by 2020.
- Move toward net zero electricity use in new residential and nonresidential buildings by 2020.
- Reduce electricity use at municipal facilities 3 percent below baseline 2006 levels by 2014 (equivalent to a 10 percent reduction below 2004 levels).

4.7.3 ENVIRONMENTAL EFFECTS

This section describes potential impacts related to global climate change that could result from GHG emissions from the proposed Project, as well as impacts on energy consumption.

SIGNIFICANCE THRESHOLDS

Based on Appendix G of the CEQA Guidelines, a significant GHG or Energy impact would occur if implementation of the Covina Town Center Specific Plan would:

(a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;

(b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs;

(c) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

(d) Conflict with or obstruct a state or local plan for renewable or energy efficiency.

In order to provide guidance to local lead agencies on determining the significance of GHG emissions in their CEQA documents, the SCAQMD convened the first GHG Significance Threshold Working Group (Working Group) meeting on April 30, 2008. To date, the Working Group has convened a total of 15 times, with the last meeting taking place on September 28, 2010. Based on the last Working Group meeting, the SCAQMD identified an interim, tiered approach for evaluating GHG emissions intent on capturing 90 percent of development projects where the SCAQMD is not the lead agency. The following describes the basic structure of the SCAQMD's tiered, interim GHG significance thresholds:

A. Tier 1 consists of evaluating whether or not the project qualifies for applicable CEQA exemptions.

B. Tier 2 consists of determining whether or not a project is consistent with a greenhouse gas reduction plan. If a project is consistent with a greenhouse gas reduction plan, it would not have a significant impact.

C. Tier 3 consists of using screening values at the discretion of the Lead Agency; however, the Lead Agency should be consistent for all projects within its jurisdiction. The following thresholds were proposed for consideration:

   a. 3,000 $MTCO_2e$/yr for all land use types; or

   b. 3,500 MTCO2e/yr for residential; 1,400 MTCO2e/yr for commercial; 3,000 MTCO2e/yr for mixed use projects.

D. Tier 4 has three options for projects that exceed the screening values identified in Tier 3:

   a. Option 1: Reduce emissions from business-as-usual by a certain percentage (currently undefined)

   b. Option 2: Early implementation of applicable AB 32 Scoping Measures

   c. Option 3: For plan-level analyses, analyze a project's emissions against an efficiency value of 6.6 MTCO2e/yr/service population by 2020 and 4.1 MTCO2e/yr/service population by 2035. For project-level analyses, analyze a project's emissions against an

efficiency value of 4.8 and 3.0 MTCO2e/yr/service population for the 2020 and 2035 calendar years, respectively.

Analysis Methodology

The Covina Town Center Specific Plan's horizon year is 2040, five years after the SCAQMD's latest Tier 4 interim efficiency target year (2035) identified above. Therefore, to evaluate the Covina Town Center Specific Plan GHG emissions against future GHG reduction goals, the plan-level efficiency target has been adjusted based on the GHG reduction targets of SB 32, which sets a target of 40 percent below 1990 levels by 2030, and Executive Order S-03-05, which sets a goal of 80 percent below levels by 2050. The resulting, interpolated efficiency target for the year 2040 is 2.6 MTCO2e/yr/SP. To remain on track with future GHG reduction goals, it is necessary to identify the efficiency target for 2040. Pursuant to existing legislation, GHG emissions are required to be reduced to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050 – meaning a 40 percent reduction would need to occur between 2030 and 2050 compared to 1990 levels. 2040 is the halfway point between 2030 and 2050; thus, half the reductions that need to occur between 2030 and 2050 should be achieved by 2040 (i.e., GHG emissions should be 60 percent below 1990 levels by 2040). Using the efficiency metric for 2020, 6.6 $MTCO_2e$/yr/SP (the same efficiency as 1990 pursuant to AB 32 reduction requirements) and multiplying through by 40 percent (i.e., 60 percent below 1990 levels) results in a derived efficiency metric of 2.6 $MTCO_2e$/yr/SP for year 2040. The City is not applying or proposing to use 2.6 $MTCO_2e$/yr/SP as a CEQA GHG significance threshold for general use; rather, it is only intended for use on this Project.

4.7.4 IMPACTS AND MITIGATION MEASURES

Impact GHG-1 Generation of Greenhouse Gas Emissions

The implementation of the Covina Town Center Specific Plan would result in construction and operational activities that would generate GHG emissions. As described in more detail below, the GHG emissions generated from the potential build-out of the project area would exceed SCAQMD thresholds and result in a significant and unavoidable impact even with the inclusion of feasible mitigation measures.

Annual Construction Emissions

The implementation of the Covina Town Center Specific Plan would result in construction activities that would generate GHG emissions primarily from fuel combustion in equipment and worker, vendor, and haul trips to and from future development projects during demolition, site preparation, grading, building construction, paving, and architectural coating activities. Demolition and construction activities would occur intermittently at different sites within the Planning Area over the next approximately 20 years.

To determine if anticipated typical construction activities could result in a significant GHG emissions impact, construction emissions were modeled using CalEEMod V. 2016.3.2. As described under Impact AIR-2, due to the uncertainty of timing and methods of construction activities that would occur under the proposed Specific Plan, the construction emissions analysis

assumed that a maximum of 10 percent of the Specific Plan could be under construction in any given year (see Chapter 4.3, Air Quality; Table 4.3-6).[6]

Generally, the SCAQMD recommends amortizing construction GHG emissions over a 30-year period since construction activities for a project typically only occurring towards the start of a project and cease to emit GHG upon completion. This normalizes construction emissions so that they can be grouped with operational emissions and compared to appropriate thresholds, plans, etc. However, full buildout of the Specific Plan is expected to take 20 years, with construction potentially occurring every year. Thus, the emissions estimated to result from construction of 10 percent of the Specific Plan are assumed to represent potential annual construction emissions and, therefore, are grouped with operational emissions below. The annual construction-related GHG emissions that could with implementation of the Specific Plan are shown in Table 4.7-4.

Table 4.7-4:
Specific Plan Construction GHG Emissions Estimates

Source	GHG Emissions (Metric Tons / Year)			
	CO_2	CH_4	N_2O	Total MTCO2e
Maximum Annual Construction GHG Emissions				
Demolition(A)	21.4	5.45E-03	0.0	21.6
Construction(B)	398.0	6.99E-02	0.0	399.8
Maximum Annual Emissions	419.5	0.1	0.0	421.3

Source: MIG 2017. See Appendix B
(A) Based on the demolition of 44,221 square feet of structures. GHG demolition emissions are approximately 0.0005 MT/square foot for CO_2, 1.23E-7 MT/square foot for CH_4, and 0.0005 MTCO2e/square foot. There were no emissions of N_2O during demolition; thus, a rate for N_2O was not derived.
(B) Based on the construction of 92,935 square feet of non-residential development. Total GHG construction emissions are approximately 0.0043 MT/square foot for CO_2, 7.52E-7 MT/square foot for CH_4, and 0.0043 MTCO2e/square foot. There were no emissions of N_2O during construction; thus, a rate for N_2O was not derived.

Operational Emissions

Once operational, the Covina Town Center Specific Plan would result in GHG emissions from mobile, energy, and area sources. Mobile sources would result primarily in emissions of CO_2, with emissions of CH_4 and NO_2 also occurring in minor amounts. In addition to mobile sources, GHG emissions would also be generated from natural gas usage, electricity use, water conveyance and use, wastewater treatment, and solid waste disposal. Natural gas use would result in the emission of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use associated with both the physical usage of the development, as well as the energy needed to transport water/wastewater, would result in the production of GHGs if the electricity is generated through non-renewable sources (i.e., combustion of fossil fuels). Solid waste generated by the proposed project, would contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy when transporting and managing the waste. In addition, landfilling, the most common waste management practice, results in the release of CH_4 from the decomposition of organic materials.

[6] This is considered a conservative assumption because it represents a doubling of the overall average activity that could occur over a 20-year build-out period and thus likely overestimates potential annual construction-related GHG emissions resulting from implementation of the proposed Specific Plan.

Potential operational GHG emissions resulting from the Covina Town Center Specific Plan were modeled using CalEEMod, Version 2016.3.2. The modeling assumes buildout of the Specific Plan consistent with the change in land uses shown in Chapter 4.3, Air Quality; Table 4.3-10. The modeling is based on default data assumptions contained in CalEEMod, with the project-specific modifications described under Impact AIR-2, as well as the following adjustments to default model assumptions:

- **Mobile Sources.** The default, weekday trip generation rates for existing land use types were replaced with trip generation rates contained in the Transportation Impact Analysis (TIA) prepared for the Covina Town Center Specific Plan (Nelson Nygaard 2018). According to the TIA, the proposed land uses generate approximately 53,471 total daily vehicle trips per weekday. CalEEMod default weekend trip rates were used to model existing emissions.
    - N_2O emissions were estimated for the Project by comparing the ratio of CO_2 and N_2O emissions for the on-road (light-duty vehicles) contained in the State's most recent GHG inventory (CARB 2018b, 2018c). In 2016, statewide CO_2 and N_2O emissions estimates for the on-road transportation sector (light-duty gasoline vehicles) were 115.4 and 0.005 million metric tons, respectively (N_2O emissions are therefore equal to 0.004% of CO_2 emissions for this sector).
    - The CalEEMod estimate of CO_2 emissions was reduced by 20% to reflect the reduction in carbon intensity that would be achieved under the State's Low Carbon Fuel Standard (LCFS; see Section 4.7.2) program by Year 2020.

- **Energy use and consumption.** In addition to natural gas usage, operation of the proposed Project would generate GHG emissions from electricity use. CalEEMod contains default energy efficiency values that are based on the 2016 energy code. To account for more efficient energy use that is anticipated to occur under the 2019 and subsequent energy codes, CalEEMod default assumptions regarding energy use were adjusted as follows:
    - CalEEMod default energy efficiency values were adjusted downwards by 50% for residential land uses and 30% for non-residential land uses (lighting only) to reflect the CEC's adoption of the 2019 energy efficiency standards, which will take effect January 1, 2020 (CEC, 2017). The adjustment for residential land uses includes an on-site electric renewable energy system such as a solar PV system.

The total unmitigated GHG emissions estimated to occur with buildout of the Covina Town Center Specific Plan are shown below in Table 4.7-5. As described above, the SCAQMD recommends the use of an efficiency threshold for plan-level analysis in which potential emissions levels are considered in terms of how many GHG emissions would be produced by each resident and employee using a project's facilities, thus, adjusted 2040 project-level efficiency target of 2.6 MTCO2e/Yr/service population was used.

Table 4.7-5:
2040 Buildout Scenario GHG Emissions

Source	GHG Emissions (MTCO2e / Year)		
	Existing (2018)	Buildout (2040	Net Change
Area	164.5	175.1	+10.6
Energy	10,426.1	3,835.4	-6,590.7
Mobile[(A)]	41,376.0	33,516.73	-7,859.3
Waste	4,360.3	4,891.2	+530.9
Water	1,573.8	558.0	-1,015.8
Operational Total	57,900.7[(B)]	42,976.5	-14,924.2
Construction	--	421.3	+421.3
Total Emissions	57,900.7	43,397.8	-14,502.9
Service Population (SP)	4,872[(C)]	6,483[(D)]	+1,611
MTCO2e/SP	11.8	6.7	-5.1
SCAQMD Tier 4 Adjusted 2040 Plan Level Efficiency Threshold	--	2.6	--
Exceeds Threshold?	--	Yes	--

Source: MIG 2019 (see Appendix B)
Notes: See Table 7-3 for existing GHG emissions in the Specific Plan area.

(A) CalEEMod 2016.3.2 does not incorporate GHG emissions reductions resulting from the State's Low Carbon Fuel Standards (LCFS). Although LCFS largely reduces GHG from upstream fuel processing (and not individual tailpipe emissions) the aggregate effect on transportation fuels is a reduction in GHG emissions throughout the state from lower fuel carbon content. Accordingly, this EIR analysis reduces transportation combustion emissions pursuant to LCFS requirements. Based on the latest estimate available from CARB, the LCFS regulation resulted in a 3.7% reduction in average carbon intensity content in 2017 and should result in a 20% reduction in average carbon intensity in 2020. Thus, CalEEMod transportation emissions were adjusted by multiplying by a factor of .963 for existing and 0.8 for project emissions to account for the LCFS regulation (CARB 2018).
(B) Based upon the U.S. Green Building Council's (2008) average SF/employee: Commercial is 475 square feet (SF)/451,282 SF/employee = 950 employees, for General Office is 280 SF/292,506 SF/employee = 1,045 employees, and Mixed Use is 475 SF/33,324 SF/employee = 70 employees, for Industrial is 1,200 SF/381,760 SF/employee = 318 employees, for Hospital is 725 SF/412,078 SF/employee = 568 employees, for Public Facility is 620 SF/116,218 SF/employee = 187 employees, for Institutional is 620 SF/211,702 SF/employee=341 employees. As stated in Chapter 3, Project Description, residential population is 1,392. This yields a total service population of 4,872 (SCAG, 2016).
(C) Based upon the U.S. Green Building Council's (2008) average SF/employee: Commercial is 475 square feet (SF)/762,634 SF/employee = 1,606 employees, for General Office is 280 SF/289,129 SF/employee = 1,032 employees, and Mixed Use is 475 SF/106,713 SF/employee = 225 employees, for Industrial is 1,200 SF/252,937 SF/employee = 211 employees, for Hospital is 725 SF/406,127 SF/employee = 560 employees, for Institutional is 620 SF/378,050 SF/employee= 609 employees, for Live/Work is 1,850 SF/81,593 SF/employee= 44 employees. , for Multi-family Residential is 1,200 SF/70,487 SF/employee= 59 employees. As stated in Chapter 3, Project Description, residential population is 2,137. This yields a total service population of 6,483 (SCAG, 2016).

As shown above in Table 7-4, buildout of the proposed Covina Town Center Specific Plan would result in a net decrease in total GHG emissions of approximately 14,503 $MTCO_2e$/yr, when compared to 2018 conditions. As discussed in Chapter 4.3, Air Quality, Section 4.2.1, comparing 2018 emissions levels to 2040 emissions levels limits the ability to distinguish changes in emissions that occur from proposed change in land uses (as opposed to regulatory requirements that would be in place whether or not the Specific Plan is adopted). It would also be inappropriate to use a bright line, mass-based threshold to evaluate the significance of GHG emissions since the proposed project being analyzed at programmatic level. Instead, the total GHG emissions within the planning area are evaluated on a per-capita basis to determine if GHG emissions in the

planning area would be consistent with the GHG reduction targets set forth in AB 32, SB 32, and Executive Order S-03-05. As detailed in Section 4.7.1, the efficiency target for 2040 is 2.6 $MTCO_2e$/yr/SP, respectively.

The GHG emission estimates generated by CalEEMod indicate the planning area would emit approximately 43,398 $MTCO_2e$ annually by 2040. Dividing through by the Plan service population (6,483 employees and residents) results in an efficiency metric of 6.7 $MTCO_2e$/yr/SP for 2040. Although this GHG efficiency level does not meet the adjusted target for 2040 (2.6 $MTCO_2e$/yr/SP), it does show an appreciable reduction from existing conditions. The GHG efficiency occurring under 2040 buildout conditions would be approximately 43 percent less than 2018 conditions.

As shown in Table 4.7-5, the primary source of GHG emissions resulting from buildout of the Specific Plan is mobile sources, specifically the non-residential strip mall land use. This land use accounts for approximately 49 percent of total annual VMT occurring with buildout of the Specific Plan. The TIA prepared for the project indicates land use trip generation rates were reduced to reflect the parking and transportation demand management (TDM) recommendations contained in the Specific Plan. Specifically, the TIA included the following trip reductions:

- Mixed Use Districts/Projects and Transit Oriented Development: A 1 percent to 10 percent reduction in base trip generation rates was applied, depending on proximity to transit and zoning of mixed use components.
- Unbundled Parking for new residential development: A 1 percent reduction in base trip generation rates for multi-family residential land uses was applied.
- Future Rideshare and carshare services: A 0.5 percent reduction in base trip generation rates was applied for residential and commercial land uses.

As described under Impact AIR-2, the above measures would reduce 1.7 percent of the total vehicle trips that would be generated under buildout of the General Plan (53,481 total daily weekday trips). Additional reductions in mobile source emissions would be required to bring GHG emissions associated with buildout of the Specific Plan to levels below adjusted GHG efficiency thresholds. As stated in Chapter 3, Project Description, two primary goals of the Specific Plan are to enhance mobility options, including walking, bicycling, and stronger accessibility to Covina Metrolink station, and encourage transit-oriented development. Presented below are the Covina Town Center Specific Plan Design Standards and Guidelines that are aimed at improving mobility and reducing mobile source GHG emissions and VMT.

- Sidewalk, Street Trees, and Crosswalk/Treatments: Safe, accessible, and well-designed sidewalks and crosswalks are essential for an activated Town Center setting, allowing people to “park once” and easily visit local businesses and community facilities on foot. Paving should be simple and consistent throughout the Town Center to allow for seamless connectivity between destinations, the Covina Metrolink Station, and nearby parking.
- Curb Extensions (Bulb-outs): Curb extensions enhance pedestrian safety and reduce vehicle speeds by narrowing the roadway and shortening the crossing distances. Curb extensions also provide opportunities for additional streetscape elements such as stormwater planters, additional seating, bike parking, or public art.
- Pedestrian Alleyway: Alleyways provide utility access and midblock connections for cars and pedestrians within the city fabric. These alleys can also provide additional public space and create more comfortable pedestrian environments within the Town Center areas. Public alley design interventions should incorporate outdoor seating, pedestrian

amenities, public art, planting areas, and other revitalization strategies to encourage diverse uses.

The actions contemplated in the Specific Plan update, such as the expansion of sidewalks and bicycle infrastructure, would promote modes of travel that do not generate GHG emissions. Additionally, implementation of Mitigation Measures AIR 2A through 2C would reduce mobile source emissions and reduce VMT; however, since specific development projects are unknown, and some of the measures are voluntary, the emissions reductions that would be achieved by Mitigation Measures AIR-2A, AIR-2B, and AIR-2C are not certain and cannot be guaranteed by the City at this time.

GHG emission resulting from implementation of the Specific Plan would remain significant and unavoidable. Under the Specific Plan, the GHG emissions per capita would drop from 11.8 $MTCO_2e$/yr/SP to 6.7 $MTCO_2e$/yr/SP by the year 2040. Even though this is a marked difference below existing conditions, GHG emissions generated within the planning area would be approximately 2.7 $MTCO_2e$/yr/SP higher than the level necessary to remain consistent with State GHG reduction goals. This impact would be **significant, adverse and unavoidable**.

Level of Significance before Mitigation

Impacts are potentially significant before mitigation.

Mitigation Measures

See Mitigation Measures **AIR-2A**, **AIR-2B**, and **AIR-2C**

Level of Significance after Mitigation

Impacts would be significant, adverse, and unavoidable with mitigation.

Impact GHG-2 Plan Consistency

CARB Scoping Plan

As discussed under Section 4.7.2, the 2017 Climate Change Scoping Plan is CARB's primary document used to ensure State GHG reduction goals are met. The plan identifies an increasing need for coordination among State, regional, and local governments to achieve the GHG emissions reductions that can be gained from local land use planning and decisions. The major elements of the 2017 Climate Change Scoping Plan, which is designed to achieve the State's 2030 GHG reduction goal, are listed in Section 4.7.2. Nearly all of the specific measures identified in the 2017 Climate Change Scoping Plan would be implemented at the state level, with CARB and/or another state or regional agency having the primary responsibility for achieving required GHG reductions. The proposed Specific Plan, therefore, would have limited ability to directly conflict with any of the specific measure identified in the 2017 Climate Change Scoping Plan. Nonetheless, the overarching goal of the 2017 Climate Change Scoping Plan is to achieve a 40% reduction in GHG emissions below 1990 levels by the Year 2030. To achieve this statewide goal, the 2017 Climate Change Scoping Plan recommends a statewide efficiency metric of six metric tons per capita by 2030 and two metric tons per capita by 2050. These statewide per capita targets are based on the statewide GHG emissions inventory that includes all emissions sectors in the State. As shown in Table 4.7-5, the proposed Specific Plan would, at buildout, exceed the 2017 Climate Change Scoping Plan adjusted statewide 2040 metric of four metric tons per capita

employed for this EIR.[7] It is worth noting that while the Specific Plan exceed the statewide efficiency metrics, which were derived with the overarching goal of a 40% reducing in GHG emissions below 1990 levels, implementation of the proposed Specific Plan would result in an approximately 43% reduction compared to current GHG emissions, which can be assumed to be lower than 1990 levels.

As shown in Table 4.7-5, the proposed Specific Plan would, at buildout, exceed the 2017 Climate Change Scoping Plan's recommended GHG emissions efficiency metrics, even with the inclusion of feasible mitigation measures. Therefore, buildout of the proposed Specific Plan would result in a significant and unavoidable conflict with the 2017 Climate Change Scoping Plan.

SCAG 2016 RTP/SCS

As described previously in section 4.7.2, the 2016 RTP/SCS is a growth strategy and transportation plan whose primary intent is to demonstrate how the SCAG region will meet its GHG reduction target through the year 2040. The 2016 RTP/SCS contains goals and land use policies designed to improve mobility, strengthen the economy and sustainability, and maintain and optimize the performance of the existing transportation system. Table 4.7-6 summarizes the Specific Plan's consistency with applicable goals and land use policies for the RTP/SCS.

Table 4.7-6:
Specific Plan Consistency with 2016 SCAG RTP/SCS

Definition of Goal/Policy	Specific Plan Consistency
Maximize mobility and accessibility for all people and goods in the region	A major goal and strategy of the Specific Plan is to create a well-connected, accessible, and walkable community though increased accessibility to Covina's Metrolink, capitalization of alley connections to increase accessibility to adjacent districts, and improve bike and pedestrian networks. The proposed Specific Plan would be consistent with this goal.
Ensure travel safety and reliability for all people and goods in the region.	If implemented, the Specific Plan would improve bike and pedestrian networks to increase safety and connectivity to the greater community. The proposed Specific Plan would be consistent with this goal.
Maximize the productivity of our transportation system.	The Specific Plan includes a transit-oriented development/high-density residential zone. This zone is a pedestrian-oriented, higher-density residential environment that supports and encourages transit use. Residential densities range from a minimum of 31 to 40 units/acre, thus, supporting the productivity of the existing Metrolink station. The proposed Specific Plan would be consistent with this goal.
Protect the environment and health of our residents by improving air quality and encouraging active	The Specific Plan encourages active transportation though improved connectivity and accessibility to bike and pedestrian networks within the Plan area and the greater community. Additionally, the Specific Plan increases density

[7] Full buildout of the Specific Plan is expected to be in 2040, thus, the average statewide efficiency metric of 2030 and 2050 was used.

transportation (e.g., bicycling and walking).	and proximity of housing, mixed-use commercial, light industrial, civic, and cultural land uses which reduces the length of common trips. The proposed Specific Plan would be consistent with this goal.
Plan for additional housing and jobs near transit	In the proposed Specific Plan, the land uses closest to the existing Metrolink station are designated as a F.A.I.R zone, which will increase jobs and housing opportunities which improving active transportation access to the Metrolink. The proposed Specific Plan would be consistent with this policy.
Plan for changing demand in types of housing	The Specific Plan proposed an increase of 54 percent of total housing within the Plan area, providing more central housing with accessibility to jobs and transportation. The proposed Specific Plan would be consistent with this policy.
Source: SCAG 2016	

As shown in Tale 4.7-6, the Specific Plan would be consistent with applicable goals and policies identified in the 2016 RTP/SCS. Nonetheless, the primary goal of SCAG's RTP/SCS is to reduce emissions by 8 percent per capita by 2020, 18 percent per capita by 2035, and 21 percent per capita by 2040, relative to 2005 levels. This level of reduction would meet and exceed the region's GHG targets set by CARB (8 percent per capita by 2020 and 13 percent per capita by 2035). Table 4.7-7 below compares the existing 2018 and buildout 2040 VMT and transportation-related GHG emissions per capita in the Specific Plan area. Table 4.7-7 compares transportation related GHG, VMT, and population information for existing 2018 emissions and proposed Specific Plan buildout.

Table 4.7-7:
Transportation GHG Emissions and VMT Per Capita

Source	Existing Conditions	Buildout	Percent Change
Annual VMT(A)	89,111,843	121,959,899	+36.9
Transportation GHG(B)	41,376.0	33,516.7	-19.0
Population	1,392	2,137	+53.5
VMT per capita	64,017.13	57,070.61	-10.9
Transportation GHG per capita	29.7	15.7	-47.2
Source: MIG 2019 (A) Obtained from CalEEMod outputs (B) See Table 4.7-4			

As shown in Table 4.7-7, implementation of the Specific Plan would result in an approximate 47.2 percent reduction of transportation related GHG as compared to existing conditions. Additionally, Table 4.7-7 shows a 10.9 percent reduction in VMT per capita as compared to existing conditions, which does not meet the 2016 RTP/SCS reduction goals (13% by 2035 and 21% by 2040) in transportation emissions per capita. Since VMT is strongly correlated to GHG emissions and the reduction of VMT per capita does not meet SCAG's reduction goals, the Specific Plan would not be consistent with the 2016 RTP/SCS. This impact would be **significant, adverse and unavoidable**.

Level of Significance before Mitigation

Impacts are potentially significant before mitigation.

Mitigation Measures

See Mitigation Measures **AIR-2A**, **AIR-2B**, and **AIR-2C**

Level of Significance after Mitigation

Impacts would be significant, adverse, and unavoidable with mitigation.

City of Covina Energy Action Plan

As discussed under Section 4.7.2, the City's Energy Action Plan sets several energy efficiency targets for residential, nonresidential and municipal land uses through the year 2020. The Covina Town Center Specific Plan would be implemented after 2020 and, therefore, the goals of the Energy Action Plan do not direct apply to Specific Plan. Nonetheless, implementation of the Specific Plan would result in a 59 percent reduction in electricity use per job (kWh/job) as compared to 2010 levels provided in the Energy Action Plan, and the Specific Plan would result in a 21 percent reduction in electricity use per household (kWh/dwelling unit) as compared to 2010 levels in the Energy Action Plan. Both reductions exceed the 5 percent reduction goal as set by the Energy Action Plan. Thus the Specific Plan would not conflict with the overall intent of the City's Energy Action Plan. This impact is considered less than significant.

Level of Significance before Mitigation

Less than significant

Mitigation Measures

No mitigation measures are required.

IMPACT GHG-3 ENERGY CONSUMPTION

Short-term energy demand would result from construction activities occurring as a result of buildout of the Specific Plan. Short-term demand would include energy needed to power worker and vendor vehicle trips as well as construction equipment. Long-term energy demand would result from operation of businesses and land uses within the Specific Plan area, which would include activities such as lighting, heating and cooling of structures, etc. Operational energy demands would typically result from vehicle trips, electricity and natural gas usage, and water and wastewater conveyance.

As estimated by the TIA prepared for the Specific Plan (refer to Appendix C) and the emissions modeling conducted using CalEEMod defaults, buildout of the proposed Specific Plan is anticipated to result in an increase in trip generation by approximately 32,848,056 annual VMT, natural gas consumption by 5,911,942 kBTU annually, and electricity consumption by 4,574,872 kWh annually. Although trip generation and natural gas and electricity consumption would increase under implementation of the proposed project, consumption rates per service population would decrease.

Table 4.7-8:
Energy Consumption per Service Population (SP)

Source	Existing Conditions	Buildout	Percent Change
Annual VMT per SP(A)	18,812.3	18,290.6	-3.0
Natural Gas per SP(B)	10,019.4	8,441.5	-15.7
Electricity per SP(B)	6,017.7	5,228.0	-13.1
Source: MIG 2019 (A) Obtained from TIA (Nelson Nygaard 2018) (B)Obtained from CalEEMod outputs			

Although implementation of the Project may increase overall VMT through additional trips and energy usage compared to current conditions, increased density would provide for more efficient use of resources within the City, thus ensuring that the proposed Project would not result in the wasteful or inefficient use of energy resources. Additionally, as shown above in Table 4.7-6, the proposed Specific Plan would be consistent with several of the 2016 RTP/SCS goals and policies which are aimed at reducing transportation related GHG emissions, and as explained under Impact GHG-1, the Covina Town Center Specific Plan Design Standards and Guidelines are aimed at improving mobility and reducing mobile source GHG emissions and VMT. Thus, the Specific Plan would not result in a wasteful, inefficient, or unnecessary consumption of energy resources. This would be a less than significant impact.

Level of Significance before Mitigation

Less than significant

Mitigation Measures

No mitigation measures are required.

IMPACT GHG-4 CONFLICT WITH RENEWABLE ENERGY PLANS

The Specific Plan would be consistent with the current Green Building Energy Codes and would not interfere with the installation of any renewable energy system. Therefore, the Project would be consistent with applicable State and local plans for promoting use of renewable energy and energy efficiency.

Level of Significance before Mitigation

Less than significant

Mitigation Measures

No mitigation measures are required.

CUMULATIVE IMPACTS

Global climate change is the result of GHG emissions worldwide; individual projects do not generate enough GHG emissions to influence global climate change. Thus, the analysis of GHG

Emissions is, by nature, a cumulative analysis focused on whether an individual project's contribution to global climate change is cumulatively considerable. As described under Impact GHG-1, buildout of the proposed Specific Plan would result in emissions that are significant and unavoidable, even after the implementation of Mitigation Measures AIR-1, AIR-2, and AIR-3, which would help do reduce emissions of GHG, but not to a less-than-significant level. As such, the proposed Specific Plan would have a **significant and unavoidable cumulative impact on GHG emissions**.

Additionally, the proposed Specific Plan, as well as other on-going and future project in the southern California region, are well supplied by energy resources, including diesel and gasoline fuels, as well as electricity and natural gas. The project's cumulative impact on energy resources would be less than significant.

Level of Significance before Mitigation

Impacts are potentially significant before mitigation.

Mitigation Measures

See Mitigation Measures AIR-1, AIR-2, and AIR-3.

Level of Significance after Mitigation

Impacts would be significant, adverse, and unavoidable with mitigation.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
AB	Assembly Bill
ACC	Advanced Clean Cars
BTU	British Thermal Unit
CA	California
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	Methane
CNRA	California Natural Resources Agency
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalents
EE	Energy Efficiency
F	Fahrenheit
GHG	Greenhouse Gas(es)
GWh	Gigawatt-hours
GWP	Global Warming Potential
H_2S	Hydrogen Sulfide
HFCs	Hydrofluorocarbons
KBtu	Thousand British Thermal Units
KWH	Kilowatt-hours
$MTCO_2e$	Metric Tons of Carbon Dioxide Equivalents
MWhrs	Megawatt-hours
NOAA	National Oceanic and Atmospheric Administration
N_2O	Nitrous Dioxide
PFCs	Perfluorocarbons
ppb	Parts Per Billion
ppm	Parts Per Million
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SB	Senate Bill
SCE	Southern California Edison
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SF_6	Sulfur Hexafluoride
SP	Service Population
TIA	Traffic Impact Assessment
U.S. EPA	United States Environmental Protection Agency
V.	Version
VMT	Vehicle Miles Travelled
ZEV	Zero Emission Vehicle
Yr	Year

4.7.5 REFERENCES

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4.8 Hazards and Hazardous Materials

This EIR chapter addresses hazards and hazardous materials associated with implementation of the Covina Town Center Specific Plan (Specific Plan). Potential impacts are identified and mitigation measures are proposed, if required.

4.8.1 ENVIRONMENTAL SETTING

Hazardous Materials

The Covina Town Center Special Plan area (Planning Area) includes automobile repair, industrial and commercial uses which may use, store, and dispose of hazardous materials. Auto repair and industrial uses are concentrated in the northeast art of the Planning Area; Citrus Avenue and Badillo Street are the primary commercial corridors. Hazardous materials are also transported through and near the Planning Area on the Metrolink Commuter Rail Line (during freight operations in the late-night hours only) and via major arterial streets.

Active and closed hazardous materials sites within the Project area are summarized below in Table 4.8-1 includes information from the Department of Toxic Substance Control EnviroStor database (Department of Toxic Substances Control, 2018) which is a data management system for tracking cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities and sites. In addition, the California State Water Resources Control Board's (SWRCB) Geotracker database (California State Water Resources Control Board, 2018) is a data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. The U.S. Environmental Protection Agency Superfund Enterprise Management System database (US Environmental Protection Agency, 2018) was also accessed for land within the Planning Area.

Table 4.8-1:
Hazardous Materials Contamination Sites within the Covina Town Center Special Plan Area

Name	Address	Type of Case	Clean-Up Status	Case Numbers
Brown International Corp	633 N. Barranca Ave	LUST	Completed – Case Closed	RB Case #: R-09673
So Cal Gas/Covina MGP (Edna Park)	222 W. Edna Place	Voluntary Cleanup	Completed	
Mobil 18-EGC	611 S. Citrus Ave	LUST	Completed – Case Closed	RB Case # - R-09374 Loc Case # - 009554-009374
West Covina Motors, Inc.	137 W. San Bernardino Rd.	LUST	Completed – Case Closed	Loc Case#: 009843-009684
Citrus Valley Medical Center	303 N. 3rd St.	LUST	Completed – Case Closed	Loc Case #: 014038-0145527
City of Covina Fire Station #1	400 N. Citrus Ave.	LUST	Completed – Case Closed	RB Case #: I-13823

Name	Address	Type of Case	Clean-Up Status	Case Numbers
Covina Valley Unified School District	126 E. School St.	LUST	Completed – Case Closed	RB Case #:R-10132
Chrysler – Covina Dodge	345 S. Citrus Ave	Cleanup Program Site	Completed – Case Closed	RB Case #: 0538F
GTE	106 E. Badillo St.	LUST	Completed – Case Closed	RB Case #: R-10659
Vita-Part Citrus Products	707 N. Barranca Ave.	LUST	Completed –Case Closed	RB Case #: R-10024 Loc Case #: 010155-010024
Robert Holiday Lines	359 E. Front St.	LUST	Open – Site Assessment	RB Case #: I-16314

Source: Department of Toxic Substances Control, *EnviroStor,*; California State Water Resources Control Board, *GeoTracker;* US Environmental Protection Agency, *Superfund Enterprise Management System Database,* (accessed November 13, 2018).

A designation of "open" status indicates that there is an ongoing case that has been opened by a regulatory agency and the site is undergoing assessment, remediation or site monitoring. A "closed" status indicates that a regulatory agency has determined that no further remediation activities are required. LUST refers to a leaking underground storage tank.

Airport Hazards

The El Monte Airport is located approximately 9 miles west of the Planning Area and Brackett Field Airport is located approximately 6 miles east of the Planning Area. The Project area does not fall within the Planning Boundary/Airport Influence Area for either airport (Department of Regional Planning, 2004).

Wildfire Hazards

Generally, the greatest potential for wildfire hazards occurs in areas adjacent to abundant natural vegetation. The Planning Area is located within an area characterized by urban/suburban development which does not include large areas of undeveloped vegetated land. The California Department of Forestry and Fire Protection (CAL FIRE) has prepared maps showing Very High Fire Hazard Severity Zones within the State. The Project area is not identified as an area within a Very High Fire Hazard Severity Zone (Department of Forestry and Fire Protection, 2011).

4.8.2 REGULATORY FRAMEWORK

This section describes the federal, state and local regulatory setting related to hazardous materials.

Federal

Federal agencies that regulate hazardous materials include the United States Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and the United States Department of Transportation (DOT).

United States Environmental Protection Agency

The Comprehensive Environmental Response, Compensation, and Liability Act (also known as CERCLA or Superfund) provides a Federal "Superfund" to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, the United States Environmental Protection Agency (EPA) is given power to seek out parties responsible for any release and assure their cooperation in the cleanup.

The Resource Conservation and Recovery Act (RCRA) gives the EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

United States Department of Transportation

The United States Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration regulates the transport of hazardous materials through Title 49 of the Code of Federal Regulations (49 CFR), Subchapter C, "Hazardous Materials Regulations." Parts 171-177 provide general information on hazardous materials and regulation for their packaging and their shipment by rail, air, vessel, and public highway.

State

The management of hazardous materials and waste within California is under the jurisdiction of the California Environmental Protection Agency (Cal/EPA) and the Department of Toxic Substances Control (DTSC). Additionally, nine Regional Water Quality Control Boards (RWQCB) regulate the quality of water within the state, including contamination of state waters as a result of hazardous materials and/or waste.

California Environmental Protection Agency (CalEPA)

CalEPA implements and enforces environmental laws that regulate air, water and soil quality, pesticide use and waste recycling and reduction. It also establishes regulations governing the use of hazardous materials in the state.

California Department of Toxic Substances Control (DTSC)

DTSC oversees hazardous substances and wastes, remedial investigations, and protects drinking water from toxic contamination.

Los Angeles Regional Water Quality Control Board.

The Los Angeles RWQCB (one of nine regional boards in the state) protects surface and groundwater quality from pollutants discharged or threatened to be discharged to the waters of the state. The RWQCB issues and enforces National Pollutant Discharge Elimination System (NPDES) permits and regulates leaking underground storage tanks and other sources of groundwater contamination.

California Highway Patrol and California Department of Transportation

California Highway Patrol (CHP) and California Department of Transportation (Caltrans) have primary regulatory responsibility for the transportation of hazardous wastes and materials.

California Occupational Safety and Health Administration (Cal/OSHA)

Cal/OSHA is responsible for promulgating and enforcing state health and safety standards and implementing federal OSHA laws. CalOSHA's regulatory oversight includes minimizing the potential for releases of asbestos and lead during construction and demolition activities.

Local

Los Angeles County Hazardous Waste Management Plan

The Los Angeles County Hazardous Waste Management Plan (HWMP) is a tool for addressing countywide waste treatment and disposal matters. One of the primary purposes of the HWMP is to encourage and facilitate the establishment of hazardous waste facilities in cities and in unincorporated communities by the private sector to minimize untreated hazardous wastes leaving the County. Under HWMP provisions, the City of Covina, which has formally adopted the Plan, is required to incorporate, by reference, applicable portions of the document into this General Plan Safety Element. In accordance with the County Hazardous Waste Management Plan process, the City of Covina agrees to follow all other applicable sections of the HWMP, notably those dealing with waste management facility definitions, public participation, emergency response, and waste minimization.

City of Covina Emergency Plan

The City of Covina Emergency Plan serves as the community's chief guidebook for emergency preparedness planning and for comprehensively managing any type of major emergency, which is defined as "a situation that requires immediate action beyond the scope of normal City operations." According to the Emergency Plan, its purposes are as follows:

1. To answer, during emergencies, who is in charge, what should be done, and by whom;

2. To provide for the continuity of government during emergencies;

3. To facilitate public understanding of Covina emergency organization;

4. To provide guidance for disaster education and training; and

5. To provide references to additional, more detailed information.

The disaster response is directed from the City's Emergency Operating Center (EOC). The EOC is designated as the Fire and Police Department complex at 400 to 444 North Citrus Avenue, with alternate facilities identified if the primary location is unusable. Although the Emergency Plan is designed so that any trained person can step in and follow the action checklists, the position of Director of Emergency Services oversees the EOC. This position is filled by the City Manager, Fire Chief, Police Chief, or City employee with the highest degree of expertise in the type of emergency at hand.

City of Covina General Plan

The City of Covina General Plan Safety Element includes policies related to fire hazards and hazardous materials, as discussed in detail below.

Potential Fire Hazards

According to Policy Area 3 (Potential Fire Hazards) of the General Plan Safety Element (page. E-50), the City shall:

a. Maintain a preventative approach in handling potential urban and wild land fires and possible blazes at the urban/wild land interface.

b. Maintain all fire-inhibiting Building and Safety and Fire Department requirements and standards for new construction and for substantial additions to existing structures, including those for fire-resistant building materials; fire-resistant roofing components (untreated wood-shakes being prohibited); building construction; detector and alarm systems; fire service equipment; automatic fire sprinklers; one-hour fire walls; clearances around structures; accessibility to and into buildings; and the proper storage of flammable and combustible materials.

c. Maintain all fire-inhibiting Planning Department requirements and standards for new construction and for substantial additions to existing structures, including those for architectural design, site planning, building setback, landscape design, minimum road and driveway widths, and property usage and maintenance.

d. Ensure, to the greatest extent possible, that buildings/uses of which the State has permitting authority over, such as public schools, hospitals, and mobile home parks, comply with current, applicable fire-inhibiting codes, standards, and construction practices.

e. Maintain ongoing fire and business license inspection and business monitoring programs as well as code enforcement activities, particularly relating to establishments using or storing hazardous materials, to reduce fire dangers associated with commercial, industrial, and institutional buildings.

f. Maintain ongoing Neighborhood Preservation Program (NPP) and general Code Enforcement activities to reduce fire and other dangers in residential areas.

g. Continue with existing citywide fire prevention/education programs to bolster public awareness of the disastrous impacts that fires can have on the community.

j. Continue to ensure the appropriate placement of fire hydrants and related infrastructure as well as water availability or the adequacy of fire flow pressure.

k. Maintain sufficient personnel, equipment, facilities, and resources in the Fire and Police Departments to handle fire incidents.

l. Maintain fire service-related mutual aid agreements with surrounding jurisdictions to supplement City personnel in fighting fires or in responding to small-scale hazardous materials incidents, when needed.

m. Maintain and periodically review procedures for dealing with potential major urban and wild land fires and blazes occurring at the interface thereof as well as major above- and below-ground and transport-related hazardous materials accidents in the Covina Emergency Plan.

Hazardous Materials

According to Policy Area 4 (Hazardous Materials) of the General Plan Safety Element (page. E-51), the City shall:

a. Continue to cooperate with all applicable laws and agencies concerning the regulation of the use, storage, and disposal of hazardous materials by following this Safety Element and related documents, mandates, and matters.

b. Enforce the "right-to-know" laws governing the disclosure of hazardous materials by maintaining information on City businesses and entities that use, store, and/or generate hazardous materials so that adequate regulation and monitoring can occur and that appropriate, effective emergency service responses can be made in the event of an accident or fire.

c. Continue to contract with the Los Angeles County Fire Department, Hazardous Materials Division 1) to administer various State-required monitoring activities and permitting processes regarding the utilization, storage, and transportation of hazardous materials and 2) to respond to major above- and below-ground as well as transport-related hazardous materials accidents.

d. Support City Fire Department general inspections in identifying and addressing hazardous materials.

e. Support City Building and Safety Division efforts to identify hazardous materials use and storage in the business license inspection process.

f. Maintain sufficient personnel, equipment, facilities, and resources in the Fire Department and Building and Safety Division to provide general regulation of and monitoring of hazardous materials handlers.

g. Monitor and, to the greatest extent possible, work with businesses using, storing, and/or generating hazardous waste materials to ensure compliance with or facilitate business understanding of proper disposal procedures.

h. Provide support and assistance, as appropriate, to the State and County in disseminating information needed by the public and industries to take rational steps to minimize, recycle, treat, and otherwise manage hazardous wastes.

w. To the greatest degree feasible, locate new or accommodate expanded/remodeled uses involved in the production, storage, transportation, and/or handling of hazardous materials a safe distance from other land uses that may be adversely affected by such activities.

aa. Inform residents of the types of household wastes considered hazardous and the proper manner of disposal thereof

cc. Require that the transport of large quantities of hazardous materials in the City be restricted to the community's officially designated truck routes, to the greatest degree possible.

dd. Support strong, continuous, and consistent enforcement of laws of all levels of government pertaining to hazardous materials transport on roads, on the San Bernardino Freeway, and on the Metrolink Rail Line in and adjacent to Covina.

ee. Continue to identify, address, and resolve underground contamination through the City Planning Division Site Plan Review and Environmental Impact Review processes and the Building and Safety Division Building Permit Issuance activity.

ff. Reserve the right to require an environmental audit for construction proposals, including, but not limited to, submittal of a site inspection report describing any contamination of land, soil, ground water, and/or structures and, if applicable, the steps to be taken to correct the problem prior to development.

gg. Support Federal, State, and County efforts to identify, monitor, and make recommendations on remediating subsurface pollution created by underground storage or septic tank leakage.

hh. Support the Los Angeles County Department of Public Works, Waste Management Division underground storage tank abatement program as a viable mechanism for remediating contaminated soils/properties.

mm. Encourage citizens and businesses to report the unauthorized dumping of toxic or other hazardous substances, when observed.

nn. Prosecute persons, companies, or entities involved in the unauthorized dumping of toxic or other hazardous substances into the ground, water, or storm drainage system, and consider to increase fines levied for illegal dumping.

oo. Support efforts of the Southern California Gas Company and the United States Department of Transportation, Office of Pipeline Safety to inspect and maintain major, high-pressure natural gas distribution lines that underlie Covina.

pp. Continue to best prevent hazards in relation to major, high-pressure natural gas distribution lines that underlie Covina by appropriately conducting various permit issuance processes, notably for public right-of-way work.

qq. Support and encourage parties digging and excavating anywhere in Covina to utilize the State-sponsored regional notification center (DigAlert) as a mechanism for informing the City and others about such activity and for avoiding accidents.

rr. If appropriate, consult with companies operating underground pipelines as well as the State Public Utilities Commission and Federal Office of Pipeline Safety to determine the likelihood of explosion or rupture in case of an accident or earthquake.

ss. Ensure that all disaster response entities have access to route, depth, and shut-off information about each underground high-pressure gas distribution line in Covina.

tt. Cooperate with all applicable laws and agencies concerning regional hazardous waste disposal efforts.

uu. To the greatest extent possible, when requested, assist State and County regulatory agencies in handling hazardous waste management planning and related matters by supplying these agencies with salient, available information on local hazardous waste generators.

vv. Thoroughly and appropriately analyze all issues associated with the potential siting of a hazardous waste management facility in Covina to further community health, safety, welfare, and integrity.

zz. Ensure that any proposed hazardous waste management facility poses negligible threats to the health and safety of residents and sensitive populations of Covina by requiring a comprehensive risk assessment be performed prior to the establishment of any such facility located within 2,000 feet of property zoned for residential use or any public or private school (excluding trade school), child day care center, hospital, nursing home, and similar use, in addition to the meeting of the applicable siting criteria and all project conditions.

ddd. Incorporate applicable portions of the Los Angeles County Hazardous Waste Management Plan (HWMP) into the Covina General Plan Safety Element, including sections on waste management facility definitions, public participation, emergency response, and waste minimization, and follow such portions on an as-needed basis to facilitate decisions involving proposed hazardous waste management facilities in Covina.

fff. Support the efforts of all Federal, State, and Los Angeles County agencies involved in matters pertaining to the Los Angeles County Hazardous Waste Management Plan (HWMP) process.

ggg. Assist Los Angeles County in promoting public hazardous waste education programs developed under the Los Angeles County Hazardous Waste Management Plan (HWMP), to the greatest extent feasible.

hhh. Inform the Covina Chamber of Commerce, Downtown Merchants' Association, and other business organizations of applicable hazardous waste plans and salient issues and proper monitoring and disposal procedures and encourage them to share the plans/information with members, if appropriate.

kkk. Maintain sufficient personnel, equipment, facilities, and resources in the Fire and Police Departments to respond to at least initial calls pertaining to above- and below-ground as well as transport-related hazardous materials accidents.

lll. Maintain mutual aid agreements with surrounding jurisdictions to enable supplemental assistance for responding to small-scale hazardous materials incidents, when needed.

mmm. Maintain and periodically review procedures for dealing with all potential major above- and below-ground as well as transport-related hazardous materials accidents in the Covina Emergency Plan.

4.8.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan would have a significant impact related to hazards and hazardous materials if it would:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.8.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to hazards and hazardous materials which could result from the implementation of the project and recommends mitigation measures as needed to reduce significant impacts.

Routine Transport, Use and Disposal of Hazardous Materials

Impact HAZ-1 – Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Analysis of Impacts

Implementation of the Project would result in an increase in residential dwelling units and commercial square footage within the Planning Area. Construction associated with implementation of the Specific Plan would likely involve the use and disposal of chemical agents, solvents, paints, and other hazardous materials associated with construction activities. The amount of these chemicals present during construction would be limited, would be in compliance with existing government regulations, and would not be considered a significant hazard.

Hazardous materials associated with new residential uses could include, for example, liquid chemical products (e.g., household cleaners), used motor oil, building maintenance supplies,

paints and solvents, pesticides, or other similar materials. The limited quantity of such products would not generate significant hazardous emissions or involve the use of acutely hazardous materials that could pose a significant threat to the environment.

Future business development within the Planning Area could involve the storage, use and disposal of potentially hazardous materials, including building maintenance supplies, paints and solvents, pesticides and herbicides for landscaping and pest control, vehicle maintenance products, and similar substances. The City would require all new development to follow applicable regulations and guidelines regarding the storage, handling and disposal of hazardous waste. In addition, all hazardous materials are required to be stored and handled according to manufacturer's directions and local, state, and federal regulations.

Given the existing federal, State, and local hazardous materials regulations already in place, the proposed project's potential threat to public health and safety and the environment from hazardous materials transport, storage, use, and disposal would be less-than-significant.

Level of Significance Before Mitigation

Less than Significant

Mitigation Measures

None required

Release of Hazardous Materials

Impact HAZ-2 – Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Analysis of Impacts

As shown in Table 4.8-1, several hazardous materials releases have been reported within the Planning Area. Additionally, there may potentially be other unreported releases within the Project area or in areas adjacent to the Project area. It is possible that contaminants in soil or groundwater could expose future construction workers, residents, workers or other members of the public to potential hazards.

The potential for soil contamination would be addressed through the continued application of General Plan Safety Element Policies that address, and resolve underground contamination through the City Planning Division Site Plan and Environmental Review processes, and the Building and Safety Division Building Permit Issuance process.,(see specifically Safety Element Hazardous Materials policies (ee) through (hh) under Section 8.2 of this chapter.

Demolition of existing structures would involve removal and disposal of existing building materials. Some older buildings may contain hazardous materials, such as asbestos containing materials or lead based paint. If not properly abated, these materials could negatively impact construction workers or members of the public. The South Coast Air Quality Management District (SCAQMD) regulates the demolition and renovation of buildings and structures that may contain asbestos, and the manufacture of materials known to contain asbestos. The SCAQMD is vested with authority to regulate airborne pollutants through both inspection and law enforcement, and is to be notified 10 days in advance of any proposed demolition or abatement

work. SCAQMD regulations must always be followed when removing asbestos or demolishing buildings. With continued adherence to the requirement of the General Plan Safety Element and compliance with established local, State and federal environmental site assessment procedures; potential risks to human health or the environment due to existing hazardous materials contamination would be less-than-significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Hazard Emissions Near Schools

Impact HAZ-3 – Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Analysis of Impacts

There is at least one preschool located within the Planning Area, and several schools within a quarter mile of the Planning Area including Sunkist Elementary School and Covina High School. New development within the Planning is expected to be primarily residential, commercial and office uses; these uses are not expected to emit hazardous materials affecting school sites. Hazardous materials associated with new residential, commercial and offices uses could include, for example, liquid chemical products (e.g., household cleaners), used motor oil, building maintenance supplies, paints and solvents, and pesticides. The limited quantity of such products would not generate significant hazardous air emissions or involve the use of acutely hazardous materials that could pose a significant threat to the environment or human health.

New development within the Planning Area could use and dispose of chemical agents, solvents, paints, and other hazardous materials associated with construction activities. The amount of these chemicals present during construction would be limited, would be in compliance with existing government regulations, and would not be considered a significant hazard. In addition, individual development applications would be required to undergo a project-specific CEQA review which would include an evaluation of a project's potential impacts on schools. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than Significant

Mitigation Measures

No mitigation measures are required.

Hazardous Materials Sites

Impact HAZ-4 – Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Analysis of Impacts

Sites included on the list required by Government Code Section 65962.5 include hazardous materials contamination that can be detrimental to human health and the environment. As shown in Table 4.8-1, there are several known sites within the Project area that had contamination requiring mediation. As noted in Table 4.8-1, there is one open case at 359 E. Front Street which involves a leaking underground storage tank site. The GeoTracker website, maintained by the Water Board, indicates that the Board is requesting additional information from the property owner regarding the status of the property and any potential remedial actions taken by the property owner. If future redevelopment is proposed *p*otential contamination at this site (if not already remediated) would be addressed through the City's development review requirements in accordance with the General Plan Safety Element policies and in compliance with applicable state and federal regulations.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Airport Hazards

Impact HAZ-5 - For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport, public use airport, or private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Analysis of Impacts

The El Monte Airport is located approximately 9 miles west of the Planning Area and Brackett Field Airport is located approximately 6 miles to the east. The Planning Area is not within the Planning Boundary/Airport Influence Area for either airport (Department of Regional Planning, 2004). No impacts related to an airport or private airstrip are anticipated.

Level of Significance Before Mitigation

No Impact

Mitigation Measures

Mitigation is not required

Emergency Evacuation Plan

Impact HAZ-6 – Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Analysis of Impacts

As described in the Covina General Plan, all major public streets serve as the principal evacuation routes and are officially designated as one of the following: 1) San Bernardino Freeway, 2) primary arterial street, 3) secondary arterial street, and 4) collector street. These principal access ways are all well-maintained and should support an evacuation function. In any disaster warranting evacuation, the exact emergency routes used would depend on a number of variables, including the type, scope, and location of the incident.

The Specific Plan Amendment does identify recommended circulation and infrastructure improvements that would facilitate pedestrian and bicycle mobility within the Planning Area. Examples of these recommended improvements include installation of bulbouts, sidewalks, signals, and bicycle facilities at specific locations. Installation of these improvements would not detrimentally change the circulation system within the Planning Area resulting in a significant impact to an emergency evacuation plan. While it is possible that there may be temporary and limited circulation changes that may be required during discrete periods of time associated with specific construction projects, these changes would be temporary and would be of a nature that still allowed evacuation in the event of an emergency. Emergency access would be maintained to all properties within the project limits and the surrounding vicinity during construction. The impact on emergency access would be less-than-significant.

Level of Significance Before Mitigation

Less than Significant

Mitigation Measures

None Required

Wildland Fires

Impact HAZ-7 – Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Analysis of Impacts

Generally, the greatest potential for wildfire hazards occurs in areas adjacent to abundant natural vegetation. The Planning Area is located within an area characterized by urban/suburban development which does not include large areas of undeveloped vegetated land. The California Department of Forestry and Fire Protection (CAL FIRE) has prepared maps showing Very High Fire Hazard Severity Zones within the State. The Project area is not identified as an area within a Very High Fire Hazard Severity Zone (Department of Forestry and Fire Protection, 2011). Potential wildland fire impacts would be considered less than significant.

Level of Significance Before Mitigation

Less than Significant

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Less than Significant

Hazards and Hazardous Materials Cumulative Impacts

Impacts related to hazards and hazardous materials are generally site specific and not cumulative in nature because each project area has unique considerations that would be subject to uniform site development and construction standards. As such, the potential for cumulative impacts is limited. Impacts associated with potential fire hazards occur at individual building sites. These effects are site-specific, and impacts would not be compounded by additional development within the urban setting of the Planning Area. Compliance with the requirements of the General Plan Safety Element described above would result in impacts from fire and hazardous materials that would be less-than significant. Implementation of the Project would not result in a cumulatively considerable impact.

Level of Significance Before Mitigation

Less than Significant

Mitigation Measures

None Required

4.8.5 REFERENCES

California State Water Resources Control Board, 2018. *GeoTracker,* https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=covina, (accessed November 13, 2018).

City of Covina Community Development Department, Planning Division Staff, 2000. *Covina General Plan,* April 18.

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Department of Regional Planning, 2004. *Los Angeles County Airport Land Use Plan, Los Angeles County Airport Land Use Commission,* Revised December 1.

Department of Toxic Substances Control, 2018. *EnviroStor,* https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=covina (accessed November 13, 2018).

US Environmental Protection Agency, 2018. *Superfund Enterprise Management System Database, https://cumulis.epa.gov/supercpad/CurSites/srchsites.cfm* (accessed November 13, 2018).

4.9 Hydrology and Water Quality

This EIR chapter addresses hydrology and water quality impacts associated with the Covina Town Center Specific Plan Update. Issues of interest are hydrology, and water quality impacts identified by the CEQA Guidelines: whether the Project will cause a substantial adverse change to drainage patterns, erosion, flooding, runoff stormwater, placing housing within a 100-year flood zone, inundation by seiche, tsunami or mudflow, violation of water quality standards, degradation of water quality and flooding.

4.9.1 ENVIRONMENTAL SETTING

Watershed

The City of Covina is located within the Los Angeles Regional Water Quality Control Board (RWQCB). The Los Angeles RWQCB is a 5,600-square-mile area that encompasses all coastal drainages flowing to the Pacific Ocean between Rincon Point on the coast of western Ventura County and the eastern Los Angeles County line. The Project area is located in the San Gabriel Valley Hydrologic area and the local watershed is the San Gabriel River Watershed, as defined by the Los Angeles Regional Water Quality Board. The San Gabriel River Regional Monitoring Program (SGRMP) was developed by multiple stakeholders in the watershed in cooperation with the Regional Board and United States Environmental Protection Agency staff as well as the major dischargers in the watershed in order to monitor water quality.

The San Gabriel River receives drainage from 689 square miles of eastern Los Angeles County. Notable tributaries of the San Gabriel River that lie within the City of Covina include the include the Big Dalton Wash, San Dimas Wash, Charter Oak Wash, and the Walnut Creek Wash. The San Gabriel River is hydraulically connected to the Los Angeles River through the Whitter Narrows Reservoir. According to the Regional Water Control Board, The San Gabriel River nexus is the Pacific Ocean.

Topography and Drainage

The City of Covina lies in the eastern portion of Los Angeles County within the San Gabriel Valley. The San Gabriel consists of steep rugged mountains with a large broad river valley drainage leading to a coastal plain. The Los Angeles County Flood Control District (LACFCD) maintains the larger stormwater conduits in the area which direct urban runoff to the nearest wash, creek or river. The LACFCD storm drains eventually discharge to Big Dalton Wash, San Dimas Wash, Charter Oak Wash, and Walnut Creek which then leads to the San Gabriel River and eventual Pacific Ocean.

Groundwater

The City of Covina is one of several communities in the San Gabriel Valley that overlies a major ground water basin. Local groundwater for the City of Covina originates from wells within and around the City of Covina. The responsibility for monitoring and regulating ground water quality and conditions in the region rests with the Federal Environmental Protection Agency (EPA), the State Department of Health Services (DHS), the Los Angeles Regional Water Quality Control

Board. The City of Covina does not have direct control over ground water quality and extraction. Covina's role in protecting ground water resources is limited to preventing hazardous materials from leaching through soils and ensuring that existing flood control related to recharge areas or spreading ground are protected via land use regulations and guarded against illegal discharge into the surface water that feed the groundwater basins.

Flood Hazards

The Planning Area is not located within a Federal Emergency Management Agency (FEMA) Special Flood Hazard Area, which includes 100-year-event flood hazard area. The Planning Area is also not located within a 500-year flood hazard area as mapped by the California Department of Water Resources. The City of Covina does not identify the Planning Area as a location that experiences minor street flooding.

Dam Failure

The Planning Area is not located within 1-mile of a dam or reservoir. The Santa Fe Dam is located 5.8 miles from the Planning Area and the Puddingstone Reservoir is located 6.7 miles from the Planning Area. In the event of a dam failure, flood waters are expected to reach the City of Covina in 20 minutes and rushing waters would overflow the banks of the Walnut Creek by approximately one-quarter on each side, walnut creek is approximately 1.29 miles from the Project site. There are reservoir-serving dams north and northeast of Covina in the San Gabriel Mountains that if failed would potentially impact the City of Covina. Existing flood control systems pervade the upper and central portions of the City of Covina which would most likely distribute the incoming residual waters.

Stormwater Quality

Point Source Pollutants

According to the General Plan EIR, point-source pollutants have historically consisted of industrial operations with discrete discharges to receiving waters. Industrial operations often include potential sources of pollutant discharges that require coverage under the State of California's General Industrial Permit. The General Industrial Permit requires industrial operations to comply with regulations that significantly lessen the impact of industry on water quality. Different types of point source pollutants are discussed below.

<u>Sediment</u>

Sediment is made up of tiny soil particles that are washed or blown into surface water degrading the quality because they can impact suspended soil particles resulting in increased turbidity. The fine particles also act as a vehicle to transport other pollutants, including nutrients, trace metals, and hydrocarbons. Construction sites are typically the largest source of sediment for urban areas under development.

<u>Nutrients</u>

Nutrients (especially phosphorus and nitrogen) are a major concern for surface water quality because they can cause algal blooms and excessive vegetative growth. Of the two, phosphorus is usually the limited nutrient that controls the growth of algae in lakes.

The orthophosphorous form of phosphorus is readily available for plant growth. The ammonium of nitrogen can also have severe effects on surface water quality. The ammonium is converted to nitrate, and nitrite forms nitrogen in a process called nitrification. The process consumes large amounts of oxygen, which can impair the dissolved oxygen levels in water.

The nitrate form of nitrogen is very soluble and is found naturally at low levels in water. When nitrogen fertilizer is applied to lawn or other areas in excess of plant needs, nitrates can leach below the root zone, eventually reaching groundwater. Orthophosphate from auto emissions also contributes phosphorus in areas with heavy automobile traffic. Other problems resulting from excess nutrients are surface algal scums, water discolorations, odors, toxic releases, and overgrowth of plants. Common measures for nutrients are total nitrogen, total kjeldahl nitrogen (TKN), nitrate ammonia, total phosphate, and total organic carbon (TOC). Generally, nutrient export is greatest from development sites with the most imperious areas.

Trace Metals

Trace metals are primarily a concern because of their toxic effects on aquatic life and their potential to contaminate drinking water supplies. The most common trace metals found in urban runoff are lead, zinc, and copper. Fallout from automobile emissions is also a major source of lead in urban areas. A large fraction of the trace meals in urban runoff are attached to sediment, and this effectively reduces the amount that is immediately available for biological uptake and subsequent bioaccumulation. Metals associated with the sediment settle out rapidly and accumulate in the soils. Also, urban runoff events typically occur over a shorter duration, which reduces the aquatic environment's amount of exposure to toxics. The toxicity of trace metals in runoff varies with the hardness of the receiving water. As total hardness of the water increases, the threshold concentration levels for adverse effects increases.

Oxygen-Demanding Substances

Aquatic life is dependent on the dissolved oxygen (DO) in the water, and when organic matter is consumed by microorganisms, DO is consumed in the process. A rainfall event can deposit large quantities of oxygen-demanding substances in lakes and streams. The biochemical oxygen demand (BOB) of typical urban runoff is on the same order of magnitude as the effluent from an effective secondary wastewater treatment plant. A problem from low DO results when the rate of oxygen-demanding material exceeds the rate of replenishment. Oxygen demand is estimated by direct measures of DO and indirect measures such as biochemical oxygen demand (BOD), chemical oxygen demand (COD), oils and greases, and TOC.

Bacteria

Bacteria levels in undiluted urban runoff typically exceed public health standards for water contact recreation. Studies have found that total coliform counts typically exceed U.S. EPA water quality criteria almost every time it rained. The coliform bacteria that are detected may not be a health risk in themselves but are often associated with human pathogens.

Oil and Grease

Oil and grease contain a wide variety of hydrocarbons, some of which would be toxic to aquatic life in low concentrations. These materials initially float on water and create the familiar rainbow-colored film. Hydrocarbons have a strong affinity for sediment and quickly become absorbed by it. The major source of hydrocarbons in urban runoff is crankcase oil and other lubricating

agents that leak from automobiles. Hydrocarbon levels are highest in the runoff from parking lots, roads, and service stations. Residential land uses generate less hydrocarbons export, although illegal disposal of waste oil into stormwaters can be a problem.

Priority Pollutants

Priority pollutants generally are related to hazardous wastes or toxic chemicals which can be detected in storm water. According to the General Plan EIR, priority pollutant scans have been conducted in previous studies or urban runoff, which evaluated the presence of over 120 toxic chemicals and compounds. The scans rarely revealed toxins that exceeded the current safety criteria. The urban runoff scans were primarily conducted in suburban areas not expected to have many sources of toxic pollutants (with the possible exception of illegally disposed or applied household hazardous wastes). Priority pollutants in stormwater are: phthalate (plasticizer compound), phenols and creosols (wood preservatives), pesticides and herbicides, oils and greases, and metals.

Physical Characteristics of Stormwater

The physical properties and chemical constituents of water traditionally are used to monitor and evaluate water quality. The water quality parameters for stormwater are numerous and are classified in several ways. In many cases, the concentration of an urban pollutant, rather that the annual load (amount) of that pollutant, is needed to assess a water quality problem.

Existing Stormwater Quality

The City of Covina General Plan EIR discussed stormwater runoff quality qualitatively by evaluating the pollutants expected from specific land uses. The General Plan EIR expected existing pollutants to largely consist of oil and grease, suspended solids, trash, nutrients, bacteria, and household hazardous wastes. The proposed Covina Town Center Specific Plan does allow for industrial uses; land uses would remain consistent with the General Plan EIR, which would likely produce pollutants similar to those evaluated in the General Plan EIR.

4.9.2 REGULATORYFRAMEWORK

The following section describes the regulatory programs relevant to hydrology and water quality. While it does not include all regulations relevant to hydrology and water quality, the section does outline major programs applicable to the proposed Covina Town Center Specific Plan.

Federal

Clean Water Act

Passed in 1972, the Clean Water Act (CWA) established the National Pollutant Discharge Elimination System (NPDES) permit program. The Clean Water Act prohibits the discharge of pollutants from point sources to United States (U.S.) waters unless an NPDES permit authorizes the discharge. It requires that municipal NPDES permits include a requirement to prohibit non-storm water discharges into the storm sewer and controls to reduce the discharge of pollutants in storm water discharges to the maximum extent practicable, including management practices, control techniques, system design and engineering methods and such other provisions that the U.S. EPA or the California State Water Resources Control Board deem appropriate for the control of such pollutants. Reduction of conventional forms of pollution, such as sewage

treatment plants and industrial facilities, has been considerable since implementation of the NPDES program.

However, it was shown that pollution from land runoff contributed a larger portion of pollutants than the regulated conventional sources. The 1987 Clean Water Act amendments established a framework for regulating urban storm water runoff. Urban runoff includes dry and wet weather flows from urbanized areas through a storm water conveyance system. Pollutants can be intercepted and deposited into U.S. waters as water flows over streets, parking lots, construction sites and industrial, commercial, residential, and municipal areas. If not properly controlled, urban runoff could be a significant source of pollutants in waters of the U.S.

National Pollution Discharge Elimination System (NPDES) Stormwater Program

The National Pollutant Discharge Elimination System (NPDES) Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges adversely affecting the quality of the nation's waters. The Program uses the NPDES permitting mechanism to require control and monitoring measures designed to prevent harmful pollutants from being washed into local bodies by stormwater runoff. The NPDES program requires the owner or operator of any facility, or any person responsible for any activity that discharges waste into the surface waters of the U.S. to obtain an NPDES permit from the Regional Water Quality Control Board, as mandated by the Clean Water Act.

State

The Standard Urban Stormwater Mitigation Plan

The Clean Water Act allows individual States to operate their own NPDES programs provided such programs meet minimum Federal requirements. The Los Angeles Regional Water Quality Control Board issues the municipal stormwater National Pollutant Discharge Elimination System permit, MS4 through Order No. 010182 which encompasses the City of Covina.

The objective of MS4 Permit is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, the Order requires that the Los Angeles Countywide Stormwater Quality Management Plan (SQMP) specify Best Management Practices (BMPs) that would be implemented to reduce the discharge of pollutants in stormwater to the maximum extent practicable. Further, Permittees are to assure that stormwater discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality, standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.

New development within the Planning Area would require implementation of a Stormwater Quality Management Plan, which provides specific guidelines to control, reduce and monitor discharges of waste to storm drain systems. The emphasis of the Stormwater Quality Management Plan is pollution prevention through education, public outreach, planning and implementation as source control Best Management Practices (BMPs) first and structural and treatment control BMPs second.

State Resolution No. W-4976

In recent years, the State of California has been experiencing dry weather conditions due to less rainfall in the area, thus, causing a statewide drought emergency. In an effort to promote water

conservation effort, Resolution No. W- 4976 was adopted by the California Public Utilities Commission on February 27, 2014 to establish procedures for water conservation measures in order to ensure a reduction in consumption. Since many water utility agencies or companies secure their water supply from multiple sources, including water wholesaler, surface water and/or ground water; the adoption of this mandate has affected how water utility districts plan their service distribution while encountering various levels of water supply adjustments within each service areas.

Low Impact Development

The State of California adopted sustainability as a core value for all California Water Boards' activities and programs on January 20, 2005. Low Impact Development (LID) practices benefit water supply and contribute to water quality protection by taking a different approach to development and using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The amount of impervious surface, infiltration, water quality, and infrastructure costs can all be addressed by LID techniques, tools, and materials. LID practices include: bioretention facilities or rain gardens, grass swales and channels, vegetated rooftops, rain barrels, cisterns, vegetated filter strips, and permeable pavements.

Sustainable Groundwater Management Act

The 2014 Sustainable Groundwater Management Act (SGMA) is a three-bill legislative package composed of Assembly Bill 1739, State Bill 1168, and State Bill 1319. The SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans.

Local

Stormwater and Urban Runoff Pollution Control

Stormwater management is jointly overseen by the City of Covina and the U.S. EPA. The National Pollutant Discharge Elimination System (NPDES) permit and Municipal Separate Storm Sewer System (MS4) stormwater permits are enforceable regulated permits. Stormwater and non-storm water discharges are identified as transport mechanisms for pollutants into waters of the Los Angeles Region. The state legislature enacted the statute creating the Los Angeles County Flood Control District. Los Angeles County Flood Control district jointly reviews permits in the City of Covina, stormwater and urban runoff pollution control, is overseen by the Environmental Services Department. In addition, construction sites of less than one acre, are required to comply with the provisions of the Section VI.D.8.d of the MS4 Permit.

Stormwater Pollution Prevention Plan

The City of Covina's Stormwater Pollution Prevention Program is regulated by various federal, state, and local regulations and laws. The City of Covina Environmental Services Department directly oversees implementation of Stormwater Pollution Prevention Plans.

Covina General Plan

Land Use Element

The Land Use Element generally seeks to ensure zoning codes, allowed development intensities, and other land use policies not infringe upon its ability to provide adequate community services and utilities.

Water Conservation

The following Water Resource measures of the City of Covina General Plan Natural Resources Element Policy Area 1 (Water Resources and Air Quality), shall apply:

a. Support the efforts at all levels of government to monitor and regulate water quality and conditions, ensuring that all applicable standards are met.

b. Support the efforts at various codes and standards of all levels of government to protect ground water resources from depletion and sources of pollution, which as soil-leaching hazardous materials.

c. Support Federal, State, and regional efforts to remedy existing ground water pollution problems.

d. Continue local efforts to handle ground water contamination problems, including. But not limited to, shutting down or reconstructing water wells and appropriately treating water from operating wells to meet all applicable water quality standards.

e. Ensure that existing flood control system-related ground water recharge areas or spreading grounds (Ben Lomond) at the southwest corner of Arrow Highway and Barranca Avenue and Walnut Wash at the easterly terminus or Workman Avenue) are preserved and protected via land use regulations (except where the facility or a portion thereof is determined by appropriate analysis to be no longer needed) and, when utilized, guarded against illegal discharge into surface waters (that feed ground water basins).

f. Preserve and protect in their natural conditions, through appropriate land use controls, development standards, and any other reasonable measures, the unimproved segments of two flood control channels running through Covina (Charter Oak Wash in Wingate Park and Walnut Creek in the Covina Hills/southeastern area) and concomitant elements, such as soil conditions, as important functional, ecological, biological, aesthetic, and passive open space resources.

g. Minimize the alteration of drainage patters in Covina Hills to preserve the stream flow in and immediately abutting the unimproved section of Walnut Creek.

h. Handle the problem of soil erosion occurring along the banks of the unimproved portion of Walnut Creek and elsewhere.

i. Ensure the adequacy of water supplies to meet all existing and future demands and applications, particularly public safety.

j. Where necessary, work with other water providers serving Covina Residents and Businesses to ensure sufficient service and to communicate important issues and needs.

k. Ensure adequate water pressure for all uses and purposes.

l. Follow the Covina Water Conservation Ordinance, when necessary, and provide conservation kits and general information to best promote water conservation.

m. Follow the City's Water-Efficient Landscape Ordinance for the sites of new and significantly expanded/remodeled developments as a viable conservation tool.

n. Encourage the incorporation of water conservation features in the design of all new and significantly expanded/remodeled developments and in the installation of conservation devices in existing developments, including, but not limited to, low-flow toilets and shower registers.

o. Comply with applicable portions of Federal, State, regional, and County plans and programs pertaining to air pollution mitigation/air quality enhancement by following, in a manner that recognizes local needs, issues, views, and policy and financial constraints, various vehicular emissions-reducing and traffic congestion-reducing land uses and transportation control and energy conservation measures, proposals, and policies outlined in the Land Use and Circulation Elements, to the greatest extent feasible and practical.

p. Encourage and support the use of mass transit, whenever possible, and work with transit operators to provide the best, most efficient service for local residents and business to reduce vehicle travel and air pollution.

The City of Covina Municipal Code (Chapter 13.06, Water Conservation) includes permanent water conservation requirements to avoid waste of water apply to the Project. Chapter 13.06 includes the following:

A. Limits on Watering Hours. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Time on any day, except by use of hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing, shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

B. Limit on Watering Duration. Watering or irrigating of lawn, landscape, or other vegetated areas with potable water using a landscape irrigation system or water device that is not continuously attended is limited to no more than 15 minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow, drip-type irrigation systems when no emitter produces more than two gallons of water per hour and weather-based controllers or stream rotor sprinklers that meet a 70 percent efficiency standard.

C. No Excessive Water Flow or Runoff. Watering or irrigating lawn, landscape, or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

D. No Washing Down Hard or Paved Surfaces. Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a

positive, self-closing shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume, high-pressure water broom.

E. Obligation to Fix Leaks, Breaks, or Malfunctions. Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected, and in no event more than seven days of receiving notice from the city, is prohibited.

F. Recirculating Water Required for Water Fountains and Decorative Water Features. Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.

G. Limits on Washing Vehicles. Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited, except by the use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing, shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

H. Drinking Water Served upon Request Only. Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested. This subsection does not apply to permanently installed public drinking fountains.

I. Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services. Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

J. No Installation of Single Pass Cooling Systems. Installation of single pass cooling systems is prohibited in buildings requesting new or increased capacity water service.

K. No Installation of Non-recirculating Water Systems in Commercial Car Wash and Laundry Systems. Installation of non-recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

L. Restaurants Required to Use Water Conserving Dish Wash Spray Valves. Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water-conserving dish wash spray valves.

M. Commercial Car Wash Systems. Effective on January 1, 2011, all commercial conveyor car wash systems must have installed operational recirculating water systems or must have secured a waiver from this requirement from the city. (Ord. 09-1973 § 1, 2009.)

4.9.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to hydrology and water quality if it would:

a) Violate any water quality standards or waste discharge requirements;

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

f) Otherwise substantially degrade water quality;

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or

j) Inundation by seiche, tsunami, or mudflow;

4.9.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to water quality, water resources, groundwater supplies, flood-hazard areas, and inundation by seiche, tsunami, or mudlfow, which could result from the implementation of the Project and recommends mitigation measures as needed to reduce significant impacts.

Violate any Water Quality Standards

Impact Hydro-1 - ***Would the Project violate any water quality standards or waste discharge requirements?***

Analysis of Impacts

The proposed Project consists of intensifying uses within the Covina Town Center Specific Plan (Planning Area). Due to local groundwater quality issues, the City of Covina has ceased pumping from its' existing wells. In Covina, water wells operated by the City and three other purveyors have been found to contain varying concentrations of nitrates. Some of the wells

have been shut down immediately and others have been treated to meet applicable water quality standards. Therefore, in a general sense, the primary long-term effect of the contamination problem is one of water supply limitation, not of public health.

Future development within the Planning Area is anticipated to consist of infill development on vacant parcels and focused private redevelopment activity on underutilized properties. Residential and commercial development proposals that would occur over the life of the Town Center Specific Plan could not individually result in wastewater treatment violations because these types of Projects would not discharge sufficient discharge volumes or constituents such that the wastewater treatment plant requires modified wastewater discharge requirements

The proposed Project would not significantly impact the existing City of Covina water quality as no land uses are allowed in the Project Area that would be permitted to discharge waste or be permitted to violate water quality standards. Individual developments within the proposed Project Area would be subject to federal, state, and local water discharge regulations. In addition, stormwater management programs are required to address illicit discharges into the MS4 system.

According to the California Water Boards Los Angeles R4 San Gabriel River Watershed Non-stormwater permits database, there are no facilities within the City of Covina with an open or active permit to discharge non-stormwater. Therefore, with adherence to existing water quality and stormwater discharge regulations the proposed project would have a less than significant impact and no mitigation measures are required.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Deplete groundwater supplies

Impact HYDRO-2 - ***Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?***

Analysis of Impacts

The City of Covina is a seven square mile area located within the San Gabriel Valley. The City of Covina Water Department services an approximate 29,589 persons as Projected in the 2015 Covina Urban Water Management Plan. The City lies within an existing active ground water basin which is one of its major water resource features. Ground water recharge, water use, and management is governed by the City of Covina Water Department. The Covina Irrigating Company (CIC) delivers water to the City of Covina.

The CIC is the primary source of water for the City of Covina. The CIC does extract groundwater and treats surface water from the Main San Gabriel Basin and delivers treated potable water to the City of Covina. Water consumption would be attributed to the overall city-

wide land uses including the existing Project Area. Table 4-9-1 includes the 2014-2015 potable water consumption for the City of Covina.

Table 4.9-1
Water Consumption Data

Use Type	Additional Description/Level of Treatment when Delivered	Year	
		2014-2015	2016-2017
Retail Demands for Potable and Raw Water-Actual			
Single Family	Drinking Water	2,670	--
Multi-Family	Drinking Water	816	--
Commercial	Drinking Water	6	--
Institutional/Governmental	Drinking Water	1,057	--
Industrial	Drinking Water	17	--
Landscape	Drinking Water	90	--
Losses	Drinking Water	355	--
Other	Unbilled Usage/Drinking Water	385	--
Total			5,396
**Source. Covina Irrigation District. 2015 Urban Water Management Plan. Water Consumption Data*			

According to the 2015 Urban Water Management Plan, the City of Covina consumed 5,396 acre-feet of water in 2014. Projected water annual demand for the City of Covina is 5,705 acre-feet of water by 2020. The Covina Town Center Specific Plan Update includes intensifying uses in the residential and commercial land uses. The Planning Area encompasses approximately 236 acres, or just over five percent of the City's total area of 7.04 square miles. As describe in the Utilities and Services Chapter (4.17) projected water demand for the Project is approximately 178-acre feet of water per year (AFY). Therefore, the water consumption rate would not significantly decrease the ground water table as the CIC has commenced purchasing water supply from the Three Valley Municipal Water District and additional sources to offset groundwater usage.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Substantially Alter the Existing Drainage Pattern

Impact HYDRO-3- ***Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?***

Analysis of Impacts

Slope gradients of the existing Planning Area are minimal. All new development that would occur because of the implementation of the proposed Project would be subject to the City of Covina Municipal Code and Building and Safety Code. As shown in Exhibit 3-4, the proposed

Project is already developed and includes existing infrastructure for storm water drainage. No streams or rivers occur in the Project site. Increased stormwater runoff as a result of implementation of the proposed Project would be less than significant as the Planning Area is Projected to increase the intensity of existing built-out uses but would not substantially increase impermeable areas and thereby increase runoff.

No water resource features occur within the Planning Area and the proposed Project does not include design feature or otherwise known modification to any known water resource feature. Therefore, with adherence to existing regulations, a less than significant impact to the existing drainage pattern of the Project area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site would occur. Therefore, the proposed project would have a less than significant impact.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Increase the rate or amount of surface runoff

Impact HYDRO-4- ***Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?***

Analysis of Impacts

The Project would not include any alterations to existing drainage patterns of the site or area. There are no water resource features or natural water courses within the Planning Area site or planned alteration to existing drainage facilities.

Since 234 of the 236-acre Planning Area is already developed any increase in stormwater runoff would be minimal and will be accommodated within by the existing storm drain facilities. The proposed Project would not result in a substantial increase in surface water runoff. Therefore, the proposed project would have a less than significant impact and no mitigation measures are required.

The proposed Project would not result in a substantial increase in surface water runoff. All Project ed surface water run off would be delivered to the existing storm drains and would not exceed capacity for collection. Therefore, with implementation of existing stormwater regulations the proposed Project would not have a substantial impact on surface water runoff. No changes to the existing drainage patterns would occur, and minor additions to the storm drain system would not be substantial to result in erosion, siltation and/or flooding on- or off-site.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Create or contribute runoff water

Impact HYDRO-5- ***Would the Project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?***

Analysis of Impacts

The Project would not interfere with groundwater recharge as the proposed Planning Area is entirely developed and nearly all impervious. Based on aerial imagery, the Project site is approximately 99 percent developed consisting of parking areas, roofs, walkways and other concrete/impervious surfaces.

Although details on site layout and landscaping are not yet known, the Planning Area and means of the coverage of paved surfaces on-site remain comparable to the existing condition. Because the Planning Area does not currently allow for groundwater recharge, the proposed Project would have no effect, or possibly a slightly beneficial effect with respect to groundwater recharge.

The Planning Area is served by the municipal storm drain system maintained by the Los Angeles County Flood Control District. Connections are located throughout the Planning Area. Connections within the Planning Area include reinforced concrete pipe along East San Bernardino Road ranging in size from 27-inches to 51-inches, reinforced concrete pipe along West Badillo Street ranging in size from 27-inches to 42-inches, and RCP along North Citrus Avenue ranging in size from 24-inches to 48-inches.

The proposed Project would not create or contribute significantly to additional surface runoff water to the storm drain system and the impact is considered less than significant.

Level of Significance Before Mitigation

Less that significant.

Mitigation Measures

No mitigation is required.

Otherwise substantially degrade water quality

Impact HYDRO-6–***Would the Project otherwise substantially degrade water quality?***

Analysis of Impacts

There are no natural streams, rivers, wetlands or other waterbodies on-site. Therefore, the effect of the proposed Project is limited to minor, highly localized changes in drainage patterns. However, the Project site as a whole would maintain the general drainage pattern as it currently exists and would continue to direct stormwater runoff to the City's stormwater drainage system along North Citrus Avenue and East Covina Boulevard. The total area (i.e., sub-watershed) discharging to the nearest City storm drain would likewise not change.

The proposed Project would require installation of additional water quality BMPs and LID features in compliance with Covina Municipal Code Section 8.50.050 and the MS4 Permit. As shown in Table 4-9-3, of the 2017 City of Covina water quality report, the City of Covina water quality standards comply with federal, state and local regulations.

Table 4.9-2
Drinking Water Quality

Use Type	Most Recent Tests	Covina Irrigating Company	
		Results	Range of Detection
Primary Drinking Water Standards			
Aluminum	2017	<0.05	ND – 0.13
Arsenic	2017	2.9	2 – 10
Fluoride-naturally occurring	2017	0.3	0.28 – 0.31
Fluoride-treatment-related	2017	NR	NR
Nitrate	2017	0.51	ND – 0.62
Chloride	2017	12	10 – 13
Color	2017	2.5	ND – 5
Odor	2017	1	1
Specific Conductance	2017	415	400 – 430
Sulfate	2017	26	19 – 33
Total Dissolved Solids	2017	225	210 – 240
Alkalinity	2017	175	170 – 180
Calcium	2017	46	46 – 47
Hardness as CaCO3	2017	170	160 – 180
Magnesium	2017	14	12 – 15
pH	2017	7.9	7.7 – 8.1
Potassium	2017	4.1	3.6 – 4.6
Sodium	2017	16	15 – 17

**Unregulated Chemical Require Monitoring at Entry Points to the Distribution System*
Source City of Covina. 2017. Water Quality Report

Existing non-residential land uses include industrial, office/medical, commercial, public facilities/utilities, institutional, and miscellaneous uses. These uses would be subject to all federal state and local regulations pertaining to water quality. No development would be permitted for discharges into the system without City of Covina oversight. Therefore, the proposed Project would not result in a degradation of water quality.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation required.

Place housing within a 100-year flood hazard area

Impact HYDRO-7- ***Would the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?***

Analysis of Impacts

No creeks, rivers or channels occur within the Planning Area, and according to Federal Insurance Rate Map (FIRM) Flood Panel 06037C1700F, the Planning Area is not located within a Federal Emergency Management Agency Special Flood Hazard Area, which includes 100-year flood zones. The proposed Project does not include constructing any structures that would affect or contribute to residential development in a 100-year flood hazard area. The Planning Area is also not within a 500-year flood hazard area as mapped by the Federal Emergency Management Agency. Therefore, the proposed Project would not place housing within a 100-year flood hazard area.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Structures which would impede or redirect flood flows

Impact HYDRO-8- ***Would the Project place within a 100-year flood hazard area structures which would impede or redirect flood flows?***

Analysis of Impacts

According to FIRM Flood Panel 06037C1700F, the Planning Area is not located within a Federal Emergency Management Agency Special Flood Hazard Area, which includes 100-year flood zones. The Planning Area does not include any planned structures that would affect or contribute to development in a 100-year flood hazard area. The Planning Area is also not within a 500-year flood hazard area as mapped by the Federal Emergency Management Agency. Therefore, the proposed Project would not place structures within a 100-year flood hazard area.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Flood Risk to people or structures

Impact HYDRO-9- ***Would the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?***

Analysis of Impacts

The Project is located 5.8 miles from the Santa Fe Dam and 6.7 miles from the Puddingstone Reservoir. In the event of a dam failure, flood waters are expected to reach the City of Covina in 20 minutes and rushing waters would overflow the banks of the Walnut Creek by approximately one-quarter on each side, walnut creek is approximately 1.29 miles from the Planning Area.

There are reservoir-serving dams north and northeast of Covina in the San Gabriel Mountains that if failed would potentially impact the City of Covina. Existing flood control systems pervade the upper and central portions of the City of Covina which would most likely distribute the incoming residual waters. The Los Angeles County Public Works Department operates and maintains a state-of-the-art ALERT computer system to monitor meteorological conditions in the County and Southern California in real time, i.e., as they occur. The system includes a network of field sensors that monitor and receive precipitation amounts including rainfall data from the Corps of Engineers' Los Angeles Telemetry System. These systems allow for system level real time checks that provide for emergency management planning. The City of Covina likewise operates an Emergency Management system in the event of dam failures. The proposed Project does not include modifications to a dam system or levees that would alter the hazard planning completed by the City of Covina. Therefore, the proposed Project would not expose people or structures to a significant risk of loss, injury or death involving flooding, or including flooding as a result of the failure of a levee or dam. With adherence to existing policies, regulations and ordnances the proposed Project would have a less than significant impact.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Create inundation by seiche, tsunami, or mudflow

Impact HYDRO-10- ***Would the Project be subject to inundation by seiche, tsunami, or mudflow?***

Analysis of Impacts

The Project site is located in a relatively flat valley within the San Gabriel Valley hydrologic unit and it not located next to a large body of water. No dam modifications, levees or water resource projects are proposed with implementation of the Project. The proposed Project is located 5.8

miles from the Santa Fe Dam and 6.7 miles from the Puddingstone Reservoir. In the event of a dam failure, flood waters could reach the City of Covina in approximately 20 minutes passing through the Project Area. In addition, the two nearest Dams to the Project site are monitored and inspected for system failures. If such an event were to occur the Project site would result in a low volume inundation with little likelihood of seiche occurring. The Project Area is not adjacent to or within the vicinity of an Ocean thus the likelihood of a tsunami event is low. Therefore, there would be less than significant impact in respect to the inundation by seiche, tsunami, or mudflow.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Hydrology and Water Quality Cumulative Impacts

HYDRO Cumulative Impacts- ***Would the Project cause substantial adverse cumulative impacts with respect to hydrology and water quality?***

Project impacts are considered to be cumulative for analysis purposes if, when combined with development from other projects within the vicinity of the Project significant impacts occur. The Project will not create any significant impacts with respect to hydrology and water quality. No dams, levees or channels occur within the Planning Area and the Project does not include modifications to the existing drainage pattern of the Planning Area. Therefore, impacts will not be cumulatively considerable.

4.10 Land Use and Planning

This EIR chapter describes the existing land uses in and around the Covina Town Center Specific Plan Update area (Planning Area), applicable City and regional land use policies and regulations, and potential land use impacts associated with the implementation of the Specific Plan Update.

4.10.1 ENVIRONMENTAL SETTING

Existing Land Uses

City of Covina

The City of Covina is a suburban community located in the eastern portion of the San Gabriel Valley, approximately twenty-three miles east of downtown Los Angeles. The City is characterized by predominantly low rise/low intensity residential, commercial, and light manufacturing uses. Although the city is almost entirely built out, future development is expected to occur on remaining vacant and underutilized properties. Covina is generally flat, though has a hilly enclave in the southeastern area (Covina Hills), and contains a historic downtown.

Covina Town Center Specific Plan Update Area

The Planning Area is an urbanized downtown area bisected by two east-west arterial roadways (East San Bernardino Road and East Badillo Street) and one north-south arterial roadway (North Citrus Avenue). Badillo Street provides an east-west link to civic and commercial uses within Covina, while key north-south corridors (Citrus Avenue and Barranca Avenue) connect retail services, medical-related uses, and business park areas to the City's residential neighborhoods. The Metrolink station is also a key regional and local transit element of the Planning Area.

The Planning Area includes both older and more recent industrial buildings, 1960s style corridor commercial buildings, a local hospital (Inter-Community Hospital) and related medical offices/businesses, local civic uses, and a mix of low scale residential uses. In total, the Project area encompasses 236 net acres (not including street rights-of-way) of relatively flat land with varying land uses. The Project area is currently developed with approximately 1.13 million square feet of building area. Exhibit 4.10-1 (Existing Land Use Map) shows the existing land uses within the Project area, and Table 4.10-1 shows acreage associated with existing land uses.

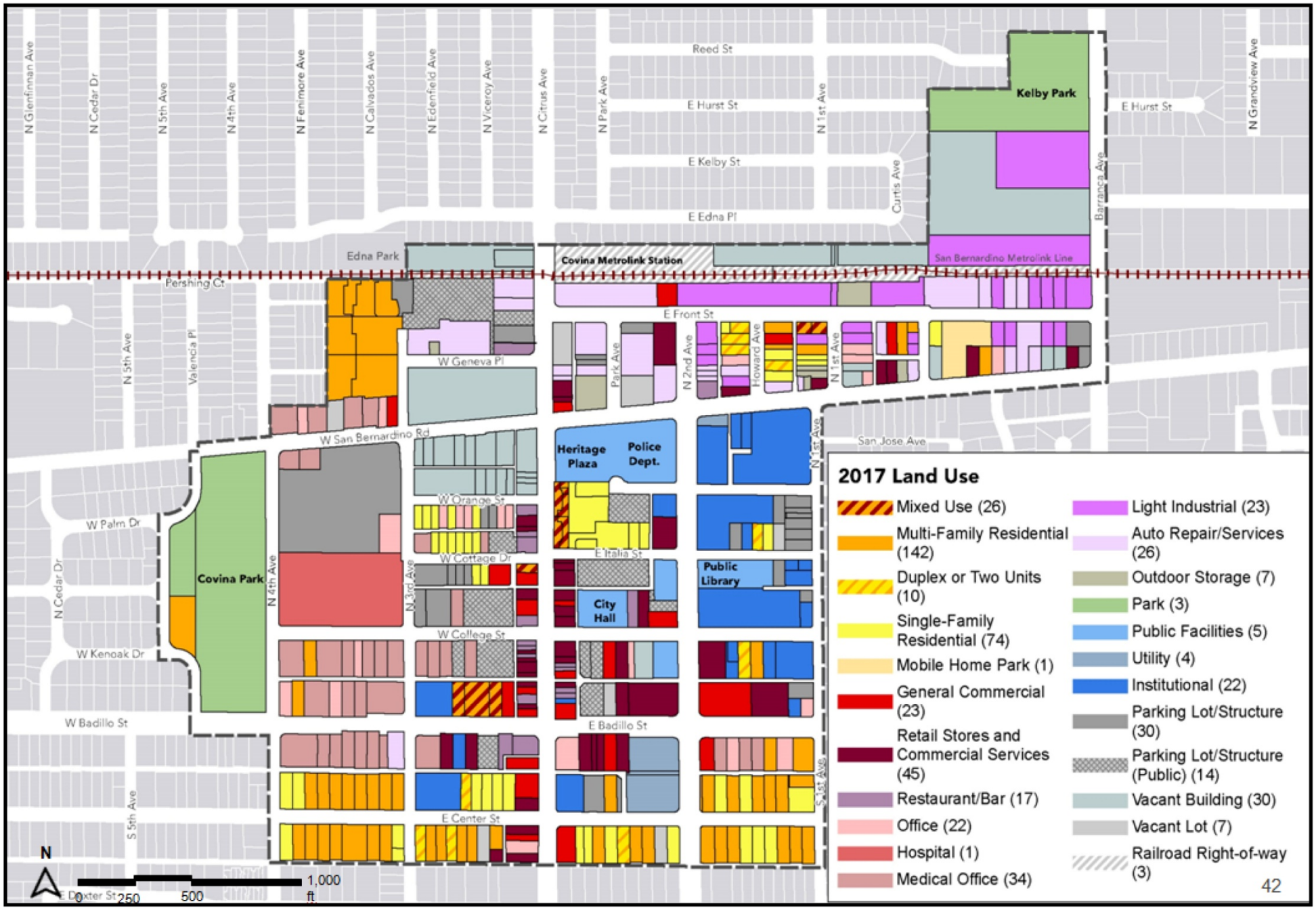

Exhibit 4.10-1 Existing Land Use Map

Covina Town Center Specific Plan Update
Covina, California

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Table 4.10-1. Existing Land Use

Land Use Category	Acres	Percent of Total
Residential	**97**	**41.1%**
Multi-Family Residential	70	29.7%
Duplex or Two Units	2	0.8%
Single-Family Residential	24	10.2%
Mobile Home Park	1	0.4%
Industrial	**21**	**8.9%**
Light Industrial	11	4.7%
Auto Repair/Services	9	3.8%
Public Storage	1	0.4%
Office/Medical	**19**	**8.1%**
Office Building	4	1.7%
Hospital	5	2.1%
Medical Office	10	4.2%
Commercial	**18**	**7.6%**
General Commercial	5	2.1%
Retail Stores/Commercial Services	8	3.4%
Restaurant/Bar	2	0.8%
Mixed Use	3	1.3%
Public Facilities	**5**	**2.1%**
Institutional	**12**	**5.1%**
Miscellaneous	**64**	**27.1%**
Parks	17	7.2%
Utility	2	0.8%
Parking Lot/Structure (Private)	11	4.7%
Parking Lot/Structure (Public	8	3.4%
Vacant Building	18	7.6%
Vacant Lot	2	0.8%
Railroad Right-of-Way	6	2.5%
Total	**236**	**100.0%**
Source: *City of Covina GIS (2018).*		

As shown in Table 4.10-1, residential uses represent the largest portion (41 percent) of the overall Project area. While residential land uses are scattered throughout the entire Project area, there is a distinct concentration of residential land uses in the southern portion of the Project area along East Center Street. Of the residential uses located in the Project area, multi-family housing makes up the largest portion (70 acres); followed by single-family housing (24 acres), mixed-use housing (3 acres), duplexes (2 acres), and mobile homes (1 acre). Non-residential land uses include industrial (8.9 percent), office/medical (8.1 percent), commercial (7.6 percent), public facilities/utilities (2.1 percent), institutional (5.1 percent), and miscellaneous uses (27.1 percent).

The Planning Area includes light industrial uses, which are concentrated along Front Street and Barranca Avenue, and consist mostly of auto-related businesses with some light manufacturing and storage. Hospital and medical-office uses are concentrated along the west side of the Planning Area. Small-format, low-rise commercial uses such as fast-food restaurants, banking centers, convenient markets, and strip commercial centers are also located throughout the Planning Area. Institutional uses include City Hall, the Covina Police Department, and the Covina Public Library. There are four parks located in the Project area (Covina Park, Edna Park, Kelby Park, and Heritage Plaza Park). The San Bernardino Metro Link Rail Line runs in an east-west direction through the northern portion of the Planning Area, north of Front Street.

4.10.2 REGULATORY FRAMEWORK

City of Covina General Plan

The Covina General Plan (Covina Community Development Department Planning Division, 2000) is the City's blueprint for long-range growth and development and includes the following elements: Land Use; Circulation; Housing; Natural Resources and Open Space; Noise; and Safety. Each element contains a discussion of issues, goals and policies, and action measures.

Park. Permitted uses are community or neighborhood parks, ballfields, playlots, playfields, and related facilities, amenities, and structures that are devoted primarily to passive or active recreational and similar uses.

General Industrial. Permitted uses are manufacturing, processing, assembly, warehousing, animal hospitals, automotive repair shops, very limited retail functions, gas stations, self-storage outlets, and parking lots. The maximum development net intensity/gross floor area ratio is 2.0 (maximum ratio of total building square footage to net acreage of site). Projects exceeding the 2.0 FAR may be permitted with City approval.

General Commercial. Permitted uses include various types of retail and service businesses and administrative, professional, and governmental offices, institutional uses, such as churches, group homes, nursing homes, and hospitals; utility and transportation facilities; automotive sales; automotive repair shops; gas stations; self-storage outlets; animal hospitals; and parking lots. The maximum development net intensity/gross floor area ratio (FAR) is 1.5 (maximum ratio of total building square footage to net acreage of site). A project may exceed the 1.5 FAR with City approval.

Town Center Commercial. Permitted uses include specialized retail and service businesses that complement the unique character and serve the patrons of downtown Covina. On and adjacent to Citrus Avenue, the primary downtown street, the City seeks vibrant, economically viable commercial businesses that operate during both daytime and nighttime hours. Permitted uses include automotive sales; limited automotive repair shops; administrative, professional, and governmental offices; institutional uses; utility facilities; and commercial/residential mixed uses, when the residential portion is located above the first floor, consists of single room occupancy (SRO) or apartment-type units, and conforms to applicable mixed use standards and provisions. Building types are to be, depending on location, either of a classical early 1900s revival or a contemporary commercial style that conforms to the Zoning Ordinance and Design Guidelines.

Maximum development net intensity/gross floor area ratio is 2.5 (maximum ratio of total building square footage, excluding any residential areas, to net acreage of site). A project may exceed the 2.5 FAR if the project provides the City with exceptionally high economic development,

street vitality, functional viability, architectural integrity, and/or image enhancement benefits. Also, where any mixed use (commercial and residential) project is proposed, any density up to 22.0 units per net acre of land shall be acceptable, and the above-described high density standard exception shall apply.

High Density Residential. The primary uses include apartments (two-unit structures and up), condominiums, townhouses, mobile homes, and the following two cases pertaining to a single lot: two or more single-family detached houses, or a single-family detached residence and apartments. Also permitted are single-family detached houses on individual lots and State-defined granny flat units and group homes, and, as described in the Zoning Ordinance, institutional uses, such as churches, large group houses, convalescent hospitals, meeting halls/lodges, and nursery schools plus governmental and utility facilities. Permitted residential density is 14.1 - 22.0 dwelling units per net acre of land. Nonresidential floor area (FAR) ratio is 0.5 (maximum ratio of total building square footage to net acreage of site).

Objectives and Policies. Each element of the General Plan contains a discussion of goals, objectives and policies. A goal is defined as a general expression of an ideal future condition or state toward which the community wishes to advance. An objective, on the other hand, is similar to a goal but more specific in focus. Lastly, a policy is a statement that is based on one or more objectives and most directly guides decision-making and actions. General Plan goals, objectives and policies specifically relevant to the Specific Plan Update Planning Area are listed below.

Land Use Element

Objective 1: A climate where moderate residential, commercial, and industrial development and redevelopment are accommodated.

- General Land Use Policies:

  15) Monitor land use, traffic, and circulation pressures associated with the Metrolink Commuter Train Station near the downtown and best capitalize on potentially beneficial impacts by adopting strategies such as an “urban village” or livable cities concept, incorporating mixed uses (like residential on top of commercial), sufficient businesses, and attractive and functional public and private improvements.
  22) Capture all potential benefits resulting from the Metrolink Commuter Train Station, downtown revitalization, Azusa Avenue beautification, and other major programs/efforts.

- Residential Policies:

  10) Pay particular attention to the special needs and character of the downtown, continue appropriate economic revitalization, physical enhancement, and use refinement activities that will attain a greater variety of retail businesses, attract more people, and generate more sales tax and overall vitality, and consider incorporating mixed uses within an “urban village” or livable cities concept, including residential on top of commercial, to bolster social and economic activity, to best exploit Metrolink Commuter Train Station proximity, to provide needed housing, and to reduce vehicular trips.
  18) Develop a Town Center/Downtown Specific Plan to provide the City with a viable, comprehensive blueprint for making land use, traffic, parking, and redevelopment

decisions in light of the district's unique features, uses, and infrastructure, historic resources, and circulation network.

Objective 2: An adequate amount and distribution of and compatibility of adjacent land uses throughout the community.

- General Land Use Policies:

  8) Monitor land use, traffic, and circulation pressures associated with the Metrolink Commuter Train Station in and near the downtown and best capitalize on potentially beneficial impacts by adopting strategies such as an "urban village" or livable cities concept, incorporating mixed uses (like residential on top of commercial), sufficient businesses, and attractive and functional public and private improvements.
  13) Permit mixed uses (residential and commercial) in appropriate areas in the downtown and, if possible, elsewhere, in a manner consistent with special, applicable standards, to provide needed housing in an alternative setting and to complement districtwide physical and economic revitalization activities.

- Residential Policies:

  6) Orient medium- and high-density uses, such as apartments, condominiums, townhomes, and mobile home parks, in and/or around the downtown and in areas where such developments now exist.
  11) Consider mixed uses in and, if appropriate, around the downtown as a means of obtaining needed housing and reducing trips and exploiting Metrolink Commuter Train Station proximity and redevelopment/revitalization activities.

- Commercial and Industrial Policies:

  2) Preserve the predominantly low-rise, low- to medium-intensity character of Covina's commercial and industrial districts and corridors, though allow slightly higher intensities in the downtown and along various portions of major streets.
  9) Pay particular attention to the special needs and character of the downtown and continue appropriate economic revitalization and physical enhancement activities.
  13) Develop, based on #9 above, maximum future net intensities (floor area ratios) as follows: general commercial, 1.5; town center (downtown area), 2.5; and industrial, 2.0. (Net intensity means private property after any right-of-way dedication, or exclusive of sidewalks and streets.) The above standards shall be followed, except where community goals, objectives, and policies are best furthered.

Objective 3: A community that is attractive and maintains a good image and small-town atmosphere.

- Policies - The City shall:

  h. Continue implementing and, where appropriate, expanding the boundaries of existing redevelopment plans, particularly in the downtown, and utilizing other programs and resources to reduce blight and improve the appearance and economic and spiritual vitality of various deteriorating areas or buildings.

n. Maintain the downtown area's pedestrian friendly atmosphere as a means of enhancing its social and economic vitality.

ii. Develop a downtown area "urban village" or livable cities concept, which would be based on mixed uses in an attractive, spirited, and functional arrangement, to best complement existing revitalization activities in the district, to capture positive spillover Metrolink Commuter Train Station benefits, to provide more medium and/or high-density housing, and to reduce vehicular trips.

Objective 4: Economic and social vitality in all areas of the community.

- Policies - The City shall:

f. Devote particular attention, through Redevelopment Agency and other efforts, to addressing the special characteristics and needs of the downtown and continue with ambitious physical improvement efforts and activities to attract more vibrant uses and therefore more people, to develop better links to the Metrolink Commuter Train Station, and to accommodate housing in mixed use complexes geared toward various population segments, such as working professionals and lower-income households.

k. Take full advantage of all potential economic benefits associated with the Metrolink Commuter Train Station.

Circulation Element

- Policies - The City shall:

1. Maintain and, where necessary and feasible, consider enhancements to downtown traffic, circulation, parking, and overall infrastructure, including, but not limited to, better synchronizing traffic signals, constructing more off street parking in deficient areas, improving parking lot security/lighting, and better, more clearly linking off-street parking to district businesses through sufficient signage and other strategies.

2. Continue to address the unique parking situation of the downtown by following special, applicable sections of the Zoning Ordinance and by continuing to support the downtown Parking District as a viable mechanism for the development and maintenance of parking.

3. If suitable, extend existing angled parking on Citrus Avenue beyond San Bernardino Road on the north to better compliment community goals and desires and ongoing revitalization and economic development activities.

4. Where appropriate, consider infrastructure and related enhancements to facilitate downtown pedestrian circulation, taking into account safety, lighting, pleasantness, adequacy, and accessibility for the disabled.

5. In analyzing and/or considering any changes to Citrus Avenue or other streets in the downtown, balance traffic and circulation matters with business and economic development needs and follow all applicable provisions of other Policy Areas of this Circulation Element, particularly Policy Area 1.

6. Continue accommodating, where appropriate, vibrant, quality, and pedestrian-oriented retail activities in the downtown to bolster district vitality, economic development, and revitalization but without over burdening parking, traffic, and circulation.

7. Consider accommodating appropriate mixed uses in and around the downtown, via "urban village" or livable cities concepts, as a means for, among other benefits, maximizing the efficiency and attractiveness of transit usage, reducing vehicle trips, and encouraging and facilitating pedestrian circulation.

8. Monitor and best exploit the traffic, circulation, and parking as well as land use impacts associated with the Metrolink Commuter Rail Station, particularly in relation to potential redevelopment of adjacent properties to more vibrant activities and pertaining to ongoing revitalization, beautification, and economic development in the heart of the downtown.

11. Concentrate, to the greatest extent practical, major developments and mixed uses in areas, centers, or clusters near or along transit corridors or adjoining bus stops or the Covina Metrolink Commuter Rail Station.

Housing Element

- *Policy 2.4.* The City of Covina shall, notwithstanding objectives and policies to minimize land use conflicts, consider mixed use housing as appropriate in and around the downtown to bolster existing downtown revitalization efforts and best take advantage of Metrolink Commuter Train Station impacts.
- *Policy 2.6.* The City of Covina shall monitor and best capitalize on possible land use intensification and other pressures associated with the new Metrolink Commuter Train Station.
- *Policy 3.17.* The City of Covina shall develop a downtown area "urban village" concept, within the parameters of the Town Center Specific Plan which will include mixed uses in an attractive, spirited, and functional arrangement, to best complement existing revitalization activities in the district, to capture positive spillover Metrolink Commuter Train Station benefits, and to provide more medium and/or high density housing.

City of Covina Bicycle Master Plan

The City of Covina Bicycle Master Plan (BMP) (Alta Planning + Design, 2011) provides a broad vision of actions and strategies to improve conditions for bicycling in the City and the surrounding region. The BMP recommends improvements and policies to increase the bicycling population; increase cyclists' trip frequency and distance; improve bicyclist, pedestrian and motorist safety; and increase public awareness and support for bicycling. In terms of infrastructure, the BMP provides direction for expanding the City's existing bikeway network and integrating the system into the surrounding countywide bikeway and public transit network. The system-wide approach for connecting gaps will ensure greater local and regional connectivity. In addition to providing recommendations and design guidelines for bikeways and support facilities, the BMP offers recommendations for education, encouragement, enforcement, and evaluation programs. The BMP identifies several proposed Class I, Class II, Class III bicycle facilities within the Project area.

Town Center Specific Plan

The Town Center Specific Plan (Cotton/Bridges/Associates, 2004) was adopted by the City in 2004. The overall goal of the Town Center Specific Plan is to facilitate revitalization of downtown Covina by increasing the number and variety of retail and other commercial establishments, increasing the number of housing units and residents in the downtown area, stimulating development on vacant infill and under-used properties, and improving public infrastructure, facilities, and services to support new development.

Guiding principles that have been included in the Specific Plan are:

- Return the focus of civic, social, and economic activity;
- Encourage more people to live downtown;
- Protect and build upon downtown's unique character;
- Provide ample public spaces for multiple uses; and
- Encourage people to leave their cars behind.

The Town Center Specific Plan implements the General Plan as it relates to the Specific Plan area, and implements other City policy documents and redevelopment policies for the downtown. The density requirements, development standards, land use restrictions, and changes to design guidelines included in this Specific Plan are intended to replace requirements of the City's Zoning Ordinance within the Specific Plan Area, where necessary, although the City's Subdivision Ordinance, Oak Tree Ordinance, Site Plan Review Process, Building Codes, and other citywide policies and regulations would continue to apply.

City of Covina Zoning Ordinance

The intent of the Covina Zoning Ordinance (City of Covina, 1964; 2017; 2018) is to promote and regulate development within the City of Covina and to promote and protect the public health, safety, comfort, and general welfare. The zoning ordinance identifies zoning districts and permitted land uses and development standards associated within each district. A description of the existing zoning districts within the Planning Area are provided below. It should be noted that the regulations governing development within the Town Center Specific Plan Zones (TCSP-1 through TCSP-6) are not included in the Zoning Ordinance but are located within the existing adopted Town Center Specific Plan (Cotton/Bridges/Associates, 2004). These zones are included in the Zoning Ordinance Map. Exhibit 4.10-2 shows the existing zoning for the Project area.

R-1 Residential Zone (7,500 SF Minimum Lot Size). This zone is intended to provide for the development of single-family residential homes with each lot having a minimum size of 7,500 square feet. The maximum land coverage within this district is 35 percent of the parcel area, and the maximum height is 2.5 stories or 35 feet (whichever is less).

RD-1250 Residential Zone (Multi-Family 1,250 SF Minimum Lot Size per Dwelling Unit). This zone is intended to provide for the development of multiple-family residential structures such as apartments, condominiums, townhouses, stock cooperatives and community apartments with a minimum parcel area of 7,200 square feet and a minimum of 1,250 square feet of parcel area per dwelling unit.

*RD-1500 Resid*ential Zone (*Multi-Family 1,500 SF Minimum Lot Size per Dwelling Unit).* This zone is intended to provide for the development of multiple-family residential structures such as apartments, condominiums, townhouses, stock cooperatives and community apartments with a minimum parcel area of 7,200 square feet and a minimum of 1,500 square feet of parcel area per dwelling unit.

C-P Commercial Zone (Administrative and Professional Office). The C-P commercial, administrative and professional office zone is intended to provide for the development of an integrated office and professional zone wherein all of the related types of uses and facilities may be located. Prohibited uses in this zone include residences and any combination of residential and nonresidential uses in any building or on any lot. There are no lot area or dimension provisions for this zone in the Municipal Code; the building height limit is 50 feet and may be taller with a conditional use permit.

C-5 Commercial Zone (Specified Highway). The C-5 zone is intended to provide for specified highway-related commercial uses. Prohibited uses in this zone include residences and any combination of residential and nonresidential uses in any building or on any lot. There are no lot area or dimension provisions for this zone in the Municipal Code; building height limit is 35 feet and may be taller with a conditional use permit.

M-1 Light Manufacturing. The M-1 light manufacturing zone is intended to provide for the development of industrial uses which include fabrication, manufacturing, assembly or processing of materials that are in already processed form. There are no lot area provisions for the M-1 zone; the building height limit is 50 feet and may be taller with a conditional use permit.

TC-P Town Center Medical and Professional Office. The TC-P zone is intended to provide a central location for the development of integrated medical and professional facilities and uses. No building shall exceed a height of four stories except by conditional use permit.

TC-C Town Center Commercial. The TC-C zone is intended to serve as a general commercial trading area, emphasizing unique services and specialty shops which preserve the character of the town center and promote a pedestrian-oriented environment. No building shall exceed a height of four stories except by conditional use permit.

TCSP-1 Town Center Specific Plan (Health Services). This designation is intended to provide the opportunity to develop and operate land uses associated with health services, including medical, dental, optometry, research laboratories, chiropractic, and related services in the area surrounding the Citrus Valley Medical Center. Businesses that support health care services would also be permitted, such as retail, food service, and other commercial establishments that primarily serve health care workers, health care businesses, and employees of supportive businesses. This designation also provides the opportunity to mix residential uses (which might occur on upper floors of a multi-story building) with medical office uses, which could occur at the ground level or second level. Stand-alone residential development is not permitted. The allowable density for proposed nonresidential uses adjacent to any existing single-family residential dwelling unit is 1.5 FAR, while the nonresidential density range for properties not adjacent to a single-family residential dwelling unit is between 1.5 and 3.0 FAR. The residential density range in this area is 15 to 35 units per acre. Mixed-use project density limits are calculated based on FAR including all uses' floor area.

TCSP-2 Town Center Specific Plan (Residential). This designation is intended to provide the opportunity maintain and develop housing at medium to high densities (generally 15 to 25

dwelling units per acre) and associated land uses, with an opportunity for 30 dwelling units per acre on a conditional basis. Nonresidential land uses intended to support downtown residential development would also be permitted as a part of a mixed-use development project. Minimum lot size is 5,000 square feet and buildings are not to exceed 35 feet without a conditional use permit.

TCSP-3 Town Center Specific Plan (Institutional Use). This land use designation is intended to provide the opportunity to develop and operate City and other government agency offices and facilities, transit offices and facilities, parking facilities, churches, community centers, and other related public and nonprofit institutional land uses. This designation also provides the opportunity to mix residential uses (which might occur on upper floors of a multi-story building) with institutional or other appropriate uses, which could occur at the ground level or second level. Nonresidential development that supports the institutional uses that are the primary land use in this area would also be permitted. The allowable density for properties adjacent to existing single-family residential dwelling units is 1.5 FAR, while the density for the rest of this area is between 1.0 and 2.0 FAR. The residential density range in this area is 15 to 35 units per acre. Mixed-use project density limits are calculated based on FAR including all uses' floor area. Building heights would not exceed 40 feet.

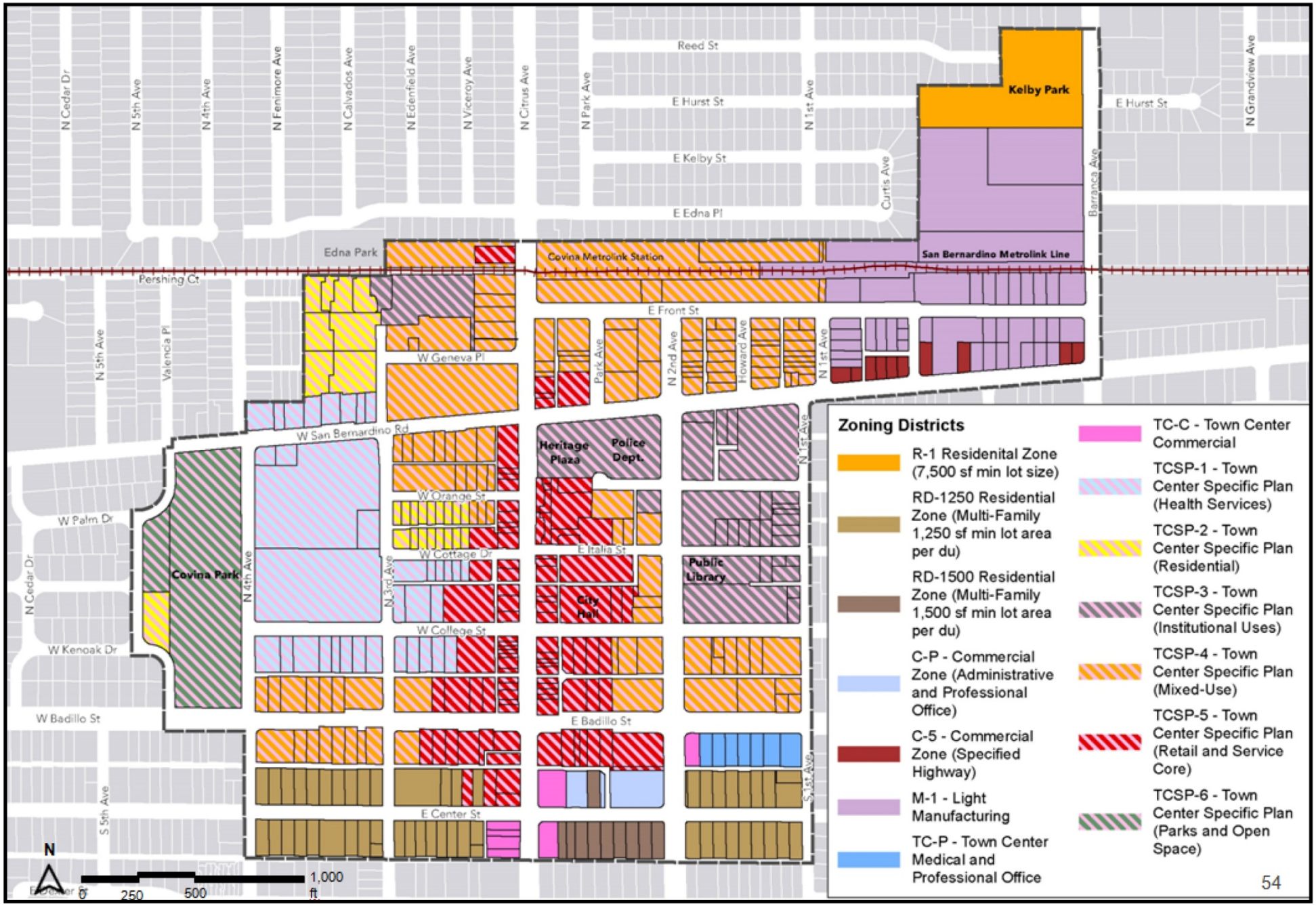

Exhibit 4.10-2 Existing Zoning

Covina Town Center Specific Plan Update
Covina, California

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TCSP-4 Town Center Specific Plan (Mixed-Use). This designation does not assume any particular predominant land use, and rather provides the opportunity to develop and redevelop property within key development opportunity areas with a finely-grained mixing of land uses. This land use designation is intended for retail, light industrial, cultural and entertainment, and residential development, with an emphasis on mixing of uses on properties, within buildings, and within blocks, as compatibility allows, though single-use development projects would also be allowed, subject to City review and approval. This designation provides the opportunity to mix residential uses (which might occur on upper floors of a multi-story building) with retail, office, or other appropriate uses, which could occur at the ground level or second level. This area also provides the opportunity to mix commercial land uses of different types. The allowable density for properties adjacent to any existing single-family residential dwelling unit is 1.5 FAR, while the density for the rest of this area is between 2.0 and 2.5 FAR. The residential density range in this area is generally 15 to 35 units per acre. Mixed-use projects density limits are calculated based on FAR including all uses' floor area.

TCSP-5 Town Center Specific Plan (Retail and Service Core). This land use designation is intended to provide the opportunity to develop and operate retail stores, services, restaurants, cultural and entertainment venues, and similar land uses within the historic cultural and economic core of the city. City policies seek to protect significant historic buildings in this area while encouraging compatible new development on vacant or underutilized properties. This designation provides the opportunity to mix residential uses (which might occur on upper floors of a multi-story building) with retail, restaurant, or other appropriate uses, which could occur at the ground level or second level. This area also provides the opportunity to mix commercial land uses of different types. The density range for nonresidential uses is between 2.0 and 3.0 FAR. The residential density range in this area is 20 to 40 units per acre. Mixed-use projects density limits are calculated based on FAR including all uses' floor area.

TCSP-6 Town Center Specific Plan (Parks and Open Space). This land use designation is intended to provide passive and active recreational opportunities and places for public events and gatherings associated with publicly owned and maintained open space within the Specific Plan Area. Accessory buildings and structures associated with recreation and public events are also permitted in the area.

2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) (Southern California Association of Governments, 2016) is a long-term vision of how the region will address regional transportation and land use challenges and opportunities. The 2016 RTP/SCS identifies goals, which are intended to help carry out the vision for improved mobility, a strong economy and sustainability. The guiding policies for the 2016 RTP/SCS are intended to help focus future investments on the best-performing projects and strategies to preserve, maintain and optimize the performance of the existing transportation system.

4.10.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to land use and planning if it would:

a) Physically divide an established community;

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or

c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.10.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to land use and planning which could result from the implementation of the project and recommends mitigation measures as needed to reduce significant impacts.

Divide an Established Community

Impact LU-1 – Would the Project physically divide an established community?

Analysis of Impacts

The physical division of an established community typically refers to the construction of a physical feature (such as a highway) or the removal of a means of access (such as a bridge) that would impede or restrict movements within a community. Implementation of the Specific Plan would result in an increase in development within the Town Center area. The Specific Plan identifies recommended infrastructure improvements intended to facilitate circulation into and within the Planning Area. These recommended infrastructure improvements include:

- *Metrolink Covina Station Concept.* Improving connectivity between the Metrolink Covina Station and Town Center by: widening sidewalks/curb extensions; installing crosswalks at the North Citrus Avenue/East Front Street and North Citrus Avenue/Covina Station intersections; installing a “leading pedestrian interval” at the North Citrus Avenue/East Front Street intersection; and installing bicycle and streetscape improvements.
- *Citrus Avenue Concept.* Enhance pedestrian experience on this street by installing: curb extensions/bulbouts, crosswalks, mid-block crossing, and pedestrian signals at select locations.
- *North 2nd Avenue Concept.* Increase public use of this space by: making roadway modifications to enhance pedestrian use; installing additional transit amenities; and establishing a pedestrian plaza at the North 2nd Avenue/East Italia Street intersection.
- *East Front Street Concept.* Increase pedestrian use by: completing noncontiguous sidewalks; installing curb extensions and bulbouts at East Front Street/North 2nd Avenue intersection; and installing bicycle improvements.
- *Health Corridor Concept: North 3rd Avenue, West Cottage Drive, and West College Street.* Improve pedestrian connectivity by installing at identified locations: curb extensions/bulbouts; mid-block crosswalks; roadway narrowing; and a pedestrian plaza.
- *Badillo Street and East San Bernardino Road.* Install bike facilities.

In addition to the improvements listed above, the Specific Plan Update has measures to generally improve pedestrian, bicycle and transit operations within the Planning Area. Implementation of the Specific Plan Update will improve pedestrian, bicycle and transit

connectivity. The proposed project will encourage multi-modal movement within the Project area and would not physically divide an established community.

Level of Significance Before Mitigation

Less than Significant

Mitigation Measures

No mitigation is required

Conflict with Plans, Policies or Regulations

Impact LU-2 – Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Analysis of Impacts

Implementation of the Specific Plan Update would result in net increase of approximately 448,800 square feet of non-residential uses and 259 additional dwelling units. The location and intensity of new development would be in accordance with the designation and policies detailed in the Specific Plan and in accordance with the City General Plan objectives and policies and support the vision outlined in the City's General Plan. The General Plan Land Use Element identifies the following five land use objectives:

1. A climate where moderate residential, commercial, and industrial development and redevelopment are accommodated.

2. An adequate amount and distribution of and compatibility of adjacent land uses throughout the community.

3. A community that is attractive and maintains a good image and small-town atmosphere.

4. Economic and social vitality in all areas of the community.

5. The provision of sufficient public facilities and services.

Implementation of the Specific Plan Update would promote these objectives. In addition, the Specific Plan Update directly supports numerous General Plan policies to support downtown revitalization through redevelopment linked to the mobility advantages provided by the Covina transit station; see in particular Policies 15 and 22 (Objective 1), Policies 6, 8, 11 and 13 (Objective 2), Policy ii) (Objective 3), and Policies f. and k. (Objective 4),

The Specific Plan Update is consistent with the General Plan's objectives and policies for development in this area identified under Section 10.2 (Regulatory Framework) of this Chapter. The Project is also consistent with the long-term vision of the 2016-2040 RTP/SCS as to how the region will address regional transportation and land use challenges and opportunities, and is directly supportive of RTP/SCS goals of reducing vehicle trips, vehicle miles travelled and associate Greenhouse Gas reductions. The Specific Plan would not conflict with a land use policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Level of Significance Before Mitigation

Less than Significant.

Mitigation Measures

No Mitigation is required.

Conflict with Applicable Habitat Conservation Plan

Impact LU-3 – Would the Project conflict with any applicable habitat conservation plan or natural community conservation plan?

Analysis of Impacts

The project area is within an urban and developed area within downtown Covina. There are no Habitat Conservation Plans or Natural Community Conservation Plans that are applicable to Project area. Implementation of the proposed project would not conflict with the provisions of an adopted habitat conservation plan.

Level of Significance Before Mitigation

No Impact.

Mitigation Measures

No mitigation is required

Land Use and Planning Cumulative Impacts

The Project would not divide the physically established downtown community as described in the narrative under impact LU-1 above. The Project would not conflict with any plans, policies or regulations adopted for the purpose of avoiding or mitigating an environmental effect, including the RTP/SCS. The Project is consistent with applicable plans, policies and regulations and would not therefore contribute to such cumulative impacts. The project is located completely within an urbanized area and has no potential to negatively impact Habitat Conservation Plans or Natural Community Conservation Plans because no such plans border or are near the Planning Area.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required

4.10.5 REFERENCES

Alta Planning + Design, 2011. *City of Covina Bicycle Master Plan, Final Draft,* September.

City of Covina, 2018. *Covina Municipal Code, Title 17, Zoning, October 2.*

Cotton/Bridges/Associates, 2004. *Covina Town Center Specific Plan,* 2004.

Covina Community Development Department, Planning Division Staff, 2000. *Covina General Plan,* April 18.

Southern California Association of Governments, 2016. *The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy,* April.

4.11 Mineral Resources

This EIR chapter addresses mineral resources impacts associated with Covina Town Center Specific Plan Update. Issues of interest are mineral resources impacts identified by the CEQA Guidelines: whether the Project will cause a substantial adverse change to mineral resources or locally important mineral resource recovery sites as a result of adoption of the proposed Covina Town Center Specific Plan Update.

4.11.1 ENVIRONMENTAL SETTING

Minerals refer to aggregate resources, or rock, sand, and gravel, energy-producing fields, including oil, gas, and geothermal substances, and appurtenant mining operations. There are presently no mining activities in the City of Covina (City) (City of Covina 2000). Additionally, the State Division of Oil and Gas has indicated that there are no significant energy-producing minerals—or oil, gas, or geothermal fields—in the City (City of Covina 2000). The Planning Area is primarily comprised of commercial, residential medical office, institutional, industrial, and open space uses. There is minimal vacant land within the Planning Area; generally representing infill sites.

According to mineral-related State information on file with the City's Planning Division, two subsurface areas outside of the Planning Area in northern Covina probably contain certain mineral deposits. However, State officials presently have declared the areas insignificant because urbanization and potentially negative incursions preclude any extraction (City of Covina 2000).

4.11.2 REGULATORY FRAMEWORK

Federal

There are no federal regulations regarding mineral resources applicable to the Town Center Specific Plan Update Planning Area.

State

Surface Mining and Reclamation Act: California Public Resources Code Sections 2710 et seq.

The Surface and Mining and Reclamation Act of 1975 (SMARA) is the primary regulator of onshore surface mining in the State. It delegates specific regulatory authority to local jurisdictions. The Act requires the California Geological Survey to identify all mineral deposits within the State and to classify them as: (1) containing little or no mineral deposits; (2) containing significant deposits; or (3) deposits identified, but further evaluation is need. Lands where such deposits are identified are designated Mineral Resource Zone 1, 2, 3, or 4, respectively. Local jurisdictions are required to enact specific procedures to guide mineral conservation and extraction at particular sites and to incorporate mineral resource management policies into their general plans. A particular concern of state legislators in enacting SMARA was

the premature loss of minerals and protection of sites threatened by development practices that might preclude future mineral extraction.

Mineral Resource Classification

The California Geological Survey Mineral Resources Project provides information about California's nonfuel mineral resources. The Mineral Resources Project classifies lands throughout the State that contain regionally significant mineral resources as mandated by the Surface Mining and Reclamation Act (SMARA) of 1975. Nonfuel mineral resources include metals such as gold, silver, iron, and copper; industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt and dimension stone; and construction aggregate including sand, gravel, and crushed stone. Development generally results in a demand for minerals, especially construction aggregate. Urban preemption of prime deposits and conflicts between mining and other uses throughout California led to passage of the SMARA, which requires all cities and counties to incorporate in their general plans the mapped designations approved by the State Mining and Geology Board.

Local

City of Covina General Plan

The City's General Plan Natural Resources and Open Space Element states that there are presently no mining activities in the City and none are expected in the future because of Covina's built-out character, land use restriction, and the potentially negative environmental and "quality of life" impacts (e.g., noise, dust, and heavy truck traffic) associated with such operations. Additionally, the City's Zoning Ordinance prohibits the extraction or production of aggregates (City of Covina 2000). As such, there are no relevant goals and policies related to mineral resources applicable to the proposed project.

4.11.3 SIGNIFICANCE THRESHOLDS

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), and will be used to determine the significance of potential mineral resources impacts. Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to mineral resources if it would:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

4.11.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related mineral resources, which could result from the implementation of the project and recommends mitigation measures as needed to reduce significant impacts.

Known Mineral Resources

a) Would the proposed project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Analysis of Impacts

According to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, there are no oil, gas, geothermal, or other known wells located within the project area (DOGGR 2018). As such, the Town Center Specific Plan Update would not have the potential to interfere with extraction of oil, gas, or geothermal resources.

The Planning Area is located within the San Gabriel Production-Consumption Region for Portland Cement Concrete–grade aggregate resources, as mapped by the Department of Conservation (DOC) (2018a). The DOC has mapped the Planning Area within Mineral Resource Zone 2 for aggregate resources. Mineral Resource Zone 2 is a designation given to areas where geologic data indicate that significant Portland Cement Concrete Grade (PCC-Grade) aggregate resources are present (DOC 2018a). However, according to the San Gabriel Valley P-C Region Showing Designated Sectors and Boundaries of Active Mine Operations figure and the Updated Aggregate Resource Sector Map for Portland Cement Concrete-Grade Aggregate in the San Gabriel Valley Production District figure, the Planning Area is not located in an area containing active aggregate operation or containing regionally significant PCC-Grade aggregate resources (DOC 2018b). The Planning Area is an urbanized area of the City and does not support any mineral extraction activities as it is currently built out with commercial, residential, medical office, institutional, industrial, and open space/recreational uses. Since the Planning Area is currently built out with urban uses, and because there is an absence of known, significant mineral resources as mapped by the State, adoption of the Town Center Specific Plan Update is not anticipated to result in the loss of availability of a known mineral resource of value to the region and residents of the State.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required

Mineral Resource Recovery Sites

b) Would the proposed project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Analysis of Impacts

The General Plan states that there are no mining activities within the City and states that none are expected to occur in the future because of the City's built-out nature, land use restrictions, and the potential for land use conflicts such as noise and dust. Furthermore, the City's Zoning Ordinance prohibits the extraction or production of aggregates. The General Plan discusses two sites in the northern portion of the City that were identified by the State as potentially containing mineral deposits. However, the State declared these areas insignificant due to urbanization and potentially negative incursions that would preclude extraction (City of Covina 2000). According to the San Gabriel Valley P-C Region Showing Designated Sectors and Boundaries of Active Mine Operations figure and the Updated Aggregate Resource Sector Map for Portland Cement Concrete-Grade Aggregate in the San Gabriel Valley Production District figure, the Planning Area is not located in an area containing active aggregate operation or containing regionally significant PCC-Grade aggregate resources (DOC 2018b). The Planning Area is an urbanized area of the City and does not support any mineral extraction activities as it is currently built out with commercial, residential, medical office, institutional, industrial, and open space/recreational uses. For these reasons, adoption of the Town Center Specific Plan Update would not result in the loss of availability of a known locally important mineral resource.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Mineral Resources Cumulative Impacts

Would the project cause substantial adverse cumulative impacts with respect to mineral resources?

The proposed Town Center Specific Plan Update would not result in any impacts related to mineral resources. Because of the developed nature of the Planning Area, and because the Specific Plan Update would not impact mineral resources, there would also be no cumulative impacts with respect to mineral resources.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

4.11.5 REFERENCES

City of Covina. 2000. Covina General Plan Natural Resources and Open Space Element. Accessed December 27, 2018: http://www.covinaca.gov/sites/default/files/fileattachments/planning_commission/page/1073/natural_resources_and_open_space.pdf.

Department of Conservation (DOC). 2018a. California Geological Survey Warehouse: Mineral Land Classification. Accessed December 27, 2018: http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc.

DOC. 2018b. San Gabriel Valley P-C Region Showing Designated Sectors and Boundaries of Active Mine Operations and Updated Aggregate Resources Sector Map for Portland Cement Concrete-Grade Aggregate in the San Gabriel Valley Production District, Los Angeles County, California. Accessed December 27, 2018: ftp://ftp.consrv.ca.gov/pub/ dmg/pubs/sr/SR_209/.

DOGGR (California Department of Conservation, Division of Oil, Gas, and Geothermal Resources). 2018. DOGGR Well Finder. Accessed December 27, 2018. http://maps.conservation.ca.gov/doggr/index.html#close.

4.12 Noise

This chapter of the EIR provides pertinent background information on the nature of sound and vibration transmission, describes the existing noise environment in the Project Area, summarizes applicable noise guidelines, standards, and regulations, evaluates potential noise impacts that could result from the Project and, where necessary, includes mitigation measures that would avoid or reduce noise and vibration impacts associated with the proposed Covina Town Center Specific Plan.

4.12.1 ENVIRONMENTAL SETTING

Fundamentals of Environmental Acoustics

Noise is generally defined as unwanted sound and is widely recognized as a form of environmental degradation. Airborne sound is the rapid fluctuation of air pressure above and below atmospheric pressure. The frequency (pitch), amplitude (intensity or loudness), and duration of a sound all contribute to the effect on a listener, or receptor, and whether or not the receptor perceives the sound as “noisy” or annoying.

Pitch is the height or depth of a tone or sound and depends on the frequency of the vibrations by which it is produced. Sound frequency is expressed in terms of cycles per second, or Hertz (Hz). Humans generally hear sounds with frequencies between 20 and 20,000 Hz and perceive higher frequency sounds, or high pitch noise, as louder than low-frequency sound or sounds low in pitch. Sound intensity or loudness is a function of the amplitude of the pressure wave generated by a noise source combined with the reception characteristics of the human ear. Atmospheric factors and obstructions between the noise source and receptor also affect the loudness perceived by the receptor. Sound pressure levels are typically expressed on a logarithmic scale in terms of decibels (dB). A dB is a unit of measurement that indicates the relative amplitude (i.e., intensity or loudness) of a sound, with 0 dB corresponding roughly to the threshold of hearing for the healthy, unimpaired human ear.

Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dBs represents a ten-fold increase in acoustic energy, while 20 dBs is 100 times more intense, 30 dBs is 1,000 times more intense, etc. In general, there is a relationship between the subjective noisiness or loudness of a sound and its intensity, with each 10 dB increase in sound level perceived as approximately a doubling of loudness. Due to the logarithmic basis, decibels cannot be directly added or subtracted together using common arithmetic operations:

$$50\ decibels + 50\ decibels\ \neq 100\ decibels$$

Instead, the combined sound level from two or more sources must be combined logarithmically. For example, if one noise source produces a sound power level of 50 dBA, two of the same sources would combine to produce 53 dB as shown below.

$$10 * \ 10\ log\left(10^{\left(\frac{50}{10}\right)} + \ 10^{\left(\frac{50}{10}\right)}\right) \ = 53\ decibels$$

In general, when one source is 10 dB higher than another source, the quieter source does not add to the sound levels produced by the louder source because the louder source contains ten times more sound energy than the quieter source.

Sound Characterization

Although humans generally can hear sounds with frequencies between 20 and 20,000 Hz most of the sounds humans are normally exposed to do not consist of a single frequency, but rather a broad range of frequencies perceived differently by the human ear. In general, humans are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. Instruments used to measure sound, therefore, include an electrical filter that enables the instrument's detectors to replicate human hearing. This filter, known as the "A-weighting" or "A-weighted sound level" filters low and very high frequencies, giving greater weight to the frequencies of sound to which the human ear is typically most sensitive. Most environmental measurements are reported in dBA, meaning decibels on the A-scale. See Table 4.12-1 for a list common noise sources and their A-weighted noise levels.

Sound levels are usually not steady and vary over time. Therefore, a method for describing either the average character of the sound or the statistical behavior of the variations over a period of time is necessary. The continuous equivalent noise level (L_{eq}) descriptor is used to represent the average character of the sound over a period of time. The L_{eq} represents the level of steady-state noise that would have the same acoustical energy as the sum of the time-varying noise measured over a given time period. L_{eq} is useful for evaluating shorter time periods over the course of a day. The most common L_{eq} averaging period is hourly, but L_{eq} can describe any series of noise events over a given time period.

Variable noise levels are the values that are exceed for a portion of the measured time period. Thus, the L_{01}, L_{10}, L_{50}, and L_{90} descriptors represent the sound levels exceeded 1%, 10%, 50%, and 90% of the time the measurement was performed. The L_{90} value usually corresponds to the background sound level at the measurement location.

When considering environmental noise, it is important to account for the different responses people have to daytime and nighttime noise. In general, during the nighttime, background noise levels are generally quieter than during the daytime but also more noticeable due to the fact that household noise has decreased as people begin to retire and sleep. Noise exposure over the course of an entire day is described by the day/night average sound level, DNL (or L_{dn}), and the community noise equivalent level, or CNEL, descriptors. Both descriptors represent the 24-hour noise exposure in a community or area. For DNL, the 24-hour day is divided into a 15-hour daytime period (7 AM to 10 PM) and a 9-hour nighttime period (10 PM to 7 AM) and a 10 dB "penalty" is added to measure nighttime noise levels when calculating the 24-hour average noise level. For example, a 45 dBA nighttime sound level would contribute as much to the overall day-night average as a 55 dBA daytime sound level. The CNEL descriptor is similar to DNL, except that it includes an additional 5 dBA penalty for noise events that occur during the evening time period (7 PM to 10 PM). The artificial penalties imposed during DNL and CNEL calculations are intended to account for a receptor's increased sensitivity to noise levels during quieter nighttime periods.

Table 4.12-1:
Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet flyover at 1,000 feet	105	
	100	
Gas lawn mower at 3 feet	95	
	90	
Diesel truck at 50 feet at 50 mph	85	Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noise urban area, daytime	75	
Gas lawnmower, 100 feet	70	Vacuum cleaner at 10 feet
Commercial area	65	Normal speech at 3 feet
Heavy traffic at 300 feet	60	
	55	Large business office
Quiet urban daytime	50	Dishwasher next room
	45	
Quiet urban nighttime	40	Theater, large conference room
Quiet suburban nighttime	35	
	30	Library
Quite rural nighttime	25	Bedroom at night
	20	
	15	Broadcast/recording studio
	10	
	5	
Typical threshold of human hearing	0	Typical threshold of human hearing
Source: Caltrans 2013a		

Sound Propagation

The energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out and travels away from the noise generating source. The strength of the source is often characterized by its “sound power level.” Sound power level is independent of the distance a receiver is from the source and is a property of the source alone. Knowing the sound power level of an idealized source and its distance from a receiver, the sound pressure level at a specific point (e.g., a property line or a receiver) can be calculated based on geometrical spreading and attenuation (noise reduction) as a result of distance and environmental factors, such as ground cover (asphalt vs. grass or trees), atmospheric absorption, and shielding by terrain or barriers.

For an ideal “point” source of sound, such as mechanical equipment, the energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out in a spherical pattern and travels away from the point source. Theoretically, the sound level attenuates, or decreases, by 6 dB with each doubling of distance from the point source. In contrast, a “line” source of sound, such as roadway traffic or a rail line, spreads out in a cylindrical pattern and theoretically attenuates by 3 dB with each doubling of distance from the

line source; however, the sound level at a receptor location can be modified further by additional factors. The first is the presence of a reflecting plane such as the ground. For hard ground, a reflecting plane typically increases A-weighted sound pressure levels by 3 dB. If some of the reflected sound is absorbed by the surface, this increase will be less than 3 dB. Other factors affecting the predicted sound pressure level are often lumped together into a term called "excess attenuation." Excess attenuation is the amount of additional attenuation that occurs beyond simple spherical or cylindrical spreading. For sound propagation outdoors, there is almost always excess attenuation, producing lower levels than what would be predicted by spherical or cylindrical spreading. Some examples include attenuation by sound absorption in air; attenuation by barriers; attenuation by rain, sleet, snow, or fog; attenuation by grass, shrubbery, and trees; and attenuation from shadow zones created by wind and temperature gradients. Under certain meteorological conditions, like fog and low-level clouds, some of these excess attenuation mechanisms are reduced or eliminated due to noise reflection.

Noise Effects

Noise effects on human beings are generally categorized as:

- Subjective effects of annoyance, nuisance, and/or dissatisfaction
- Interference with activities such as speech, sleep, learning, or relaxing
- Physiological effects such as startling and hearing loss

Most environmental noise levels produce subjective or interference effects; physiological effects are usually limited to high noise environments such as industrial manufacturing facilities or airports.

Predicting the subjective and interference effects of noise is difficult due to the wide variation in individual thresholds of annoyance and past experiences with noise; however, an accepted method to determine a person's subjective reaction to a new noise source is to compare it the existing environment without the noise source, or the "ambient" noise environment. In general, the more a new noise source exceeds the ambient noise level, the more likely it is to be considered annoying and to disturb normal activities.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness that would almost certainly cause an adverse response from community noise receptors.

Groundborne Vibration and Noise

Vibration is the movement of particles within a medium or object such as the ground or a building. Vibration may be caused by natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or humans (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources are usually characterized as continuous, such as factory machinery, or transient, such as explosions.

As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency; however, unlike airborne sound, there is no standard way of measuring and reporting

amplitude. Vibration amplitudes can be expressed in terms of velocity (inches per second) or discussed in dB units in order to compress the range of numbers required to describe vibration. Vibration impacts to buildings are usually discussed in terms of peak particle velocity (PPV) in inches per second (in/sec). PPV represents the maximum instantaneous positive or negative peak of a vibration signal and is most appropriate for evaluating the potential for building damage. Vibration can impact people, structures, and sensitive equipment. The primary concern related to vibration and people is the potential to annoy those working and residing in the area. Vibration with high enough amplitudes can damage structures (such as crack plaster or destroy windows). Ground-borne vibration can also disrupt the use of sensitive medical and scientific instruments, such as electron microscopes.

Common sources of vibration within communities include construction activities and railroads. Ground-borne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities. Next to pile driving, grading activity has the greatest potential for vibration impacts if large bulldozers, large trucks, or other heavy equipment are used.

Groundborne noise is noise generated by vibrating building surfaces such as floors, walls, and ceilings that radiate noise inside buildings subjected to an external source of vibration. The vibration level, the acoustic radiation of the vibrating element, and the acoustical absorption of the room are all factors that affect potential groundborne noise generation.

Existing Noise and Vibration Environment

Located in the central part of the City of Covina, the proposed Project Area is generally configured in an east-west orientation; a combination of key major and minor roads generally bound the proposed Project Area on the east and west (e.g., Barranca Avenue and 1st Avenue on the east, 4th Street and Valencia Place on the west) while less prominent and identifiable features form the Project Area's northern and southern boundaries (e.g., an alley approximately 200 feet south of Center Street to the south and a property line approximately 125 feet north of the Metrolink Rail Line and Kelby Park to the north). A mix of commercial, industrial, residential, institutional, and open space uses are present in the proposed Project Area. Well-established residential neighborhoods generally border the Project Area on all sides.

The proposed Project Area includes the City's Metrolink Station (addressed at 600 North Citrus Avenue). The Metrolink San Bernardino Line runs in an east-west direction through the northern part of the Project Area. The closest airport to the project area is Brackett Field Airport, located approximately 5.6 miles east of the Project Area.

The City's General Plan Noise Element provides that Covina has a relatively high percentage of commercial and industrial areas. These land uses contribute to the City's strong, diverse economic base, and located in proximity to residential land uses, which makes certain neighborhoods in the city susceptible to noise problems. Chapter 2 of the Noise Element identifies the following major noise sources in the City:

1. San Bernardino Freeway
2. Primary and Secondary Arterial Streets (as classified under previous General Plan)
3. Metrolink Commuter Rail Line
4. Aircraft Overflights
5. Commercial and Industrial Activities
6. Various Stationary Sources

The General Plan specifically identifies the following streets in the Planning area as some of the busiest/noisiest streets in the city: Citrus Avenue, Barranca Avenue, San Bernardino Road, and Badillo Street. Noise complaints from residential land uses along the Metrolink line have also been reported.

Since the City's General Plan Noise Element was prepared in 2000 and evaluated noise levels for Year 2010 conditions, additional noise monitoring was conducted in 2018 to accurately describe existing noise levels and sources in the Planning Area at the time of this EIR's preparation. The existing ambient noise and vibration environment at and near the project area is described in more detail below.

Measured Ambient Noise Levels

The existing ambient noise levels in the project area were monitored in October 2018 (MIG 2018; see Appendix D). Ambient noise levels were measured with two Larson Davis SoundTrack LxT Type 1 sound level meters; ambient noise measurements were collected in 10-minute intervals. Conditions during the monitoring were generally clear and sunny during the daytime, with a daily high of approximately 75 degrees Fahrenheit, with winds light and variable.

The ambient noise monitoring conducted for this EIR included four short-term (ST) and one long-term (LT) measurements at locations selected to:

- Provide direct observations of existing noise sources at and in the vicinity of the proposed Project Area;
- Determine typical ambient noise levels at and in the vicinity of the proposed Project Area; and
- Evaluate potential project noise levels at nearby sensitive receptors (see" Noise Sensitive Receptors" below).

The ambient noise monitoring locations are shown on Exhibit 4.12-1 and described below.

- **Location ST-1** was at the intersection of West San Bernardino Road and North Citrus Avenue, generally in the center of the Planning Area. The ambient noise levels measured at location ST-1 are considered representative of background daytime noise levels associated with traffic at the Heritage Plaza, and intermittent construction activities (e.g., jack hammering) approximately 1,000 – 2,000 feet from the monitoring location. A firetruck also passed the meter during the last 10 minutes of the monitoring.

- **Location ST-2** was at the intersection of West College Street and North 1st Avenue, along the eastern border of the Planning Area. The ambient noise levels measured at location ST-2 are considered representative of background daytime noise levels in the Civic/Cultural Core and traffic noise in the area.

- **Location ST-3** was at the intersection of East Center Street and South 2nd Street, in the southwestern portion of the Planning Area. The ambient noise levels measured at ST-3 are considered representative of the background daytime noise levels in the Center Street Neighborhood, a residential area in the Planning Area.

Not to Scale

Exhibit 4.12-1 Ambient Noise Monitoring Locations

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- **Location ST-4** was at the intersection of Badillo Street and North Citrus Avenue, in the southern portion of the Planning Area. The ambient noise levels measured at location ST-4 are considered representative of the background daytime noise levels associated with traffic along Citrus Avenue during the beginning of afternoon rush hour traffic.

- **Location LT-1** was at the intersection of East Front Street and North Curtis Avenue, in the northeastern portion of the Planning Area. The ambient noise levels measured at location LT-1 are considered representative of 24-hour noise exposure levels in the light industrial potion of the project area, near the Metrolink rail line.

Based on observations made during the ambient noise monitoring, the existing noise environment in the project vicinity consists primarily of transportation noise sources, particularly vehicular traffic on main thoroughfares (e.g., West San Bernardino Road and North Citrus Avenue), rail noise from Metrolink operation, and light industrial/commercial noise in the northeastern portion of the Planning Area. Table 4.12-2 summarizes the results of the ambient noise monitoring conducted for this EIR.

Table 4.12-2:
Existing Ambient Noise Levels in the Project Area (dBA

Monitoring Site	Duration	Lmin	Lmax	Leq Range			DNL
				Daytime (7 AM - 7 PM)	Evening (7 PM - 10 PM)	Nighttime (10 PM - 7 AM)	
ST-1	30 Minutes	52.9	95.0	68.2 – 75.9	N/A(A)	N/A(A)	N/A(A)
ST-2	30 Minutes	40.9	80.6	51.9 – 58.2	N/A(A)	N/A(A)	N/A(A)
ST-3	30 Minutes	49.0	83.4	64.8 – 66.3	N/A(A)	N/A(A)	N/A(A)
ST-4	30 Minutes	60.3	85.5	71.2 – 71.9	N/A(A)	N/A(A)	N/A(A)
LT-1	24-Hours	38.0	95.0	57.5 – 65.3	56.9 – 59.6	45.1 – 61.9	63.3

Source: MIG 2018 (see Appendix D)
(A) Data is not available for these noise metrics because noise data was not collected for the time period in question or the noise metric was not available for use in this table.

Existing Metrolink Noise and Vibration Levels

The northern portion of the proposed Project Area is bisected by the Metrolink rail corridor. Rail-related noise comes from several potential sources. A locomotive engine's propulsion system generates noise from mechanical and electrical systems. The interaction of wheels with the track produces various noises, particularly where the wheel encounters a flaw or defect along smooth wheel / track surfaces. Finally, train horn or bells and railroad crossing warning devices generate short but loud alerts pursuant to federal safety regulations.

The Metrolink San Bernardino Line is a commuter rail line with eastbound and westbound service at the Covina Station every 19 to 37 minutes Monday to Friday, with peak hourly weekday activity occurring during the AM and PM commuter periods. During these periods, approximately four Metrolink trains can pull into the station per hour. There are approximately 38 Metrolink trains that pull into the station on a weekday basis, 20 trains during Saturday service, and 14 trains during Sunday service. Weekday service runs for approximately 18 hours per day and weekend service for approximately 12-17 hours per day. The Metrolink rail line crosses North Citrus Avenue and Barranca Avenue at grade, with guards and warning bells

provided for safety. In addition to the Metrolink trains, four freight trains also pass through the Planning Area on a daily basis.

Existing railroad noise levels were computed using the Federal Railroad Administration's Noise Impact Assessment Spreadsheet, which is based on noise calculation methods contained in the FTA's Transit Noise and Impact Assessment document. The model uses the train operating characteristics (locomotive type, speed, trains per daytime and nighttime) and crossing information to compute hourly and 24-hour traffic noise levels. At a distance of 10 feet from the rail corridor, the approximate distance from the rail to nearly property boundaries, estimated daytime noise levels from the Metrolink approach approximately 66 dBA Leq (1-hour) and approximately 71 dBA DNL. In addition, horn blasts can cause noise levels to reach approximately 90 dBA Lmax (see Appendix D; FTA 2018).

Vibration levels associated with Metrolink corridor were estimated using the Federal Transit Administration's *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). Based on equation 6-1 as adjusted by equation 6-4 r of the FTA's guidance manual, the Metrolink is estimated to generate groundborne vibration levels of approximately 87 VdB (0.021 in/sec PPV) at 10 feet from the rail centerline, the distance from the rail's centerline to the nearest property boundary on either side of the corridor.

Noise Sensitive Receptors

Noise sensitive receptors are buildings or areas where unwanted sound or increases in sound may have an adverse effect on people or land uses. Residential areas, motels and hotels, hospitals and health care facilities, school facilities, and parks are examples of noise receptors that could be sensitive to changes in existing environmental noise levels. Table 4.12-3 summarizes the noise sensitive receptors in proximity of the proposed project area.

Table 4.12-3:
Sensitive Receptor Locations

Receptor	Land Use	Direction / Location	Distance From Planning Area[(A)]
R-1A	Single- and Multi-Family Residential	Southeastern portion of the Planning Area, along East Center Street and immediately adjacent to Planning Area on North 1st Avenue and alley between East Center Street and Dexter Street	Within and approximately 40 feet from the Planning Area boundary
R-1B	Single- and Multi-Family Residential	Southwestern portion of the Planning Area, along East Center Street and immediately adjacent to Planning Area on South 4thWAvenue and alley between East Center Street and Dexter Street	Within and approximately 40 feet from the Planning Area boundary
R-2	Single-Family Residential	South of the Planning Area, near South Citrus Avenue and along Dexter Street	Approximately 20 feet from the Planning Area boundary
R-3	Hospital / Medical Offices, Park, and	Western portion of the Planning Area; includes Inter-Community Hospital,	Within and approximately 40

Receptor	Land Use	Direction / Location	Distance From Planning Area(A)
	Single-Family Residential	Covina Park, and Residences along North Valencia Plaza	feet from the Planning Area boundary
R-4	Single- and Multi-Family Residential	Northwestern portion of Planning Area; along North 3rd Avenue, Palland Lane, and Pershing Court	Within and approximately 40 feet from the Planning Area boundary
R-5	Single-Family Residential	North of the Planning Area, south of East Edna Place	Approximately 20 feet from the Planning Area boundary
R-6	Park and Single-Family Residential	Northeast corner of Planning Area; Kelby Park and residences along Cypress Street, Reed Street, Hurst Street, Kelby Street, and East Edna Place	Within and immediately adjacent to the Planning Area boundary
R-7	Single-Family Residential	East of the Planning Area, along North 1st Avenue	Approximately 40 feet from the Planning Area boundary
R-8	Single- and Multi-Family Residential	In the heart of the Planning Area, near Citrus Avenue and bounded between East San Bernardino Road and W Cottage Drive / East Italia Street	Within the Planning Area
R-9	Single- and Multi-Family Residential	North to northwestern portion of the Planning Area, in the light industrial area; south of Front Street and north of West San Bernardino Road	Within the Planning Area

Source: MIG 2019
(A) Distance is as measured from the closest potential construction area to the sensitive receptor property line.

In addition, once constructed and occupied, residential receptors associated with the Town Center Specific Plan residential buildings would represent new noise sensitive receptors.

4.12.2 REGULATORY FRAMEWORK

Federal

Federal Transit Administration (FTA)

No federal regulations apply to noise or vibration from the proposed project, but the FTA's 2018 *Transit Noise and Vibration Impact Assessment Manual* document sets ground-borne vibration annoyance criteria for general assessments. The criteria vary by the type of building being subjected to the vibrations, and the overall number of vibration events occurring each day. Category 1 buildings are considered buildings where vibration would interfere with operation, even at levels that are below human detection. These include buildings with sensitive

equipment, such as research facilities and recording studios. Category 2 buildings include residential lands and buildings were people sleep, such as hotels and hospitals. Category 3 buildings consist of institutional land uses with primary daytime uses. The FTA standards vary for "frequent" events (occurring more than 70 times per day such as a rapid transit project), "occasional" events (occurring between 30 to 70 times per day) and "infrequent" events (occurring less than 30 times per day). The FTA's vibration annoyance criteria are summarized in Table 4.12-4.

Table 4.12-4:
FTA Ground-Borne Vibration Impact Criteria for General Assessment

Vibration Land Use Category/Type	Frequent Events	Occasional Events	Infrequent Events
Category 1 – Buildings with sensitive equipment	65 VdB	65 VdB	65 VdB
Category 2 – Buildings where people sleep	72 VdB	75 VdB	80 VdB
Category 3 – Institutional buildings	75 VdB	78 VdB	83 VdB
Source: FTA 2018 Note: VdB = Velocity decibel			

State

California Building Standards Code

The California Building Standards Code is contained in Title 24 of the California Code of Regulations and consists of 11 different parts that set various construction and building requirements. Part 2, California Building Code, Section 1207, Sound Transmission, establishes sound transmission standards for interior walls, partitions, and floor/ceiling assemblies. Specifically, Section 1207.4 establishes that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA DNL or CNEL (as set by the local General Plan) in any habitable room.

California Green Building Standards Code

The California Green Building Standards Code is Part 11 to the California Building Standards Code. Chapter 5, Nonresidential Mandatory Standards, Section 5.507 establishes the following requirements for non-residential development that may be applicable to the proposed Specific Plan.

- 5.507.4.1.1 sets forth that buildings exposed to a noise level of 65 dB Leq (1-hour) during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composting sound transmission class (STC) rating of at least 45 (or an outdoor indoor transmission class (OITC) of 35), with exterior windows of a minimum STC of 40.
- Section 5.507.4.2 sets forth that wall and roof assemblies for buildings exposed to a 65 dBA Leq pursuant to Section 5.507.4.1.1, shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed 50 dBA Leq in occupied areas during any hour of operation. This requirement shall be documented by preparing an acoustical analysis documenting interior sound levels prepared by personnel approved by the architect or engineer of record.

Caltrans

The California Department of Transportation's (Caltrans) *Transportation and Construction Vibration Guidance Manual* provides a summary of vibration criteria that have been reported by researchers, organizations, and governmental agencies (Caltrans 2013). Chapters Six and Seven of this manual summarize vibration detection and annoyance criteria from various agencies and provide Caltrans' recommended guidelines and thresholds for evaluating potential vibration impacts on buildings and humans from transportation and construction projects. These thresholds are summarized in Table 4.12-5 and Table 4.12-6.

Table 4.12-5:
Caltrans' Vibration Threshold Criteria for Building Damage

Structural Integrity	Maximum PPV (in/sec)	
	Transient	Continuous
Extremely fragile buildings, ruins, monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some older buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial and commercial structures	2.00	0.50
Source: Caltrans 2013b Note: PPV = peak particle velocity		

Table 4.12-6:
Caltrans' Vibration Threshold Criteria for Human Response

Human Response	Maximum PPV (in/sec)	
	Transient	Continuous
Barely perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.90	0.10
Severely perceptible	2.00	0.40
Source: Caltrans 2013b Note: PPV = peak particle velocity		

County

Section 12.08.560 of the Los Angeles County Noise Control Ordinance limits vibration levels from a source at other properties to 0.01 in/sec PPV.

Local

The City of Covina's existing General Plan and Municipal Code establish standards related to noise and vibration control.

City of Covina General Plan Noise Element

The City of Covina Noise Element includes several noise control programs designed to protect

the City's citizens from the adverse effects of uncontrolled noise by controlling noise at its source, as well as attenuating noise between the source and the receiver. The General Plan includes the following noise control programs relevant to the proposed Town Center Specific Plan (City of Covina 2000):

Policy Area 1: Transportation Noise Sources

- Policy 1.1: Examine the noise environment of proposed residential or other noise-sensitive uses located within all 60 L_{dn} noise contours to ensure compatibility and, pertaining to residential activities, adherence to applicable State noise insulation standards.
- Policy 1.2: Attempt to mitigate or eliminate the possible noise problems of proposed residential or other noise-sensitive uses located within all 65 L_{dn} noise contours to ensure compatibility and, pertaining to residential activities, adherence to applicable State noise insulation standards.
- Policy 1.3: Consider "noise-sensitive uses" to include, but not be limited to, all residential housing types, public and private primary and secondary schools, libraries, parks/recreation areas, hospitals/medical facilities, nursing homes, and churches.
- Policy 1.4: Consider establishing acceptable limits of noise levels for various land uses throughout the community, in accordance with State guidelines, as a means of determining noise-compatible land uses.
- Policy 1.6: Require noise-reduction techniques and features in site planning, architectural design, project landscaping, building materials, and/or construction, where necessary or required by law.
- Policy 1.17: Continue to permit higher than normal block walls along the rear property lines of residential parcels that back up to the Metrolink right-of-way to mitigate train-related noises, and consider other appropriate concessions.

Policy Area 2: Commercial and Industrial Noise Sources

- Policy 2.1: Consider establishing acceptable limits of noise levels for various land uses throughout the community, in accordance with State guidelines, as a means of determining noise-compatible land uses.
- Policy 2.2: Discourage the location of noise-sensitive land uses in noise environments.
- Policy 2.3: Consider "noise-sensitive uses" to include, but not be limited to, all residential housing types, public and private primary and secondary schools, libraries, parks/recreation areas, hospitals/medical facilities, nursing homes, and churches.
- Policy 2.4: Require noise-reduction techniques and features in site planning, architectural design, project landscaping, building materials, and/or construction, where necessary or required by law.
- Policy 2.13: Ensure that condominium/townhouse and apartment structures are constructed soundly to prevent adverse noise transmission onto adjacent dwelling units.

- Policy 2.19: Continue enforcing the Covina Noise Ordinance and maintaining coordination among City departments/ divisions involved in noise abatement.
- Policy 2.22: Evaluate and make recommendations on potential noise impacts of permanent developments and uses through environmental or noise-related studies or analyses and, for minor work, by observing project plans as well as the potential noise impacts of temporary activities and special events.
- Policy 2.24: Require that commercial uses developed as part of a mixed use project (e.g., residential dwelling units situated above commercial businesses) not be noise-intensive, except where determined to be appropriate through appropriate features and mitigation.
- Policy 2.25: Require that mixed use structures be designed to prevent the transfer of noise and vibration from the commercial activity to the residential use.

Policy Area 3: Miscellaneous Stationary Noise Sources

- Policy 3.2: Encourage the installation of quiet residential air conditioners and outside appliances and devices, with proper installation procedures.

Policy Area 4: Construction Noise Sources and General Matters

- Policy 3.1: Continue implementing the Covina Noise Ordinance to regulate the hours of operation and excessive noise associated with on-site construction activities, particularly activities occurring in or near residential uses, permitting exceptions only under special circumstances.
- Policy 3.2: Where necessary, require the construction of barriers to shield noise-sensitive uses from intrusive, construction-related noise.
- Policy 3.3: Require that construction activities incorporate feasible and practical techniques, measures, and procedures that minimize the noise impacts on all adjacent uses.

Policies 1.4 and 2.1 indicate the City will consider adopting acceptable limits of noise levels for various land uses throughout the community, in accordance with State guidelines. The most recent version of State's recommended land use compatibility guidelines, released in OPR's 2017 General Plan Guidelines, is presented in Table 4.12-7. To date, the City has not adopted the guidelines into its General Plan or Zoning Code.

Table 4.12-7:
General Plan Land Use Compatibility Guidelines

Land Use Category	Community Noise Equivalent Level (in dBA, CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density Single Family, Duplex, Mobile homes	50-60	55-70	70-75	75-85
Residential – Multi Family	50-65	60-70	70-75	70-85
Transient Lodging – Motels, Hotels	50-65	60-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80-85

Land Use Category	Community Noise Equivalent Level (in dBA, CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Auditoriums, Concert Halls, Amphitheaters	--	50-70	--	65-85
Sports Arenas, Outdoor Spectator Sports	--	50-75	--	70-85
Playground, Neighborhood Parks	50-70	--	67.5-77.5	72.5-85
Golf Course, Riding Stables, Water Recreation, Cemeteries	50-70	--	70-80	80-85
Office Buildings, Business Commercial and Professional	50-70	67.5-77.5	75-85	--
Industrial, Manufacturing, Utilities, Agriculture	50-70	70-80	75-85	--
Land Use Compatibility Interpretation:				
Normally Acceptable:	*Specific land use is satisfactory based upon the assumption buildings involved are of normal conventional construction, without any special noise insulation requirements.*			
Conditionally Acceptable:	*New construction or development should be undertaken only after a detailed analyses of noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.*			
Normally Unacceptable:	*New construction or development should be generally discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.*			
Clearly Unacceptable:	*New development should generally not be undertaken.*			
Source: OPR, 2017				

City of Covina Municipal Code

The City's existing Municipal Code regulates unnecessary, excessive, and annoying noise and vibration generated by certain sources of noise. The City's code is intended to maintain quiet residential areas that exhibit low noise levels, and to implement programs that reduce noise in residential areas where noise levels are above acceptable values.

Municipal Code Title 9, Public Peace, Morals, and Safety, Chapter 9.40, Noise, includes the following standards related to noise:

- Section 9.40.030, Loud Party, provides an example of prohibited noise. It states: It is unlawful for any person to make, continue or cause to be made or continued any unnecessary, loud or unusual noise which is a threat to the public peace, health, safety or general welfare of others due to a party, gathering or unruly assemblage at a premises.

- Section 9.40.040, Exterior Noise Level Limits, stipulates the allowable noise level or sound level referred to in Section 9.40.030 shall be higher of the following.
  A) Actual measured ambient level; or
  B) The sound level limit as indicated below:
     - Residential Estate or Agricultural
       - 50 dBA between 7AM and 10PM
       - 40 dBA between 10PM and 7AM

- Residential Low Density
  - 55 dBA between 7AM and 10PM
  - 45 dBA between 10PM and 7AM
- Residential Medium- and High-Density
  - 60 dBA between 7AM and 10PM
  - 50 dBA between 10PM and 7AM
- Commercial
  - 65 dBA between 7AM and 10PM
  - 55 dBA between 10PM and 7AM
- Industrial
  - 70 dBA between 7AM and 10PM
  - 60 dBA between 10PM and 7AM

- Section 9.40.060, Interior Noise Level Limits, provides that the interior noise standards for residential dwellings, as presented, shall apply to all dwellings with windows in their closed configuration unless the unit does not have adequate heating, air conditioning and mechanical ventilation
  - Residential (All Densities)
    - 35 dBA L_{eq} (1-hr) between 10 PM and 7 AM
    - 45 dBA L_{eq} $(1\text{-hr})_r$ between 7 AM and 10 PM

  Section 9.40.060 further specifies that the above standards shall not be exceeded by 5 dBA Leq for a cumulative period of more than one minute or more in any hour, or 10 dBA or the maximum measured ambient for any period of time. Subsection F states all newly constructed residential dwellings located in areas that are exposed to ambient noise levels in excess of 60 dBA DNL be designed and built so all habitable rooms comply with these standards.

- Section 9.40.080, General Guidelines, sets forth factors that are considered when determining whether a noise, sound, or vibration is a prohibited noise source within the City.

- Section 9.40.090, Controlled Hours of Operation, states that it is unlawful for any period to operate, permit, use, or cause to operate any of the following other than between the hours of 7AM and 8PM of any one day:
  - Powered model vehicles;
  - Loading and unloading vehicles such as garbage trucks, forklifts, or cranes in a residential area or within 500 feet of a residence;
  - Domestic power tools;
  - Law equipment, including, but not limited to: lawn mowers, edgers, cultivators, chainsaws, and leaf blowers in any residential area or within 500 feet of any residence;
  - Equipment associated with the repair and maintenance of any real property.

- Section 9.40.110, Construction, states that it is unlawful to operate equipment or perform outside construction or repair work within 500 feet of a residential land use between the hours of 8 PM of any one day and 7 AM of the next day, or on Sundays or public holidays such that a reasonable person of normal sensitivity residing in the area is caused discomfort or annoyance, unless a permit has been obtained in advance.

- Section 9.40.120, Loud and Unusual Noises, prohibits the operation of any device that creases a vibration that is above the vibration perception threshold of an average

individual at or beyond the property boundary of the source if on a private property or at 150 feet from the source if on a public space or public right-of-way. Per Section 9.40.020(30) the threshold of perception is considered by the City to be 0.01 in/sec.

4.12.3 SIGNIFICANCE THRESHOLDS

Consistent with CEQA and the CEQA Guidelines, Appendix G, a significant noise or vibration impact would occur if implementation of the Covina Town Center Specific Plan would:

(a) Expose people to or generate noise levels in excess of standards established in:
- The City of Covina Municipal Code Title 9, Public Peace, Morals, and Safety, Chapter 9.40, Noise; or
- The City of Monrovia General Plan Noise Element; or
- Other potentially applicable state or agency standards;

(b) Expose people to or generate excessive groundborne vibration or groundborne noise levels;

(c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

(d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

(e) Expose people to excessive noise levels from public or private aircraft operation.

For the purposes of this EIR, the proposed Project would result in a substantial permanent noise impact if it would:

- Cause the DNL at an adjacent land use to increase by 5.0 dBA or more where noise levels would remain below the exterior noise level standards established in the City of Covina Municipal Code Section 9.40.040(B).
- Cause the DNL at an adjacent land use to increase by 3.0 dBA or more where noise levels would equal or exceed the exterior noise level standard established in the City of Covina Municipal code Section 9.40.040(B).

For the purposes of this EIR, the proposed Project would result in a substantial temporary noise impact if it would:

- Result in a 10 dBA or greater increase in hourly noise levels above ambient conditions for two or more hours per day, five days a week, for a period of 12 months or more.

For temporary construction noise, the city considers construction activities resulting in a 10 dB increase in hourly noise levels above ambient conditions to be a temporary and substantial increase in noise levels, provided the increase occurs for two or more hours a day, five days a week, for more than 12 months. A 10 dBA increase above existing ambient conditions is typically perceived as a “doubling” of loudness, which in limited doses would not be substantial. Prolonged exposure to project-specific construction noise levels that are twice as loud as the ambient environmental level in which the receiver is accustomed to, however, would be considered substantial, even if the noise levels occur on a temporary basis.

4.12.4 IMPACTS AND MITIGATION MEASURES

This Section describes potential impacts related to noise that could result from implementation of the Covina Town Center Specific Plan, and discusses goals and policies that would avoid or reduce those potential impacts. The Section also recommends mitigation measures, as needed, to reduce significant impacts.

Impact NOI-1: Exposure to noise levels that exceed standards

Implementation of the proposed Covina Town Center Specific Plan would facilitate growth over the next approximately 20 years, which would increase traffic and noise generated by vehicle operation. The land use designations proposed in the Specific Plan would generally allow for residential uses throughout the Planning Area. The City maintains daytime exterior noise level limits of 55 dBA for low-density residential development and 60 dBA for medium- and high-density residential development. Based on the noise monitoring conducted, many locations within the Planning Area are already at, or above, the applicable exterior noise level standards set forth in Municipal Code Section 9.40.040(B). As described under Impact NOI-2, traffic noise modeling was conducted to evaluate potential noise level increases associated with Specific Plan buildout. The results of the modeling indicate hourly noise levels at land uses adjacent to busy roadways (e.g., Citrus Avenue and Barranca Avenue) could approach approximately 71 dBA DNL under Specific Plan buildout.

Ambient exterior noise levels of more than 70 dBA DNL exceed the levels at which the California Building Standards code and California Green Building Standards Code require the preparation of an acoustical analysis documenting compliance with applicable interior noise standards of 45 DNL in any habitable room (pursuant to Section 1207.4 of the California Building Code, Part 2, Volume 1) and 50 dBA Leq (1-hour) for any occupied room (pursuant to Section 5.507.4.2 of the California Green Building Standards Code)[1].

Standard construction techniques and materials are commonly accepted to provide a minimum exterior to interior noise attenuation (i.e., reduction) of 22 to 25 dBA with all windows and doors closed, which would result in interior noise levels of approximately 55 dBA DNL or more for units fronting major roadways in the Planning Area and along the Metrolink rail corridor[2]. This is approximately 10 dBA DNL more than what is permitted under Section 1207.4 of the California Building Code, Part 2, Volume 1 for residential development (45 dBA DNL).

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[1] Part 2 of the California Building Code, Section 1207, Sound Transmission, establishes sound transmission standards for interior walls, partitions, and floor/ceiling assemblies. Specifically, Section 1207.4 establishes that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA DNL or CNEL (as set by the local General Plan) in any habitable room. Chapter 5 of the California Green Building Standards Code, Section 5.507 sets forth environmental comfort/acoustical control requirements for building assemblies that are prescriptive- based (i.e., assemblies meet certain prescribed exterior to interior noise attenuation levels) or performance-based (i.e., the interior noise environment shall not exceed 50 dBA on an hourly equivalent noise level basis in occupied areas. Both the prescriptive and performance standard contained in the Green Building Standards Code apply to projects located within a 65 CNEL noise contour of an airport, freeway, railroad, industrial source, etc. or otherwise exposed to a noise level of 65 dBA on an hourly Leq basis.

[2] The U.S. Department of Housing and Urban Development (HUD) Noise Guidebook and supplement (2009a, 2009b) includes information on noise attenuation provided by building materials and different construction techniques. As a reference, a standard exterior wall consisting of 5/8-inch siding, wall sheathing, fiberglass insulation, two by four wall studs on 16-inch centers, and 1/2-inch gypsum wall board with single strength windows provides approximately 35 dBs of attenuation between exterior and interior noise levels. This reduction may be slightly lower (2-3 dBs) for traffic noise due to the specific frequencies associated with traffic noise. Increasing window space may also decrease attenuation, with a reduction of 10 dBs possible if windows occupy 30% of the exterior wall façade.

As shown earlier in Table 4.12-2, the Project Area is subject to high ambient noise levels that are primarily associated with vehicular operation on major thoroughfares (e.g., Citrus Avenue, San Bernardino Road, etc.), industrial activity, and noise from the Metrolink rail line. Based on noise data collected in the city, ambient daytime noise levels range from approximately 51.9 to 75.9 dBA L_{eq}, with some of the loudest recorded sound levels being along Citrus Avenue. Noise received at land uses adjacent to the Metrolink rail corridor could be exposed to sound levels of approximately 90 dBA Lmax when horns are sounded to alert pedestrians and vehicles of passing trains. Based on existing noise levels in the City and growth that would occur under buildout of the proposed Town Center Specific Plan, non-residential developments could be exposed to noise levels in excess of 65 dBA Leq (1-hour), which is the limit at which Section 5.507.4 of the California Green Building Standards Code, Part 11, requires measures to reduce interior noise levels in non-residential development.

In addition to the California Building Standards Code and California Green Building Standards Code, the City has requirements that further reduce interior noise levels in residential development. Municipal Code Section 9.40.060 identifies interior noise level standards of 45 dBA and 35 dBA Leq (1-hour) for daytime and nighttime, respectively. Per the Code requirements, these standards cannot be exceeded by more than 5 dBA for any one minute or more in any given hour, or by more than 10 dBA at any given time. Subsection F of Municipal Code Section 9.40.060 stipulates that all newly constructed residential dwellings located in areas that are exposed to ambient noise levels in excess of 60 dBA DNL must be designed and built so all habitable rooms comply with these standards.

To ensure potential exterior noise levels at the proposed residential open space and interior noise levels (residential and non-residential development) meet applicable standards, the City shall require the Project to implement Mitigation Measure NOI-1, which requires the preparation of an acoustical analysis to document compliance with noise level requirements. Mitigation Measure NOI-1 would ensure applicable exterior and interior noise standards are met by new development proposed within the Project Area. Thus, this measure would ensure the Project would not expose people to noise levels that exceed standards and impacts would be reduced to a less-than-significant level.

Level of Significance before Mitigation

Impacts related to exposure to noise levels that exceed local standards are potentially significant.

Mitigation Measures

MM NOI-1: Confirm Compliance with Applicable Noise Standards Requirements. Prior to the issuance of a building permit for any development in the Planning Area, the City shall review and approve an acoustical analysis, prepared by or on behalf of the project Applicant, and based on the final project design that:

1) For residential development:
   a. Identifies exterior noise levels at all exterior building façade locations and exterior recreation areas, including open space area, patios, and roof decks; and
   b. Identifies the final site and building design features that would:
      i. Reduce daytime, exterior noise levels at open space areas, patios, and roof deck areas to less than 55 dBA and 60 dBA L_{eq} (1-hour) for low-density residential and medium- to high-density residential, respectively, consistent with the standards identified in City Municipal Code Section 9.40.040; and

ii. Attenuate exterior building façade noise levels so interior levels do not exceed 45 dBA DNL in habitable rooms, 45 dBA L_{eq} (1-hour) during the daytime, and 35 dBA L_{eq} (1-hour) during the nighttime, consistent with the standards identified in City Municipal Code Section 9.40.060. Potential noise insulation site and building design features capable of achieving this requirement may include, but are not limited to:
   - Sound barriers
   - Enhanced exterior wall construction/noise insulation design
   - Use of enhanced window, door, and roof assemblies with above average sound transmission class (STC) or outdoor/indoor transmission class (OITC) values
   - Use of mechanical, forced air ventilation systems to permit a windows closed condition in residential units.

2) For non-residential development:
   a. Identifies exterior noise levels at all exterior building façade locations, and
   b. For projects that have an exterior wall exposed to noise levels of 65 dBA L_{eq} (1-hour) or more, comply with Section 5.507.4 of the California Green Building Standards Code. Per Section 5.507.4 of the California Green Building Standards Code, non-residential projects exposed to an exterior noise level of 65 dBA L_{eq} (1-hour) shall be required to have wall and roof-ceiling assemblies with a composite sound insulation rating of STC 50 or higher, exterior windows that a minimum STC of 40, or assemblies that reduce interior levels to 50 dBA L_{eq} (1-hour) or lower.

Plan Requirements and Timing: An acoustical report shall be submitted to City Planning for review and approval prior to final sign off on construction, documenting that actual interior and exterior noise level at the locations indicated in this measure meet City and State standards. **Monitoring:** City Planning staff shall approve the acoustical analysis prior to sign off of final construction.

Level of Significance before Mitigation

Less than significant with mitigation.

Impact NOI-2: Generation of a substantial, permanent increase in ambient noise levels in the vicinity of the project in excess of standards

Once constructed, the proposed Covina Town Center Specific Plan would generate noise levels from increased vehicular activity, stationary sources of equipment such as potential heating, ventilation, and air conditioning (HVAC) equipment and industrial machinery, and outdoor human congregation.

Off-site Vehicle Traffic Noise Levels. The implementation of the Town Center Specific Plan would generate traffic that would be distributed onto the local roadway system, potentially increasing noise levels along travel routes. Caltrans considers a doubling of total traffic volume to result in a three dBA increase in traffic-related noise levels (Caltrans 2013a). A noise level of less than 3 dBA is typically not perceptible to the human ear in an outdoor environment.

Based on the data contained in the TIA prepared for the proposed Project, Barranca Avenue, north of East San Bernardino Road would experience 4,366 new, average daily trips (ADT) under full build out of the Specific Plan (i.e., Year 2040) with approximately 866 of those trips attributable to new land use designations proposed (N&N 2018). Since existing traffic (21,732

ADT) generates noise levels of approximately 72.6 dBA DNL approximately 50 feet from the roadway centerline, and the proposed project's traffic volume (26,098 ADT) would generate noise levels of approximately 73.4 dBA DNL, this roadway segment's noise levels would not increase by more than 3 dBA DNL. The noise level difference between existing conditions and future conditions on this roadway segment would be approximately 0.8 dBA DNL.

A similar analysis was conducted for the portion of North Citrus Avenue, north of Front Street. Under existing conditions (13,703 ADT), land uses approximately 50 feet from the roadway center line experience noise levels of approximately 69.3 dBA DNL; under build-out conditions (17,074 ADT), noise levels would increase to approximately 70.3 dBA DNL. The proposed project would contribute approximately 1,110 ADT to the roadway intersection volume under buildout conditions, or approximately 6.5% of the total ADT. The noise level difference between existing conditions and future conditions on this roadway segment would be approximately 1.0 dBA DNL.

Though buildout condition noise levels are greater than the exterior noise level limitations for most land uses identified in Municipal Code Section 9.40.040 (e.g., up to 65 dBA for commercial land uses), the incremental increase associated with buildout of the proposed Town Center Specific Plan would be less than 3.0 dBA DNL. Therefore, the proposed project's traffic noise would not result in a substantial, permanent increase in ambient noise levels. This impact would be less than significant.

Other Operational Noise Sources. Noise generated by residential and commercial uses are generally short term and intermittent in nature. Industrial uses may generate noise on a more continual basis due to the nature of their activities. Implementation of the proposed Specific Plan would not substantially alter these sources, because it does not propose major changes to underlying land uses (i.e., the Town Center Specific Plan would remain, in general, a mixed-use area of the City, with industrial uses located in the northeast portion of the Planning Area). Future development, alterations to existing structures, and noise levels generated from their operation would be subject to additional environmental review at the time they are proposed. During this time, the City would evaluate conditions specific to the project, determine if the activities being proposed could exceed applicable standards, and, if necessary, identify project-specific measures to ensure compliance with City standards. Significant noise impacts from stationary and other sources of noise are not anticipated to occur under the implementation of the Town Center Specific Plan. This impact would be less than significant.

Level of Significance before Mitigation

Impacts will be less than significant.

Mitigation Measures

None required.

Impact NOI-3: Substantial Temporary or Periodic Increases in Ambient Noise Levels

Implementation of the Town Center Specific Plan would facilitate construction projects over an approximately 20-year period. Development could occur on any property and affect existing or future land uses near work areas, including potential sensitive residential, medical, and park land uses. Thus, this analysis generally addresses the potential for Specific Plan implementation to result in temporary construction noise impacts.

Sensitive receptors are interspersed throughout the Planning Area and border the Planning Area on all sides, except on the northeast corner. Under implementation of the proposed Town Center Specific Plan, some form of residential dwelling units would be permitted in land use designations, except for Civic Zone, Cultural Core Zone, Medical Core Zone, and Rail Zone.

Although some structures in the Planning Area could remain in place and be subject to only minor renovations and improvements, there is the possibility some demolition and new building construction could occur adjacent to residential receptors or new caretaker units located within or adjacent to the Planning Area. The magnitude of potential construction noise impacts on adjacent land uses would be dependent upon a number of project-specific factors that are not known at this time, including: proximity to sensitive land uses, time of day construction activities are occurring, intervening barriers, construction intensity (e.g., number and type of construction equipment that is operating simultaneously), and the total duration of construction activities. In general, construction noise levels would be highest during site preparation, grading, and excavation phases, when large pieces of earthmoving equipment would be required. Bulldozers, excavators, and graders would likely be the largest pieces of equipment operating at the same time during these phases. As a conservative approach, it is estimated up to three such pieces of equipment could be operating concurrently near a property line for an hour or two at a time. At a distance of 20 feet, the hourly Leq noise level associated with operation of a bulldozer, excavator, and grader would be approximately 94 dBA. Table 4.12-8 summarizes the hourly Leq noise levels that would be generated by the operation of these three pieces of equipment, and Table 4.12-9 presents these estimated noise levels against the existing ambient noise level environment at sensitive receptor locations.

Table 4.12-8:
Typical Construction Equipment Noise Levels (dBA)

Equipment	Reference Noise Level at 50 Feet (Lmax)(A)	Percent Usage Factor(B)	Predicted Noise Levels (Leq) at Distance(C)					
			50 Feet	100 feet	150 Feet	250 Feet	350 Feet	450 Feet
Bulldozer	85	40	81	75	71	67	64	62
Backhoe	80	40	76	70	66	62	59	57
Compact Roller	80	20	73	67	63	59	56	54
Concrete Mixer	85	40	81	75	71	67	64	62
Crane	85	16	77	71	67	63	60	58
Excavator	85	40	81	75	71	67	64	62
Generator	82	50	79	73	69	65	62	60
Pneumatic tools	85	50	82	76	72	68	65	63
Scraper	85	40	82	76	72	68	64	62
Delivery Truck	85	40	81	75	71	67	64	62
Vibratory Roller	80	20	73	67	63	59	56	54

Sources: Caltrans 2013a and FHWA 2010.

(A) L_{max} noise levels based on manufacturer's specifications.

(B) Usage factor refers to the amount of time the equipment produces noise over the time period.

(C) Estimate does not account for any atmospheric or ground attenuation factors. Calculated noise levels based on Caltrans 2013: L_{eq} (hourly) = L_{max} at 50 feet – 20log (D/50) + 10log (UF), where: L_{max} = reference L_{max} from manufacturer or other source; D = distance of interest; UF = usage fraction or fraction of time period of interest equipment is in use.

As shown in Table 4.12-8, the worst-case Leq and Lmax construction equipment noise levels are predicted to be approximately 82 and 85 dBA, respectively, at a distance of 50 feet from the equipment operating area. At an active construction site, it is not uncommon for two or more pieces of construction equipment to operate at the same time. The concurrent operation of two or more pieces of construction equipment would result in noise levels of approximately 85 L_{eq} to 88 dBA L_{max} at a distance of 50 feet from equipment operating areas[3]. The magnitude of each individual project's temporary and periodic increase in ambient noise levels would be dependent on the existing ambient noise levels, the nature of the construction activity (i.e., site preparation or building construction) and the distance between the construction activity and the sensitive receptor / outdoor area. For example, a noise level of 85 dBA L_{eq} would be approximately 9 dBA more than the L_{eq} levels measured at ST-1, but approximately 20 to 27 dB more than the L_{eq} levels measured at LT-1 and ST-2 (see Table 4.12-2). Typically, sustained construction noise levels of 85 dBA or higher would require the implementation of construction noise control practices such as staging area restrictions (e.g., siting staging areas away from sensitive receptors), equipment controls (e.g., covered engines and use of electrical hook-ups instead of generators), and/or the installation of temporary noise barriers of sufficient height, size (length or width), and density to achieve targeted noise reductions.

Regardless of the type and location of future projects occurring within the Planning Area (e.g., a commercial or residential project either near or far away from sensitive noise receptors), the City would review individual development proposals for compliance with applicable noise control requirements. As discussed in Section 16.1.3, City Municipal Code Section 9.40.110, sets forth that it is unlawful to operate equipment or perform outside construction or repair work within 500 feet of a residential land use between the hours of 8 PM of any one day and 7 AM of the next day, or on Sundays or public holidays, such that a reasonable person of normal sensitivity residing in the area is caused discomfort or annoyance, unless a permit has been obtained in advance. In addition, The General Plan Noise Element requires, as necessary, the use of construction barriers to shield noise-sensitive uses from intrusive, construction-related noise (Policy 3.2), as well as feasible and practical techniques, measures, and procedures that minimize the noise impacts on all adjacent uses (Policy 3.3).

The City's adoption of the proposed Specific Plan would not authorize any specific construction activity or development project. The potential construction noise resulting from future individual projects would be assessed in conjunction with the City's review of site-specific noise impact analyses on a case-by-case basis. Compliance with the City Code and General Plan policies, , as well as the application of project-specific noise control measures for future projects in the Planning Area (e.g., temporary noise barriers for work near sensitive residential receptors, as needed), would ensure future development would result in a less-than-significant impact from temporary construction noise levels.

Level of Significance before Mitigation

Less than significant.

Mitigation Measures

None required.

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[3] As shown in Table 4.12-6, a single bulldozer provides a sound level of 81 dBA Leq at a distance of 50 feet; when two identical sound levels are combined, the noise level increases to 84 dBA Leq and when three identical sound levels are combined, the noise level increases to 86 dBA Leq. These estimates assume no shielding or other noise control measures are in place at or near the work areas.

Impact NOI-4: Generate Excessive Groundborne Vibration or Noise

The construction of the proposed Covina Town Center Specific Plan would require the use of heavy construction equipment that could produce groundborne vibration. Once operational, development in the project area would not result in the use of equipment or machinery that could generate significant groundborne vibration. The Planning Area also includes the Metrolink rail corridor and trains travelling through the Planning Area would generate groundborne vibration. The following analysis evaluates if construction of the project would generate excessive groundborne vibration levels. The analysis also evaluates if new residential receptors in the project area would be exposed to excessive groundborne vibration from the operation of the Metrolink rail line.

Construction Vibration

Construction equipment and activities are categorized by the nature of the vibration it produces. Equipment or activities typical of continuous vibration include excavation equipment, static compaction equipment, vibratory pile drivers, and pile-extraction equipment. Equipment or activities typical of transient (single-impact) or low-rate repeated impact vibration include impact pile drivers, and crack-and-seat equipment. High-rate repeated impact vibrations are common of jackhammers and pavement breakers. Although possible, it is improbable the aforementioned high-impact pieces of equipment would be used during future development occurring under implementation of the proposed Specific Plan. Standard construction equipment (e.g., bulldozers, trucks, jackhammers, etc.) generally does not cause vibration that could cause structural or cosmetic damage but may be felt by nearby receptors. Table 4.12-9 presents the typical types of equipment that could be used for development and redevelopment activities occurring during implementation of the Specific Plan.

Table 4.12-9:
Estimated Project Construction Groundborne Vibration Levels

Equipment	Peak Particle Velocity (in/sec) (A)			Velocity Decibels (VdB) (B)		
	25 feet	60 feet	100 feet	25 feet	60 feet	100 feet
Large bulldozer	0.089	0.034	0.019	87.0	75.6	68.9
Small bulldozer	0.03	0.011	0.007	58.0	46.6	39.9
Loaded truck	0.076	0.029	0.017	86.0	74.6	67.9
Jackhammer	0.035	0.013	0.008	79.0	67.6	60.9

Sources: Caltrans 2013b and FTA 2018.

(A) Estimated PPV calculated as: PPV(D)=PPV(ref)*(25/D)^1.1 where PPV(D)= Estimated PPV at distance; PPVref= Reference PPV at 25 ft; D= Distance from equipment to receiver; and n= ground attenuation rate (1.1 for dense compacted hard soils).

(B) Estimated Lv calculated as: Lv(D)=Lv(25 feet)-30Log(D/25) where Lv(D)= estimated velocity level in decibels at distance, Lv(25 feet)= RMS velocity amplitude at 25 f; and D= distance from equipment to receiver.

As shown in Table 4.12-9, specific vibration levels associated with construction of specific project are highly dependent on distance and intensity of the equipment used. Given that vibration levels dissipate rapidly with distance, and that the Planning Area is primarily built out, it

is unlikely extensive site preparation and/or grading would take place during development and redevelopment activities.

Due to setback requirements, parking, and other factors, buildings are typically not built directly on the property line; rather, they are built into the site slightly. Accordingly, most equipment operation also occurs on the interior of the site, away from the property boundary. At a distance of approximately 60 feet, an average distance between construction activities and adjacent buildings, sensitive receptor locations could be exposed to groundborne vibration levels of up to 0.034 in/sec PPV and 75.6 VdB during operation of large bulldozers. Based on Caltrans' transient criteria (see Table 4.12-6), these vibration levels would be "barely perceptible", but under no circumstances are groundborne vibration levels predicted to exceed Caltrans' vibration damage threshold criteria for historic or older buildings (0.25 in/sec PPV), a threshold considered protective of all nearby buildings, which are presumed to be of more recent construction and thus are not as susceptible to damage from vibration as older, unreinforced structures. Although groundborne vibration from construction activities may be barely perceptible at nearby sensitive receptor locations, this impact would be infrequent and short in duration (lasting a few hours or days as equipment would not operate in the same location for a prolonged amount of time), would not damage buildings or structures, would not result in long-term incompatibility with existing land uses, and would, therefore, not be excessive. Thus, this impact would be less than significant.

Level of Significance before Mitigation

Less than significant.

Mitigation Measures

None required.

Exposure to Excessive Groundborne Vibration from the Metrolink Rail Corridor

The Metrolink rail corridor transects the northern portion of the Planning Area. The Town Center Specific Plan proposes to designate land uses adjacent to the Metrolink rail corridor as "Mixed Use" on the western portion of the Planning Area, and "F.A.I.R." on the eastern portion. Mixed Use and F.A.I.R. land use designations allow for the construction of residential dwelling units. As such, the approval of the proposed Town Center Specific Plan could result in the placement of new, sensitive residential land uses in close proximity to the Metro Gold Line.

As discussed in Section 4.12-1 above, vibration noise levels associated with the Metrolink rail corridor were estimated using the equations and methodologies presented in the FTA's *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). The calculations carried out show the Metrolink is estimated to generate groundborne noise levels of approximately 87 VdB (0.021 in/sec PPV) at 10 feet from the rail centerline.

Vibration from the Metrolink is considered to be an "Occasional Event" based on FTA's standards, since Metrolink rail cars pass through the City approximately 38 times per day during a normal weekday. At 10 feet, vibration levels of 87 VdB would exceed the FTA's vibration annoyance criteria by approximately 9 VdB for Category 3 land uses (institutional buildings) and by approximately 12 VdB for Category 2 land uses (buildings were people sleep). Although implementation of the proposed Town Center Specific Plan could expose receptors to excessive groundborne vibration, the vibration would not cause damage to any new or existing structures

along the rail corridor (i.e., vibration of 0.021 in/sec PPV is below Caltrans vibration threshold of 0.08 in/sec PPV for extremely fragile buildings).

To ensure implementation of the proposed Town Center Specific Plan does not expose receptors to excessive groundborne vibration, the City would implement Mitigation Measure NOI-2. Mitigation Measure NOI-2 requires a vibration assessment be conducted for institution (e.g., commercial) buildings proposed within 60 feet of a Metrolink rail centerline and any structures containing a dwelling unit proposed within 40 feet of a Metrolink rail centerline. The implementation of the Mitigation Measure NOI-2 would ensure structures are built outside of an area where they would be exposed to excessive groundborne vibration or building design features implemented to reduce interior groundborne vibration to levels below FTA impact criteria.

Level of Significance before Mitigation

Impacts related to groundborne vibration are potentially significant.

Mitigation Measures

MM NOI-2: Confirm Compliance with Applicable Vibration Standards. Prior to the issuance of a building permit for any institutional buildings within 60 feet of the Metrolink rail corridor or structures containing dwelling unit(s) within 40 feet of the Metrolink rail corridor, the City shall review and approve a vibration report, prepared by or on behalf of the project Applicant, and based on the final project design that:

1) Demonstrates vibration noise levels from the Metrolink would be below the appropriate (e.g., residential, commercial) FTA impact criteria at the proposed structure(s), as they are applicable to the proposed land use; or
2) Identifies the final site and building design features that would reduce groundborne vibration from Metrolink operation, such that receptors would not be exposed to vibration levels in excess of applicable FTA impact criteria.

Plan Requirements and Timing: A vibration report shall be submitted to City Planning for review and approval prior to final sign off on construction, documenting vibration at proposed structures would be below applicable FTA impact criteria, or documentation prepared by a qualified engineer that demonstrates building design would reduce interior groundborne vibration to below FTA impact criteria. **Monitoring:** City Planning staff shall approve the vibration analysis prior to sign off of final construction.

Level of Significance after Mitigation

Impacts will be less than significant with mitigation incorporated.

Impact NOI-5: Airport-Related Noise Levels

The proposed project is not located within an airport land use plan and is not located within two miles of a private or public use airport. The nearest airport is Brackett Field, located approximately 5.9 miles east of the Planning Area. No impact would occur.

Noise Cumulative Impacts

Implementation of the Specific Plan would result in construction noise and vibration as individual development projects are constructed over time. Each individual development would be subject to City regulations and policies regarding construction noise and vibration (See Section 16.1.3). These policies establish the overall goal and intent of the City to protect residents from excessive construction noise and vibration and require the appropriate evaluation of construction noise and vibration impacts at sensitive receptor locations and the implementation of feasible construction noise and vibration control measures when development occurs near noise-sensitive land uses. Therefore, construction noise would not make a cumulatively considerable contribution to a significant cumulative construction noise impact.

Implementation of the Specific Plan would also result in long-term increases in traffic and stationary source noise levels, as well as the potential exposure of new, noise sensitive receptors to noise effects from traffic, rail, and commercial and industrial noise sources. Each individual development project would be subject to City regulations and policies that limit and control noise generation and exposure from these noise sources and render potential cumulative increases in noise levels a less-than-significant impact.

Level of Significance before Mitigation

Less than significant.

Mitigation Measures

No cumulative considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	Decibels, A-Weighted
dBV / VdB	Decibels, Velocity
Ldn / DNL	Day-Night Noise Level
EIR	Environmental Impact Report
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	Heating, Ventilation, and Air Conditioning
Hz	Hertz
Leq	Average / Equivalent Noise Level
Lmax	Maximum Noise Level
Lmin	Minimum Noise Level
LT	Long Term (noise measurement)
OITC	Outdoor/Indoor Transmission Class
OPR	Office of Planning and Research
PPV	Peak Particle Velocity
ROW	Right of Way
ST	Short Term (noise measurement)
STC	Sound Transmission Class
TIA	Traffic Impact Analysis

4.12.5 REFERENCES

California Department of Transportation (Caltrans)
2013a Technical Noise Supplement to the Traffic Analysis Protocol. Sacramento, CA. September 2013.
2013b *Transportation and Construction Vibration Guidance Manual*. Prepared by the California Department of Transportation: Division of Environmental Analysis Environmental Engineering – Hazardous Waste, Air, Noise, Paleontology Office. Report No. CT-HWANP-RT-13-069.25.3. Sacramento, CA. September 2013.

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4.13 Population and Housing

This EIR chapter describes population and housing information related to the Covina Town Center Specific Plan Amendment and the City of Covina. This section also evaluates potential population and housing impacts associated with implementation of the Project.

4.13.1 ENVIRONMENTAL SETTING

The Project area includes a mix of commercial, industrial, residential, institutional, and open space uses, and is surrounded by well-established neighborhoods on all sides. The Planning Area encompasses approximately 236 acres, or just over five percent of the City's total area of 7.04 square miles. A description of population and housing characteristics within the Planning Area is provided below.

Population

The California Department of Finance estimates that the January 2018 population for Los Angeles County and the City of Covina was 10,283,729 and 49,006 residents, respectively (California Department of Finance, 2018). The Southern California Association of Governments (SCAG) develops socioeconomic estimates and growth projections including population, households, and employment. These estimates and projections provide the analytical foundation for SCAG's transportation planning and other programs. The growth forecast used for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) (Southern California Association of Governments, 2016) for Los Angeles County and the City of Covina are included in Table 4.13-1; as shown in the table, continued population growth is anticipated at both the county and city level, although the projected growth rate for the City is substantially lower; population growth at the County level from 2012 to 2040 is projected to be approximately 16 percent, while during the same period it is approximately 7.1 percent for the City of Covina. The estimated population within the Planning Area is approximately 1,392 residents.

Table 4.13-1:
Population Forecasts included in the 2016-2040 RTP/SCS

	2012	2020	2040
County of Los Angeles	9,922,600	10,326,200	11,514,800
City of Covina	48,200	48,800	51,600

Source: 2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction.

Housing

According to the California Department of Finance, as of January 2018 there were approximately 3,546,853 housing units within Los Angeles County and approximately 16,674 housing units within the City of Covina (California Department of Finance, 2018). As noted above, SCAG develops socioeconomic estimates and growth projections including population, households, and employment. Table 4.13-2 shows the anticipated growth in households for both Los Angeles County and the City of Covina.

Table 4.13-2:
Household Forecasts included in the 2016-2040 RTP/SCS

	2012	2020	2040
County of Los Angeles	3,257,600	3,493,700	3,946,600
City of Covina	15,900	16,300	17,200

Source: 2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction.

Within the Specific Plan area, there are an estimated 487 housing units. The number and type of dwelling units are listed in Table 4.13.-3.

Table 4.13-3:
Dwelling Units within the Specific Plan Area

Units Type	Number of Units
Single Family	78
Duplex	17
Multi-Family	344
Mobile Home	21
Mixed Use	27
Total	**487**

Source: MIG, 2018.

4.13.2 REGULATORY FRAMEWORK

State

2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) (Southern California Association of Governments, 2016) is a long-term vision of how the region will address regional transportation and land use challenges and opportunities. The 2016-2040 RTP/SCS identifies goals, which are intended to help carry out the vision for improved mobility, a strong economy and sustainability. The guiding policies for the 2016 RTP/SCS are intended to help focus future investments on the best-performing projects and strategies to preserve, maintain and optimize the performance of the existing transportation system.

Regional Housing Needs Allocation

The State of California requires that each jurisdiction plan for its share of the housing for people of all housing income levels. The Regional Housing Needs Allocation (RHNA) is a process where each community is assigned a share of housing need for an eight-year period; the City of

Covina participates in this process as part of the Southern California Association of Governments. The Fifth Cycle RHNA Allocation Plan, which covers the planning period from October 2013 to October 2021, was adopted in October 2012. This document identified a City of Covina housing unit allocation of 230 units by the following income levels: 60 units for Very Low Income; 35 units for Low Income; 38 units for Moderate Income; and 97 units for Above Moderate Income (Southern California Association of Governments, 2012).

Local

City of Covina General Plan

The Housing Element (City of Covina Community Development Department Planning Division, 2010), as part of the City's General Plan (Covina Community Development Department Planning Division Staff, 2010), establishes a comprehensive policy and program framework that addresses existing and future housing related issues. The State of California requires that all local governments prepare and maintain housing elements to identify strategies that will be effective in conserving, rehabilitating, and providing housing to meet the existing and projected needs of the community. The primary focus of the Housing Element is to protect the existing residential neighborhoods in Covina while, at the same time, ensuring that opportunities for new residential development are provided. The policies and implementing programs contained in the Housing Element will serve as the City's blueprint in defining how the existing housing stock in Covina is to be maintained and conserved while facilitating new residential development in accordance with State law. The following applicable objectives and policies are identified within the Housing Element.

- *Objective No.1* - The City of Covina will promote the development of various types of dwelling units, at reasonable quantities, that are suitable for all economic segments.
    - *Policy 1.1.* The City of Covina shall maintain and/or accommodate development of a variety of housing types, including single-family detached houses, condominiums/town homes, apartments, and mobile homes, second units/granny flats, and mixed uses, to suit all economic segments and as a means of addressing the City's regional housing obligations to the greatest extent possible.
    - *Policy 1.2.* The City of Covina shall maintain and consider to reasonably facilitate development of dwelling units particularly suitable for lower and moderate income residents, such as medium and high density apartments, condominiums/townhouses, second units, and mixed uses, to ensure lower and moderate income household accommodation.
    - *Policy 1.3.* The City of Covina shall maintain to the greatest extent practical areas zoned/designated for medium and high density residential facilities and for mobile homes.
    - *Policy 1.5.* The City of Covina shall permit and facilitate maximum feasible residential infill development or development of vacant and underutilized parcels through existing Zoning provisions and new appropriate procedures as a means of providing a mix of housing for all economic segments and of meeting regional housing needs targets.
    - *Policy 1.7.* The City of Covina shall continue to incorporate the new Metrolink Commuter Train Station and the downtown revitalization project into housing decisions.

- *Objective No.2* - The City of Covina, through comprehensive land use planning, will carefully evaluate and consider the site planning, distribution, urban design, and overall compatibility of new development, both internally and with the surrounding area.
  - *Policy 2.1.* The City of Covina shall maintain the current general land use distribution or pattern regarding all housing unit categories.
  - *Policy 2.2.* The City of Covina shall accommodate new housing of various types and densities that reflect the use, scale, and character of existing and/or planned residential uses.
  - *Policy 2.3.* The City of Covina shall protect single-family detached neighborhoods from medium or high density or nonresidential use encroachments.
  - *Policy 2.4.* The City of Covina shall, notwithstanding objectives and policies to minimize land use conflicts, consider mixed use housing as appropriate in and around the downtown to bolster existing downtown revitalization efforts and best take advantage of Metrolink Commuter Train Station impacts.
  - *Policy 2.5.* The City of Covina shall ensure the adequacy of future low income housing sites, particularly for seniors, in terms of accessibility to services, shopping, transportation, and needed facilities.
  - *Policy 2.6.* The City of Covina shall monitor and best capitalize on possible land use intensification and other pressures associated with the new Metrolink Commuter Train Station.
  - *Policy 2.7.* The City of Covina shall acknowledge and monitor sites identified as potentially suitable for affordable housing in accordance with the regional housing needs accommodation process.
  - *Policy 2.8.* The City of Covina shall encourage consolidation of substandard-width lots for apartments, condominiums/town homes, and mixed use projects.
- *Objective No. 3* - The City of Covina will continue in its efforts towards maintaining a high quality of life for the community's residents. In addition, the City will strive to maintain and preserve the affordable housing stock in the City and to make sure that all residential structures are legal, safe, and maintained.
  - *Policy 3.1.* The City of Covina shall preserve the predominantly low-rise, low to medium density character of Covina's neighborhoods.
  - *Policy 3.2.* The City of Covina shall maintain and, where possible, enhance Covina's attractive appearance, positive image, and small-town character.
  - *Policy 3.4.* The City of Covina shall maintain development and site design standards, architectural and landscaping guidelines, and amenity requirements for all housing types to ensure attractive, functional, and high quality building construction and additions.
  - *Policy 3.14.* The City of Covina shall preserve residential districts and buildings in the community that are deemed architecturally and/or historically significant.
  - *Policy 3.17.* The City of Covina shall develop a downtown area "urban village" concept, within the parameters of the Town Center Specific Plan which will include mixed uses in an attractive, spirited, and functional arrangement, to best complement existing revitalization activities in the district, to capture positive spillover Metrolink Commuter Train Station benefits, and to provide more medium and/or high density housing.

4.13.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to population and housing if it would:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
b) Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

4.13.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to population and housing which could result from the implementation of the Specific Plan and recommends mitigation measures, if required.

Induce Substantial Population Growth

Impact POP-1 – Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Analysis of Impacts

Implementation of the Specific Plan update is anticipated to occur over the next 20 years and result in an increase of approximately 448,800 square feet of non-residential uses and 259 additional dwelling units within the Project area. Using a 2.876 persons per unit multiplier, the new units would result in an estimated increase in population of 745 residents by 2040.

The General Plan, adopted in 2000, forecast that there would be 17,910 dwelling units and 49,150 residents for the plan's approximate 20 year time i.e. 2020).[1] The RTP/SCS, near term 2020 population and housing forecasts are similar to the nearly 20-year-old General Plan forecast, with the RTP/SCS 2020 population, at 48,800, slightly below the General plan and dwellings, at 16,300 also less than the General Plan forecast.

As noted above, the California Department of Finance estimates for 2018 16,674 housing units and 49,006 residents within the City of Covina.

For purposes of analysis in this EIR, the existing (2018) population and housing estimates were compared to the long-term 2040 RTP/SCS forecast. This comparison yields Citywide growth of an additional 525 dwellings and 2,450 persons by the year 2040. The amount of the population attributed to the Specific Plan update is estimated to be 745 residents and the amount of the total 525 dwelling increase attributed to the Specific Plan update is 259 dwellings. Although the proportion of population and housing growth for the amended Specific Plan is large compared to

[1] Please note that the General Plan population estimate assumes 2.745 person per household; the Specific Plan update assumes 2.876 residents per household. Additionally, as noted in the General Plan, the population and dwelling unit figures are theoretical capacities, created primarily for discussion purposes; actual build-out numbers, which are based on various unforeseen factors and trends, cannot be predicted but typically are around 80 percent of capacity.

total Citywide growth for the 2040 horizon year, it reflects conscious and deliberate policies and objectives of the City to locate more homes near the transit station and downtown in order to improve mobility, reduce auto-dependence, reduce vehicle trips and vehicle miles travelled and facilitate a walkable downtown.

The population and housing increase anticipated with implementation of the Specific Plan Update would not exceed and are consistent with the growth anticipated in the 2016-2040 RTP/SCS. Therefore, implementation of the Specific Plan would not induce substantial unplanned population growth in the area.

Level of Significance Before Mitigation

Less than Significant

Mitigation Measures

No mitigation required

Displace Existing Housing or Population

Impact POP-2 – Would the project displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere?

Analysis of Impacts

There are. The Specific Plan anticipates an increase in 259 units and 745 residents within the Planning Area (a 54 percent increase over existing conditions). The majority of units are anticipated in areas with a Multi-Family Residential land use designation.

Nearly all of the Planning Area is developed with only two acres of vacant land. There are approximately 18 acres identified as vacant buildings. New development associated with the Specific Plan Update would be primarily through redevelopment and infill projects. While there are residential uses within the Plan area, the number of units is relatively limited (459 units) and the conversion of a significant amount of residential uses to non-residential uses is not anticipated. Additionally, many of the areas that currently include dwelling units would have Town Center Land Use designations that support residential uses. Further, as described in General Plan Housing Element, there are a number of policies supporting the development housing including Policy 3.17 which specifies the City of Covina shall develop a downtown area "urban village" concept, within the parameters of the Town Center Specific Plan which will include mixed uses in an attractive, spirited, and functional arrangement, to best complement existing revitalization activities in the district, to capture positive spillover Metrolink Commuter Train Station benefits, and to provide more medium and/or high density housing.

The Specific Plan does not identify specific parcels for redevelopment. New dwelling units developed in association with implementation of the Specific Plan would likely offset potential impacts related to the limited amount of potential displacement of existing housing that could occur. While it is possible that the removal of housing units and the construction of new units may not occur simultaneously, implementation of the Specific Plan Update is expected to result in a net increase of dwelling units. Implementation of the Specific Plan is not anticipated to displace substantial numbers of existing housing or population necessitating the construction of replacement housing elsewhere.

Level of Significance Before Mitigation

Less than Significant

Mitigation Measures

No mitigation is required.

Population and Housing Cumulative Impacts

Implementation of the Specific Plan update is anticipated to occur over the next 20 years and result in an increase of approximately 448,800 square feet of non-residential uses, 259 additional dwelling units, and 745 residents within the Project area. As described above, this is well within the anticipated development described for the City of Covina within the 2016-2040 RTP/SCS. As development is likely to in currently developed areas, some displacement of existing housing and people is possible; however, implementation of Specific Plan is anticipated to increase the total number of housing units. Implementation of the Specific Plan would not result in a significant cumulative population and housing impacst.

4.13.5 REFERENCES

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4.14 Public Services

This EIR chapter addresses public services impacts associated with Covina Town Center Specific Plan Update. Issues of interest are public services impacts identified by the CEQA Guidelines: whether the Project will result in substantial adverse physical impacts associated with the provision of public services and public service facilities which could cause significant environmental impacts.

4.14.1 ENVIRONMENTAL SETTING

Fire Protection

The City contracts with the Los Angeles County Fire Department to provide fire protection services and emergency response services. There are three fire stations within the City: Fire Station 152, located at 807 West Cypress Street; Fire Station 153, located at 1577 East Cypress Street; and Fire Station 154, located at 401 North 2nd Avenue.

Fire Station 152 is located approximately 1.38-miles to the east of the Planning Area. Station 152 is staffed daily with a three-person engine company consisting of one fire captain, one fire fighter specialist (engineer), and one fire fighter (Buck, pers. Comm. 2018). Fire Station 153 is located 0.75-miles to the northwest of the Planning Area. Station 153 is staffed daily with a four-person "quint", which is a combination ladder truck/pumper engine, consisting of one fire captain, one fire fighter specialist, and two fire fighters. Fire Station 154 is located in the approximate center of the Planning Area and would be the first responder to developments within the Planning Area. Fire Station 154 has a three-person assessment engine staffed with one fire captain, one fire fighter specialist, and one fire fighter paramedic, and a paramedic squad staffed with two fire fighter paramedics. Daily on-duty staffing consists of 5 uniformed employees. Fire Station 154 also has a two-person paramedic squad staffed daily with two fire fighters/paramedics.

Based on the proximity of the Planning Area to the Fire Stations in the City, it is expected that the response times would be within the national standard of five minutes or less for fires and basic life support, and eight minutes or less for advanced life support. In the event that Fire Station 154 cannot meet the immediate needs of a call for services independently or does not have capability to address the full extent of a larger incident within the Planning Area, Fire Stations 152 and 153 or the closest available Los Angeles County Fire Department resources could respond or provide support. At the time of this writing, the Los Angeles County Fire Department does not have plans to expand facilities, staff, or equipment at Fire Stations 152, 153, or 154.

Police Protection

Police protection services in the City are provided by the Covina Police Department. The Covina Police Department is located at 444 North Citrus Avenue, which is located in the approximate center of the Planning Area. The Department's annual budget is $17,940,040. There are 88 budgeted full-time employees of the Police Department, of which 59 are sworn officers (1 Chief, 2 Captains, 4 Lieutenants, 9 Sergeants, and 43 Police Officers). At the time of this writing, the department does not have plans to expand facilities, staff, or equipment. In the City of Covina, the response time for Priority One Call for service is 4 minutes and 41 seconds (Curley/Navera,

2018). Priority One calls include robbery, assault with a deadly weapon, traffic collisions with injuries, etc.

Schools

The Planning Area is served by the Covina Valley Unified School District. The Planning Area either fully or partially encompasses the attendance boundaries of the following schools: Cypress Elementary School (351 West Cypress Street), Workman Avenue Elementary School (1941 E. Workman Avenue), Barranca Elementary School (727 S. Barranca Avenue), Ben Lomond Elementary School (621 E. Covina Boulevard), Traweek Middle School (1941 E. Rowland Avenue), Covina High School (463 S. Hollenbeck Avenue), and Fairvalley Continuation High School (758 Grondahl Street) (Covina Valley Unified School District 2018). Total enrollment for these schools in 2017-2018 was 4,350. Total enrollment for the District has declined from 12,558 students in 2013-14 to 11,862 students in 2017-18 (Ed Data Education Partnership).

Parks

At the time of General Plan adoption in 2000, the City had 1.3 acres of parkland and recreational space for every 1,000 residents (City of Covina 2000). A review of the City's Parks and Recreation Department website shows that the City currently contains 50 acres of parkland across eight parks (Covina Park, Cougar Park, Edna Park, Hollenbeck Park, Jobe's Glen at Parque Xalapa, Kelby Park, Wingate Park, and Heritage Plaza Park). Civic Center Park comprises approximately 1.5 acres. There are also two ball fields that are owned by the Charter Oak Unified School District consisting of approximately 10 acres of parkland/open space. Additionally, the 11- acre Walnut Creek Park, which is owned by the County of Los Angeles, lies within the boundaries of the City. This equals a total of 72.5-acres of accessible parkland/open space in the City of Covina. Edna Park, Civic Center Park, and Covina Park are the parks/open space facilities located within the Planning Area.

Using population estimates for 2018, the City's parkland-to-resident ratio is now approximately 1.48 acres of parkland and recreational space for every 1,000 residents (City of Covina 2000; Department of Finance, 2018).[1] The City's ratios for both 2000 and 2018 are considered significantly below the National Park and Recreation Association's guideline of 2.5–4.0 acres of parkland for every 1,000 residents (City of Covina 2000). These ratios are also below the City's General Plan standard of 2.0 acres of parkland for every 1,000 residents (GP Policy NR-1h**)**.

Libraries

Library services are provided by the Covina Public Library, located at 234 North Second Avenue, which is within the Planning Area. The library supports a variety of resources, including computers and wireless internet access; journal articles, magazines, and newspapers; literacy programs; homework help programs; and computer tutoring sessions. The library also supports a community room that can be rented by non-profit and commercial groups (City of Covina 2018). The library is reported to contain approximately 90,279 volumes (libraries.org).

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[1] The Department of Finance estimates the City had a population of approximately 49,006 people as of January 1, 2018.
49,006 ÷ 1,000 = 49.006
72.5 acres of open space ÷ 49.006 = 1.48 acres per 1,000 residents

4.14.2 REGULATORY FRAMEWORK

Federal

There are no federal public services regulations applicable to the proposed project.

State

Fire Protection

California Fire Code

The California Fire Code is Chapter 9 of Title 24 of the California Code of Regulations. It provides regulations for safeguarding life and property from fire and explosion hazards derived from the storage, handling, and use of hazardous substances, materials, and devices. The provisions of this code apply to construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenance connected or attached to such building structures throughout California.

Uniform Fire Code

The Uniform Fire Code contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The code contains specialized technical regulations related to fire and life safety.

California Health and Safety Code

State fire regulations are set forth in Section 13000 et seq. of the California Health and Safety Code, including regulations for building standards (also set forth in the California Building Code), and fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training. The State Fire Marshal enforces these regulations and building standards in all state-owned buildings, state-occupied buildings, and state institutions throughout California.

California Occupational Safety and Health Administration

In accordance with California Code of Regulations, Title 8, Sections 1270, Fire Prevention, and 6773, Fire Protection and Fire Equipment, the California Occupational Safety and Health Administration has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials; fire hose size requirements; restrictions on the use of compressed air; requirements for access roads; and guidelines for testing, maintaining, and using all firefighting and emergency medical equipment.

Mutual Aid Agreements

The California Disaster and Civil Defense Master Mutual Aid Agreement, as provided by the California Emergency Services Act, provides statewide mutual aid between and among local jurisdictions and the State. The statewide mutual aid system exists to ensure that adequate resources, facilities, and other supports are provided to jurisdictions whenever resources prove to be inadequate for a given situation. Each jurisdiction controls its own personnel and facilities but can give and receive help whenever needed.

Schools

California State Assembly Bill 2926 – School Facilities Act of 1986

In 1986, Assembly Bill (AB) 2926 was enacted by the State of California authorizing entities to levy statutory fees on new residential and commercial/industrial development in order to pay for school facilities. AB 2926, entitled the School Facilities Act of 1986, was expanded and revised in 1987 through the passage of AB 1600, which added Section 66000 et seq. of the California Government Code.

Proposition 1A/Senate Bill 50

SB 50, or the Leroy F. Greene School Facilities Act of 1998, imposes limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development. SB-50 amended Section 17620 of the Education Code to authorize school districts to levy statutory developer fees at levels that may be significantly higher than those previously permitted, but also provides stricter standards for school districts to follow when levying fees. School Districts would continue to be authorized to charge development fees (also known as Level 1 fees) of $1.93 per square foot on residential buildings and $0.31 per square foot on commercial or industrial buildings. However, pursuant to Government Code Sections 65995.5 and 65995.7, SB 50 authorizes school districts to charge additional Level 2 development fees to match 50 percent of school construction costs of State funds, and Level 3 development fees to fund 100 percent of school construction costs if State funds are not available.

Government Code Section 65996

Section 65996 designates Section 17620 of the Education Code (the mitigation fees authorized by SB 50) and Section 65970 of the Government Code to be the exclusive method for considering and mitigating development impacts on school facilities.

Parks

Quimby Act

California Government Code Section 66477, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fees are based upon the residential density, parkland cost, and other factors. Land dedication and fees collected pursuant to the Quimby Act may be used for acquisition, improvement, and expansion of park, playground, and recreational facilities or the development of public school grounds. Quimby Act fees do not apply to other public facilities and services such as Police and Fire protection or libraries.

Police Protection

There are no State police services regulations applicable to the Specific Plan Update.

Local

Community Facilities District

The Community Facilities Act of 1982 was created to provide an alternate method of financing needed improvements and services to account for an increase in service demands upon public infrastructure, including police, fire protection and suppression, paramedic services, and park maintenance. Residential developments where there is a net increase of residential units are subject to special CFD taxes. CFD taxes are not required for projects involving the replacement, reconstruction, improvement, or expansion or pre-existing residential units where no new dwelling units are created (i.e.: room additions, replacement or reconstruction after fire, earthquake or disaster, home improvements or refurbishments, etc.). Units covenanted for affordable housing as defined in the First Amended Rate and method of Apportionment are exempt. Proposed residential developments will be required to mitigate their impact for additional services and the City has formed CFD No.2007-1 (Public Services) as a means for future projects to comply with this requirement in the form of a Condition of Approval.

Alternatively, at the applicant's option, in lieu of annexation to the CFD, and to mitigate the impact on services, a project applicant may make a lump sum payment to the City ("In-Lieu Payment") representing the project's proportionate share of the cost for police response, fire and emergency medical response, and park services. The in-lieu payment is derived based upon a net present value calculation for the impact the project would generate on City services. If the applicant wishes to make an in-lieu payment, the applicant will be required to provide a deposit to the City to fund the cost for calculating such in-lieu payment. The in-lieu payment must be paid no later than prior to occupancy of any dwelling unit within the development.

The CFD collection is done through an annexation process that places a special tax on the property owner's tax bill. This amount may be adjusted annually by the Annual Escalation Factor, which is the greater of two percent (2%) or the percentage change in the Consumer Price Index for the calendar ending in December of the prior fiscal year. The annexation process, which includes a public hearing and a special election (a landowner vote if there are less than 12 registered voters within the territory proposed to be annexed), must be completed prior to issuance of a building permit. Current special CFD tax rates are shown in Table 4.14-1 (Covina CFD Special Tax Rates) below. The developer is responsible for the cost incurred by the City to annex the development to the District. This cost is approximately $3,500.

Table 4.14-1
Covina CFD Special Tax Rates

Tax Class	Description	Max. Special Tax
1	Single-Family Residential	$681.12 per Unit
2	Multi-Family Residential	$510.51 per Unit
3	Mixed-Use Property	$510.51 per Unit

Development Impact Fees

The City of Covina collects Development Impact Fees (DIF) on new residential, commercial, and industrial developments within the City. DIF are collected to account for increased service demands in public infrastructure, including police, fire, street/traffic, library, parkland, etc. DIF revenues are used by the City to fund new construction and reconstruction of public infrastructure to service new residences and businesses in the community. Residential development where new dwelling units are created and commercial and industrial developments where new square footage is created are subject to DIF fees.

DIF fees are not charged to projects involving the replacement, reconstruction, improvement or expansion of pre-existing residential units where no new dwelling units are created (i.e.: room additions, replacement or reconstruction after fire, earthquake or disaster, home improvements or refurbishments, etc.). Addition of a second unit, "granny flat", or other additional dwelling unit is subject to DIF fees. DIF fees are not charged to projects involving the replacement, reconstruction or improvement of pre-existing commercial/industrial square footage (i.e.: replacement or reconstruction after fire, earthquake or disaster, improvements or refurbishments, etc.). To the extent that a replacement, reconstruction, or improvement project results in new commercial/industrial square footage, DIF are charged upon the additional square footage.

Residential DIF fees are due prior to the date of the final inspection, or the date the certificate of occupancy is issued, whichever occurs first. For residential projects containing more than one dwelling unit, all DIF fees must be paid prior to the date of the first dwelling unit within the project receives its final inspection or certificate of occupancy, whichever occurs first. Commercial and industrial DIF fees are due prior to the City's issuance of a building permit for any phase of the project. Table 4.14-2 (Development Impact Fee Breakdown) includes the City's current impact fee per unit or square foot relative to the development type.

Table 4.14-2
Development Impact Fee Breakdown

Land Use	Impact Fee per Unit (DU) or Square Foot (S.F.)
Single Family Res.	$11,594 per dwelling unit* - Of which $6,172/DU applies to Park (Non-Quimby Act) Impact Fees
Multiple Family Res.	$9,008 per dwelling unit* - Of which $4,759/DU applies to Park (Non-Quimby Act) Impact Fees
Commercial Uses	$6.253 per building SF (added or created)
Office Uses	$5.721 per building SF (added or created)
Industrial Uses	$2.173 per building SF (added or created)
* The total fees per dwelling unit listed above assume payment of park impact fees involving development projects for which there is no land subdivision subject to Covina's "Quimby Act" ordinance. For projects involving land subdivision of five or more parcels, unless exempted, the amount of land dedications and/or in-lieu fee payments for public park development is governed by Covina's "Quimby Act" ordinance (Covina Municipal Code, Chapter 16.28). Required dedications and/or in-lieu fees may be more or less than the City's park impact fees and this may affect total fees per dwelling unit.	

For residential projects involving the subdivision of land, park impact fees are calculated as follows:

1. # of dwelling units X 3.02 (occupancy factor) X .003 (park area standard) = _____ (acres of parkland to be dedicated.

2. _____ (acres of park to be dedicated) X $610,000 (per acre fair market value of park land) = _____ (in-lieu of Quimby Fee).

3. Add the total as computed in step 2 to an additional $5,422 per unit to arrive at your development impact fee.

City of Covina General Plan

Safety Element

The following policies of the City of Covina General Plan Safety Element pertain to police and fire protection and are applicable to the public services analysis of the proposed project:

- **Policy Safety-3a:** Maintain a preventative approach in handling potential urban and wild land fires and possible blazes at the urban/wild land interface.
- **Policy S-3b:** Maintain all fire-inhibiting Building and Safety and Fire Department requirements and standards for new construction and for substantial additions to existing structures, including those for fire-resistant building materials; fire-resistant roofing components (untreated wood-shakes being prohibited); building construction; detector and alarm systems; fire service equipment; automatic fire sprinklers; one-hour fire walls; clearances around structures; accessibility to and into buildings; and the proper storage of flammable and combustible materials.
- **Policy S-3c:** Maintain all fire-inhibiting Planning Department requirements and standards for new construction and for substantial additions to existing structures, including those for architectural design, site planning, building setback, landscape design, minimum road and driveway widths, and property usage and maintenance.
- **Policy S-3e:** Maintain ongoing fire and business license inspection and business monitoring programs as well as code enforcement activities, particularly relating to establishments using or storing hazardous materials, to reduce fire dangers associated with commercial, industrial, and institutional buildings.
- **Policy S-3f:** Maintain ongoing Neighborhood Preservation Program (NPP) and general Code Enforcement activities to reduce fire and other dangers in residential areas.
- **Policy S-3g:** Continue with existing citywide fire prevention/education programs to bolster public awareness of the disastrous impacts that fires can have on the community.
- **Policy S-3i:** Consider to require fire-retardant plantings in conjunction with new construction and major expansions, if appropriate.
- **Policy S-3j:** Continue to ensure the appropriate placement of fire hydrants and related infrastructure as well as water availability or the adequacy of fire flow pressure.
- **Policy S-3k:** Maintain sufficient personnel, equipment, facilities, and resources in the Fire and Police Departments to handle fire incidents.

- **Policy S-3l:** Maintain fire service-related mutual aid agreements with surrounding jurisdictions to supplement City personnel in fighting fires or in responding to small-scale hazardous materials incidents, when needed.
- **Policy S-3m:** Maintain and periodically review procedures for dealing with potential major urban and wild land fires and blazes occurring at the interface thereof as well as major above- and below-ground and transport-related hazardous materials accidents in the Covina Emergency Plan.
- **Policy S-5q.** Continue to supply the Covina Fire Department with adequate personnel, equipment, resources, and facilities to perform its many duties, including responding to disasters, emergencies, and everyday public safety-related service requests, managing emergency preparedness planning, and conducting fire prevention activities, such that all Covina residents, workers, and others are afforded the highest quality, most efficient fire protection and paramedical service.
- **Policy S-5r.** Constantly monitor and evaluate operations and procedures relative to fire protection and paramedical service to identify where improvements can be made.
- **Policy S-5s.** Maintain a sufficient ratio of sworn fire personnel to each 1,000 population and keep adequate civilian employees to support sworn staff.
- **Policy S-5t.** Ensure continuing adequate fire and paramedical response times for all Covina properties.
- **Policy S-5w.** Continue to supply the Covina Police Department with adequate personnel, equipment, resources, and facilities to perform its many duties, including responding to disasters, emergencies, and everyday public safety-related service requests, managing the City's emergency communications systems, and conducting crime prevention programs, such that all Covina residents, workers, and others are afforded the highest quality, most efficient law enforcement.
- **Policy S-5x.** Constantly monitor and evaluate operations and procedures relative to law enforcement to identify where improvements can be made.
- **Policy S-5y.** Maintain a sufficient ratio of sworn police officers for each 1,000 population and keep adequate civilian employees to support sworn staff.
- **Policy S-5z.** Ensure continuing adequate police response times for all Covina properties.
- **Policy S-5aa.** Attempt to reduce crime to persons and property by alleviating the underlying causes of and opportunities for offenses through physical design, City programs, and community development and neighborhood preservation activities.
- **Policy S-5dd.** Where appropriate, apply standards for defensible space in reviewing new and expanded developments to best promote personal security. (Defensible space refers to planning and design techniques that can be used to discourage crime. The concept was developed by Oscar Newman in his book "Defensible Space: Crime Prevention Through Urban Design.")
- **Policy S-5ee.** Ensure that the quality and scope of future fire, paramedical, and police protective resources and services keep pace with projected moderate growth and redevelopment and community revitalization activities.
- **Policy S-5ff.** Require that new, expanded, or altered potentially problematic or public safety-threatening developments, uses, and businesses mitigate any impacts on services that may result from the proposals through measures acceptable to the City.

- **Policy S-5gg.** Maintain fire-, paramedical-, and law enforcement-related mutual aid agreements with surrounding communities and with Los Angeles County to provide supplemental emergency service assistance, if necessary.
- **Policy S-5jj.** Maintain adequate water pressure flow capacity at all times and in all areas of Covina as well as ample, strategically placed fire hydrants to allow for proper firefighting capabilities.
- **Policy S-kk.** Monitor water pressures and flow capacities to ensure continuing adequacy and, if necessary, enhance the water distribution system.
- **Policy S-ll.** Inspect all fire hydrants for operational readiness on at least an annual basis and, where necessary, perform repairs or replacements.
- **Policy S-ss.** Balance the City's obligation to preserve, protect, and maintain public safety with Covina's need to accommodate moderate growth and to continue with ongoing communitywide economic development, commercial revitalization, public improvement enhancement, residential construction, neighborhood preservation, code enforcement, and housing activities/programs.
- **Policy S-uu.** Observe the requirements imposed by the California Environmental Quality Act (CEQA) when reviewing any public or private proposals, including, but not limited to, infrastructure alterations or the development, redevelopment, modification, or expansion/remodeling of properties, to address all applicable potential general safety and public safety impacts.

Natural Resources and Open Space Element

The following policies of the City of Covina General Plan Natural Resources and Open Space Element pertain to parks and therefore, are applicable to the public services analysis of the proposed project:

- **Policy NR-1g:** Encourage optimum usage of available green space and recreational facilities.
- **Policy NR-1h:** Endeavor to provide for its citizens a total park acreage equal to 2.0 acres for every 1,000 population at the time of General Plan buildout.
- **Policy NR-11i:** Whenever possible and feasible, attempt to acquire and improve land for park and recreational uses.
- **Policy NR-11o:** Continue to upgrade, enhance, redesign, and/or replace existing parks and recreational areas and appurtenant facilities and amenities to improve overall park use, safety, and/or appearance as well as to maintain community image and vitality, whenever possible.
- **Policy NR-11p:** When necessary and feasible, completely or partially re-site or reconfigure park facilities, where elements can be readily moved, to promote a more efficient use of parklands.
- **Policy NR-11v:** Provide active and passive-park and recreational facilities and programs to serve the needs of as many population segments as possible.
- **Policy NR-11z:** Support inter-jurisdictional agreements and cooperation with neighboring governmental agencies pertaining to park or recreational facility development o improvement within and around the City, when feasible and beneficial to Covina.

4.14.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to public services if it would:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    i. Fire protection;
    ii. Police protection;
    iii. Schools;
    iv. Parks;
    v. Other public facilities;

4.14.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to the provision of public services; which could result from the implementation of the project.,

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of these public services:

a.i. Fire protection;

Analysis of Impacts

Year 2040 buildout of the proposed Specific Plan could result in up to 259 new dwelling units, up to 448,800 additional square feet of non-residential building area, up to 745 new residents, and up to an estimated 866 new employees in the Planning Area. The increase in City residents and land use intensity in the Planning Area would result in an incremental increase in demand for fire services and existing fire protection resources within the City. However, with payment of Development Impact Dees and/or special Community Facilities District taxes, future projects developed within the Planning Area would not have a significant effect on service demands. Additionally, development within the proposed Planning Area would be subject to current Los Angeles County Fire Department requirements for fire sprinkler systems, fire alarm systems, fire flow, and equipment and firefighter access, as well as fire code requirements. Compliance with these standards would be ensured through the plan check process prior to the issuance of building permits and would reduce the potential for fire emergencies at future project sites. Finally, based on the proximity of the Planning Area to the Fire Stations in the City, it is expected that the response times would be within the national standard of five minutes or less for fires and basic life support, and eight minutes or less for advanced life support. For these reasons, the construction or expansion of existing fire facilities would not be required as a result of adoption of

the Project. Therefore, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered facilities.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

a.ii. Police protection;

Analysis of Impacts

Year 2040 buildout of the proposed Specific Plan could result in up to 259 new dwelling units, up to 448,800 additional square feet of non-residential building area, up to 745 new residents and up to 866 new employees in the Planning Area

In the City of Covina, the response time for Priority One Call for service is 4 minutes and 41 seconds (Curley, 2018). Priority One calls include robbery, assault with a deadly weapon, traffic collisions with injuries, etc. The increased land use intensity in the Planning Area could increase the frequency of emergency and non-emergency calls to the Covina Police Department, as compared with existing conditions.

The Project is not anticipated to increase demand for police protection to the extent that new facilities would be required. While new development would increase incremental demand on police protection services, such demand would be offset with payment of Development Impact Fees and/or special Community Facilities District taxes. The City does not anticipate needing to expand existing or build new police facilities as a result of potential population and land use intensity increases from the Specific Plan Update. As such, the proposed Specific Plan update would not result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities. Impacts resulting from the proposed Specific Plan update would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

a.iii. Schools;

Analysis of Impacts

The Specific Plan Update is projected by the year 2040 to provide for an estimated 259 new dwelling units and up to new 745 residents over existing conditions in the Planning Area. To calculate the number of students that are anticipated to be generated by new residential

development, the Covina Valley Unified School District uses the state's Student Yield Factor for Unified School Districts, which is 0.7 students per dwelling unit (Office of Public School Construction 2009). Using this factor, the Project could result in approximately 181 new students.[2] The Planning Area either partially or fully encompasses the attendance boundaries of four elementary schools, one middle school, and two high schools, in which there was an estimated 4,350 students enrolled in 2017-18. While the Specific Plan Update would increase the number of students, it is likely this increase could be absorbed due to the declining districtwide enrollment which dropped from 12,558 students in 2013-14 to 11,862 students in 2017-18, a total of 696 students. Projects within the Planning Area would be required to pay school fees to Covina Valley Unified School District. Development Impact Fees finance the construction and/or reconstruction of school facilities needed to accommodate students coming from new development. Development Impact Fees may be levied for both residential and commercial construction, pursuant to Education Code Section 17620 and California Government Code Section 65995. As stated in California Government Code Section 65996, payment of school impact fees in accordance with California Government Code Section 65995 and/or Education Code Section 17620 is deemed to constitute full and complete mitigation for potential impacts to schools caused by development. For these reasons, impacts related to the need for new school facilities as a result of implementing the proposed project would be less than significant**.**

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

a.iv. Parks;

Analysis of Impacts

The residents, employees, and customers of the Planning Area could use nearby park facilities. Parks within the Planning Area include Kelby Park, Covina Park, Civic Center Park, and Covina Park. Edna Park is located just outside the northwest corner of the Planning Area.

Using population estimates for 2018, the City's parkland-to-resident ratio is approximately 1.48 acres of parkland and recreational space for every 1,000 residents. The Specific Plan Update is anticipated to support a population increase of 745 people in the Planning Area. As discussed under subsection 4.14.2 above the City requires as part of their and/or "Quimby Ordinance" land dedications or In-lieu fees for new residential development based on a standard of 3 acres of parkland for every 1,000 persons. Based on the addition of 745 residents attributed to the Specific Plan Amendment this would equate to approximately 2.24 acres of parkland. As the Planning Area redevelops over time development fees and/or parkland dedications will be provided that will offset any potential incremental impacts to parks.

In addition, the Specific Plan Update includes Design Standards and Guidelines intended to maximize open space. The Specific Plan's Multifamily Residential Open Space Standards require inclusion of minimum private open spaces in new residential units (125 SF per Unit) and minimum

[2] 259 dwelling units × 0.7 students per dwelling unit = 181 students

common open spaces (275 SF per Unit). Private open spaces are required to be open-air, not fully enclosed with walls, and located on the same parcel as private residential units. Common open spaces are required to be usable, support passive and/or active uses, and developed in accordance with approved landscape and irrigation.

The Specific Plan's Nonresidential Use Open Space Standards require a minimum usable public open space of 5% of the total parcel area. The nonresidential use open space requirement may be satisfied by the payment of an in-lieu fee, at the discretion of the Community Development Director. Plazas and Community Activity Areas are also included in the Design Standards and Guidelines. Amenities for public plazas, courtyards, alleyways, and pocket parks include trees, lush landscaping, seating, shade structures, water features, public art, vertical plantings, enhanced paving, and enhanced pedestrian connections.

Finally, the Design Standards and Guidelines include the West Cottage Drive and West College Street Health Corridors or "health walks", which will improve access and use of West Cottage Drive and West College Street with a health/fitness themed connection that will thematically connect existing healthcare uses within the Citrus Avenue District. The Health Corridors will take inspiration from healing gardens, exercise parks, cultural trails, and green streets. The Health Corridors would include wide planted buffers between travel lanes and pedestrian and cycle paths, decorative paving patterns, enhanced pedestrian and cycle crossings clear signage and wayfinding, and integration of community gardens. Outdoor exercise equipment would also be considered along the corridors, as would rest and reflection spaces, small gardens, and small plazas. The Specific Plan Update would not result in the need for new or physically altered park facilities that would cause significant environmental impacts. Any incremental impacts on park facilities would be offset by the dedication of parkland and/or the payment of in-lieu development fees.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

a.v. Other public facilities?

Analysis of Impacts

Other public facilities and services provided within the City include library services and City administrative services. Library services are provided by the Covina Public Library, located at 234 North Second Avenue, in the southeastern portion of the Planning Area. The residents, employees, and customers of the Planning Area could use the City's library services, but the increase in use would not be significant relative to citywide demand. Thus, it is anticipated that existing library and City administrative services would accommodate any negligible increase in demand due to implementation of the proposed project. As such, impacts to other public facilities in the area would be less than significant. No mitigation is required.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Cumulative Impacts

Would the project cause substantial adverse cumulative impacts with respect to public services?

Analysis of Impacts

The Specific Plan Update does not include specific development projects. Development projects in the Planning Area would generally increase the land use intensities in the service areas for the Los Angeles County Fire Department and the Covina Police Department, potentially causing incremental and cumulative increases in the number of calls for fire and/or police protection services. Development of residential projects within the boundaries of the Covina Valley Unified School District would lead to incremental increases in the number of students served by the district. Development of residential projects in the Planning Area would also lead to increases in the number of people who use the City's park and library facilities. The Specific Plan Update would result in increased capacity to support up to 259 new residential units in the City.

The increase in demand for public services in the City attributable to the Project would be minor and would be offset by DIF and CFD assessments. Projects constructed within the Planning Area over the life of the Plan would also be required to be developed in accordance with applicable fire codes and emergency access requirements. Compliance with these requirements would help prevent and/or ameliorate fire emergencies (automatic sprinkler systems and fire alarms) and would help facilitate more expedient emergency response (adequate fire flows, turning radii, width of emergency accesses). Similarly, the Project has been designed to improve public safety through design practices, enhanced lighting, and updated wayfinding signage. These design practices and operational practices would lessen the demand for police protection services within the Planning Area. The Los Angeles County Fire Department reviews fire station placement and fire services through its annual budget process, and resources are expanded or reassigned as necessary to meet increases in service demands. Similarly, the Covina Police Department annually evaluates its service needs. Payment of Development Impact Fees and/or special Community Facilities District taxes by future projects in the service areas of the Los Angeles County Fire Department and the Covina Police Department would offset the costs of increased service needs as necessary and would ensure that performance objectives for fire and police services are not substantially affected by incremental increases in land use intensity within service areas. The need for new facilities as a result of these development projects has not been identified by either department.

Regarding school services, the contribution of future projects within the Planning Area to increased demand for such services would be minor. The Covina Valley Unified School District has verified its ability to accommodate increases in students resulting from development projects through the collection of development impact fees. As such, the increases in student enrollment resulting from future projects that fall within the service area of the Covina Valley Unified School District would be accommodated within the district's existing facilities, and no new facilities would

be required. The Specific Plan Update in combination with other projects in the area would not result in the need for new school facilities.

Potential cumulative impacts with respect to incremental increases in demand for parks would be offset by required DIF fees, special Community Facilities District taxes and Quimby ordinance dedications/fees.

Level of Significance Before Mitigation

Cumulative impacts would be less than significant.

Mitigation Measures

No mitigation is required.

4.14.5 REFERENCES

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4.15 Recreation

This EIR chapter addresses recreation impacts associated with the proposed Covina Town Center Specific Plan Update. This section describes the existing recreational uses; identifies associated regulatory requirements; and evaluates potential adverse impacts related to recreation as a result of adoption of the Specific Plan Update.

4.15.1 ENVIRONMENTAL SETTING

The City currently has seven parks, one plaza, and two ball fields. A review of the City's Parks and Recreation Department website shows that the City currently contains 50 acres of City-owned open space across seven parks (Covina Park, Cougar Park, Edna Park, Hollenbeck Park, Jobe's Glen at Parque Xalapa, Kelby Park, and Kahler Russell Park (formerly Wingate Park). Heritage Plaza Park comprises approximately 1.5 acres of open space. There are also two ball fields that are owned by the Charter Oak Unified School District consisting of approximately 10 acres of parkland/open space. Additionally, the 11-acre Walnut Creek Park, which is owned by the County of Los Angeles, lies within the boundaries of the City. This equals a total of 72.5-acres of accessible parkland/open space in the City of Covina. The parks and open spaces provide residents, families, and visitors a place for recreational opportunities such as picnicking, playing sports, and walking, and also provide youths with after-school programs and activities. Table 4.16-1 provides a list of existing plaza, parks and ball fields within the City.

Table 4.15-1:
City of Covina Existing Recreation Facilities

Park Facility	Ownership	Acreage*	Location	Recreational Amenities
Cougar Park	City of Covina	1	150 W. Puente Street; approximately 0.15 miles south of the Planning Area.	Community center, community garden, playground, picnic tables, and splash pad.
Covina Park	City of Covina	10	303 North Fourth Avenue; western portion of the Planning Area.	Bandshell, baseball field(s), basketball courts, community room, horseshoe pit, jogging track, picnic tables, picnic shelter, playground, recreational hall, softball field(s), swimming pools, and tennis courts.
Edna Park	City of Covina	2.5	220 West Edna Place; just outside northwest edge of Planning Area.	Picnic tables and playground.
Hollenbeck Park	City of Covina	10	1250 North Hollenbeck Avenue; approximately 0.65-mile northwest of the Planning Area.	Baseball field(s), basketball courts, football field, picnic tables, playground, scout houses, soccer field, and softball field(s)
Xalapa Park	City of Covina	2.5	1321 East Garvey Avenue North; approximately 1.6 miles southeast of the Planning Area.	Picnic tables, and playground.
Kelby Park	City of Covina	7	815 North Barranca Avenue; northeast portion of the Planning Area.	Community room, Joslyn Center[1], picnic tables, playground, scout houses, and soccer field.
Kahler Russell Park	City of Covina	17	735 North Glendora Avenue; approximately 0.75 miles east of the Planning Area.	Baseball field(s), basketball courts, football field, picnic tables, picnic shelter, playground, hockey, tennis, soccer field, softball field(s), and nature trails.

Park Facility	Ownership	Acreage*	Location	Recreational Amenities
Heritage Plaza Park	City of Covina	1.5	400 N. Citrus Avenue; center of the Planning Area.	Playground, performance platforms, picnic tables.
Heyler Field	Charter Oak Unified School District	5	303 South Glendora Avenue; approximately 1.0 miles southeast of Planning Area.	Ball field(s).
Savoy Field	Charter Oak Unified School District	5	1359 East Cypress Street; approximately 1.0 miles southeast of Planning Area.	Ball field(s).
Walnut Creek Community Regional Park	County of Los Angeles	11	1100 South Valley Center Avenue; approximately 2.30 miles east of the Planning Area.	Hiking trails.

Source: City of Covina 2000
Note:
* Rounded to the nearest whole number.
1 The Joslyn Center at Kelby Park houses senior-oriented programming, including classes, entertainment, nutrition, and various unstructured activities.

In addition to the City parks and ball fields described above, the Covina-Valley and Charter Oak School Districts and large private schools manage several campuses in and around the City that provide supplemental green space and recreational facilities, such as gymnasiums, to City residents subject to the allowable hours by the schools. Additionally, there are several County recreational facilities located near the City that are often used by City residents. The closest of these facilities is Charter Oak Park, located at 20261 East Covina Boulevard in an unincorporated neighborhood. Charter Oak Park is a 19-acre open space land providing generally similar amenities to those found in City parks, such as ball fields, basketball courts, and playgrounds (City of Covina 2000). Charter Oak Park is located approximately 2.5 miles east of the project site.

Edna Park, Civic Center Park, and Covina Park are the parks/open space facilities located within the Planning Area of the proposed Covina Town Center Specific Plan Update.

4.15.2 REGULATORY FRAMEWORK

Federal

There are no federal regulations applicable to the proposed project.

State

Quimby Act

California Government Code Section 66477, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fees are based upon the residential density, parkland cost, and other factors. Land dedication and fees collected pursuant to the Quimby Act may be used for acquisition, improvement, and expansion of park, playground, and recreational facilities or the development of public school grounds.

Local

City of Covina Parks & Recreation Department
The City of Covina Parks & Recreation Department's mission is to provide a multitude of recreational opportunities for the residents and visitors while enriching their lives and improving their health and sense of well-being. The Covina Park System consists of 11 parks and recreation facilities ranging from less than one acre up to 17 acres (refer to Table 4.15-1 for a list of facilities).

City of Covina General Plan

Natural Resources and Open Space Element

The following policies of the City of Covina General Plan Natural Resources and Open Space Element pertain to parks and recreation and therefore, are applicable to the parks and recreation analysis of the proposed project:

- **Policy NR-1g:** Encourage optimum usage of available green space and recreational facilities.
- **Policy NR-1h:** Endeavor to provide for its citizens a total park acreage equal to 2.0 acres for every 1,000 population at the time of General Plan buildout.
- **Policy NR-1i:** Whenever possible and feasible, attempt to acquire and improve land for park and recreational uses.
- **Policy NR-1o:** Continue to upgrade, enhance, redesign, and/or replace existing parks and recreational areas and appurtenant facilities and amenities to improve overall park use, safety, and/or appearance as well as to maintain community image and vitality, whenever possible.
- **Policy NR-1p:** When necessary and feasible, completely or partially re-site or reconfigure park facilities, where elements can be readily moved, to promote a more efficient use of parklands.
- **Policy NR-1v:** Provide active and passive park and recreational facilities and programs to serve the needs of as many population segments as possible.
- **Policy NR-1z:** Support inter-jurisdictional agreements and cooperation with neighboring governmental agencies pertaining to park or recreational facility development or improvement within and around the City, when feasible and beneficial to Covina.
- **Policy NR-2a:** Continue to offer quality and diverse park/recreational programs, activities, and services to address local needs and interests and to best maintain community image and vitality.
- **Policy NR-2f:** Encourage variety in the design of park facilities to enhance the lifestyle of residents to be served.

Quimby Act and Parks Development Impact Fees

The City has an adopted "Quimby Act" ordinance (Covina Municipal Code, Chapter 16.28) that applies to land subdivision of five or more parcels, and requires land dedications and/or in-lieu fee payments for public park development. The City's Development Impact Fee also includes funding for park improvements

4.15.3 SIGNIFICANCE THRESHOLDS

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), and will be used to determine the significance of potential impacts to parks and recreational facilities. Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to recreation if it would:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.15.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to existing recreation facilities and proposed/required recreation facilities, which could result from Project implementation and recommends mitigation measures, as needed, to reduce significant impacts.

Existing Facilities

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Analysis of Impacts

The residents, employees, and visitors of the Town Center Specific Plan area could use nearby parks and recreation facilities. The proximity of parks and recreation facilities to the Planning Area are listed in Table 4.15-1, above. As shown in Table 4.15-1, the City currently has approximately 72.5 acres of parks and open space. At the time of General Plan adoption in 2000, the City had 1.3 acres of parkland and recreational space for every 1,000 residents (City of Covina 2000). Using population estimates for 2018, the City's parkland-to-resident ratio is now approximately 1.48 acres of parkland and recreational space for every 1,000 residents (City of Covina 2000; Department of Finance, 2018).[1] The City's ratios for both 2000 and 2018 do not

[1] The Department of Finance estimates the City had a population of approximately 49,006 people as of January 1, 2018.
49,006 ÷ 1,000 = 49.006
72.5 acres of open space ÷ 49.006 = 1.48 acres per 1,000 residents

meet the National Park and Recreation Association's guideline of 2.5–4.0 acres of parkland for every 1,000 residents (City of Covina 2000). These ratios are also below the City's General Plan standard of 2.0 acres of parkland for every 1,000 residents (GP Policy NR-1h).

While the City does not meet the General Plan standard for parkland, implementation of the Project is not expected to worsen the existing ratio of 1.48 acres per thousand residents. The Specific Plan Update would support up to 259 new dwelling, 746 new residents and up to 448,800 additional square feet of non-residential building area. In addition, the new dwellings would be subject to DIF fees, the Citywide facilities CFD and, for residential tentative tract maps, the City's Quimby Ordinance, requiring dedication or in-lieu fees equivalent to three acres of parkland per 1,000 persons. These three parks funding mechanisms will offset the incremental increase in demand for park facilities from implementation of the Project.

The Specific Plan Update also includes Design Standards and Guidelines intended to maximize open space. The Specific Plan's Multifamily Residential Open Space Standards require inclusion of minimum private open spaces in new residential units (125 SF per Unit) and minimum common open spaces (275 SF per Unit). Private open spaces are required to be open-air, not fully enclosed with walls, and located on the same parcel as private residential units. Common open spaces are required to be usable, support passive and/or active uses, and developed in accordance with approved landscape and irrigation.

The Specific Plan's Nonresidential Use Open Space Standards require a minimum usable public open space of 5% of the total parcel area. The nonresidential use open space requirement may be satisfied by the payment of an in-lieu fee, at the discretion of the Community Development Director. Plazas and Community Activity Areas are also included in the Design Standards and Guidelines. Amenities for public plazas, courtyards, alleyways, and pocket parks include trees, lush landscaping, seating, shade structures, water features, public art, vertical plantings, enhanced paving, and enhanced pedestrian connections.

Finally, the Design Standards and Guidelines include the West Cottage Drive and West College Street Health Corridors or "health walks", which will improve access and use of West Cottage Drive and West College Street with a health/fitness themed connection to existing healthcare uses within the Citrus Avenue District. The Health Corridors will take inspiration from healing gardens, exercise parks, cultural trails, and green streets. The Health Corridors would include wide planted buffers between travel lanes and pedestrian and cycle paths, decorative paving patterns, enhanced pedestrian and cycle crossings clear signage and wayfinding, and integration of community gardens. Outdoor exercise equipment would also be considered along the corridors, as would rest and reflection spaces, small gardens, and small plazas.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Recreational Facilities

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Analysis of Impacts

As described in response 4.15.a above, the Specific Plan Update includes Design Standards and Guidelines intended to maximize open space. These standards and guidelines will enhance open space and recreation elements within the Planning Area, but will not have an adverse physical effect on the environment since nearly all of the Planning Area is already developed and within an urbanized area. All open space/recreation improvements would take place on already developed property and would create little or no additional impacts within other issue areas (e.g. noise, air quality, traffic, etc.).

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Cumulative Impacts

Would the project cause substantial adverse cumulative impacts with respect to recreation?

Development of other residential projects within the City would generally increase the usage of parks and recreational facilities in the City and surrounding area, potentially causing the need for additional parks and recreational facilities due to related population increase. However, like residential development in the Planning Area, such new development would be subject to DIF fees, the Citywide facilities CFD and, for residential tentative tract maps, the City's Quimby Ordinance. These three parks funding mechanisms will offset the incremental and cumulative increase in demand for park facilities from implementation of the Project as well as other residential developments in the vicinity of the Planning Area.

Potential cumulative impacts on recreational facilities would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

4.15.5 REFERENCES

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4.16 Transportation and Traffic

This EIR chapter addresses transportation and traffic impacts associated with the Covina Town Center Specific Plan Update. Issues of interest are transportation and traffic impacts identified by the CEQA Guidelines: whether the Project will cause a substantial adverse change to transportation or traffic. A traffic impact analysis (TIA) was completed by Nelson Nygaard Consulting Associates and informs this chapter of the EIR (Appendix C).

4.16.1 ENVIRONMENTAL SETTING

The Project Area includes a mix of commercial, industrial, residential, institutional, and open space uses, and is surrounded by well-established neighborhoods on all sides. The Project includes transportation-oriented aspects of the Specific Plan Vision including the following:

- Connect Covina's Metrolink to the Town Center via a "gateway" concept encouraging transit riders to safely and pleasantly walk from the Station to the Town Center.
- Connect adjacent uses to the Metrolink Station.
- Capitalize on alley connections to increase accessibility and walkability between the Town Center and adjacent districts
- Improve bike and pedestrian networks to increase safety and connectivity to the greater community.
- Add signage and wayfinding to increase navigability of the Downtown core.
- Enhance pedestrian connections between the hospital and Downtown core.

Transportation resources in the Project vicinity include: (1) local-serving streets, (2) regional access roadways, (3) bus transit systems, and (4) Metrolink (a regional rail service). This section also discusses airports in the broader region.

Roadways

The Project is between Interstate-210 (I-210) and Interstate-10 (I-10). These two east-west highways connect this eastern part of the San Gabriel Valley with other parts of Los Angeles County and Inland Empire. Between the two freeways and within the Project Area, Badillo Street, and Sen Bernardino Road run east-west and connect Covina with adjacent communities. Badillo Street also accesses State Route 57 freeway (via Covina Boulevard) to the rest of the planning area. North-south oriented regional roadways include Grand Avenue to the east and Azusa Avenue to the west. Both of these major roadways connect I-210 with I-10 and pass through the West Covina and Covina communities. Citrus Avenue, which runs through the Project Area, also connects to both I-210 and I-10. Citrus Avenue is generally one lane in both directions as it passes through the Project Area. Although it serves as a regional roadway, it also functions as a local roadway serving the Project Area. 2nd Avenue serves as important local street in the Project Area serving both local businesses and government buildings such as the library. None of the roadways or intersections in the Project Area are in the Los Angeles County Congestion Management Plan network.

As a part of this EIR, a TIA was completed by Nelson Nygaard Consulting Associates in cooperation with the City of Covina. The TIA evaluated the impact of the Project on traffic and transportation in the area, including roadways for automobiles, and facilities for pedestrians and bicycles. As a part of the TIA, traffic counts were completed to understand existing conditions. The existing traffic turning counts were conducted by the City of Covina for morning and afternoon peak periods for purposes of evaluating the following intersections (Exhibit 4.16-1):

- Citrus Avenue & Front Street
- Citrus Avenue & San Bernardino Road
- Citrus Avenue & Badillo Street
- Badillo Street & 2nd Avenue
- San Bernardino Road & Barranca Avenue
- Second Avenue & Front Street

The operation of a roadway network is described using a grading system called Level of Service (LOS). The LOS grading system qualitatively characterizes traffic conditions associated with varying levels of vehicle traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in long delays). This LOS grading system applies to both roadway segments and intersections; a description of the various LOS operational characteristics is provided in Figure 4.16-1. The TIA evaluated the six study intersections using the Intersection Capacity Utilization (ICU) methodology and the PTV Vistro software program. The ICU methodology uses a ratio of intersection volumes to intersection capacity by movement. The existing levels of service are shown on Table 4.16-1 (Nelson / Nygarrd Consulting Associates Inc. 2018). Currently, there are no intersections exceeding a LOS rating of “B”.

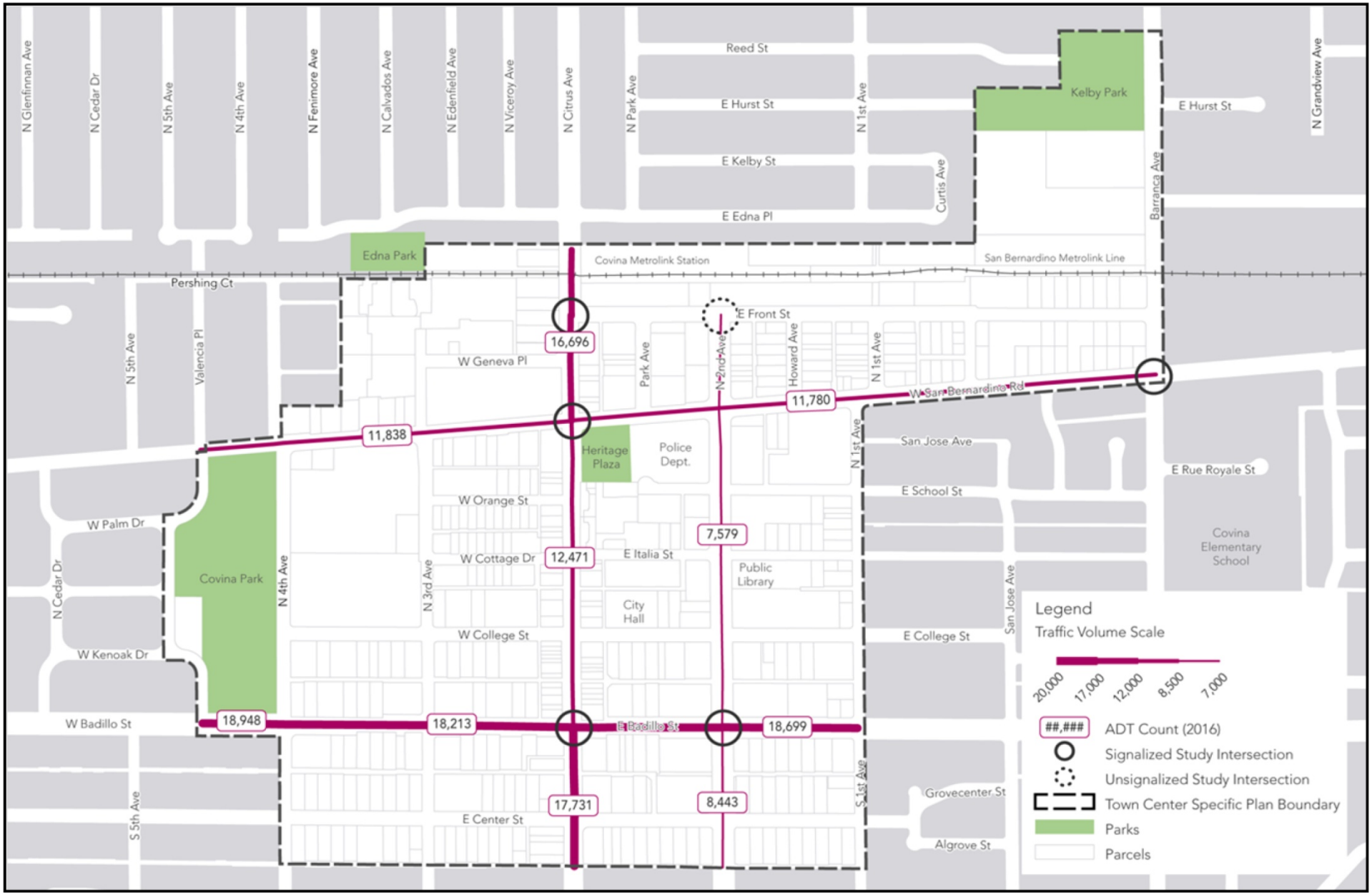

Exhibit 4.16-1 Road Network and Traffic Impact Assessment Intersections

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Figure 4.16-1. Intersection Level of Service Definitions.

LOS	Flow Type	Operational Characteristics	Volume / Capacity Ratio
A	Stable Flow	Free-flow conditions with negligible to minimal delays. Excellent progression with most vehicles arriving during the green phase and not having to stop at all. Nearly all drivers find freedom of operation.	0.00 – 0.60
B	Stable Flow	Good progression with slight delays. Short cycle-lengths typical. Relatively more vehicles stop than under LOS A. Vehicle platoons are formed. Drivers begin to feel somewhat restricted within groups of vehicles.	0.61 – 0.70
C	Stable Flow	Relatively higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, although many still pass through without stopping. Most drivers feel somewhat restricted.	0.71 – 0.80
D	Approaching Unstable Flow	Somewhat congested conditions. Longer but tolerable delays may result from unfavorable progression, long cycle lengths, and/or high volume-to-capacity ratios. Many vehicles are stopped. Individual cycle failures may be noticeable. Drivers feel restricted during short periods due to temporary back-ups.	0.81 - 0.90
E	Unstable Flow	Congested conditions. Significant delays result from poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures occur frequently. There are typically long queues of vehicles waiting upstream of the intersection. Driver maneuverability is very restricted.	0.91 – 1.00
F	Forced Flow	Jammed or grid-lock type operating conditions. Generally considered to be unacceptable for most drivers. Zero or very poor progression, with over-saturation or high volume-to-capacity ratios. Several individual cycle failures occur. Queue spillovers from other locations restrict or prevent movement.	> 1.00

Table 4.16-1. Existing Intersections Level of Service.

#	Intersection	Control Type[1]	Target LOS	AM Peak Hour		PM Peak Hour	
				V/C	LOS	V/C	LOS
1	Citrus Ave & Front St	Signal	C	0.20	A	0.27	A
2	Citrus Ave & San Bernardino Rd	Signal	C	0.57	A	0.60	A
3	Citrus Ave & Badillo St	Signal	C	0.63	B	0.59	A
4	Badillo St & 2nd Ave	Signal	C	0.45	A	0.46	A
5	San Bernardino Rd & Barranca Ave	Signal	C	0.51	A	0.48	A
6	2nd Ave & Front St	Unsignalized	C	0.10	A	0.14	A

Source: (Nelson / Nygaard Consulting Associates Inc. 2018)

As shown in the traffic impact analysis, the City of Covina applies the Los Angeles County Traffic Impact Analysis Guidelines as developed in 1997 (Table 4.16-2). According to the guidelines, an impact is considered significant if the project related increase in the volume to capacity (V/C) ratio equals or exceeds the thresholds shown below.

Table 4.16-2. Los Angeles County Significance Criteria

Pre-project Level of Service (LOS)	Volume to Capacity Ratio (V/C)	Project V/C Change
C	0.71-0.80	0.04 or more
D	0.81-0.90	0.02 or more
E/F	0.9 or more	0.01 or more

Public

The Project Area is served by bus service (Foothill Transit) and train service (Metrolink). Foothill Transit operates two local bus routes in the Town Center (Routes 281 and 190). Route 281 operates along North Second Avenue and North Citrus Avenue with service to the Puente Hills Mall in Rowland Heights and to the City of Glendora. Route 190 operates along Badillo Street and North Citrus Avenue with service to the cities of El Monte, Baldwin Park, and Pomona. Both Route 281 and 190 operate on a 30-minute headway although Route 190 operates with 15-minute headway during the weekday AM and PM peak periods.

The Metrolink Covina Station is located at the north end of the Project Area and provides direct access to Downtown Los Angeles (to the west) and San Bernardino (to the east). Parking is provided at an on-site surface lot and an adjacent garage, both of which are City-owned. Foothill Transit Route 281 provides service to the station, with a stop one block south at North Citrus Avenue and East Front Street.

Airports

The closest commercial airport to Covina is Ontario International Airport (16 miles) while the closest general aviation airport is Brackett Field in La Verne (about 6 miles to the east of the Project). The Ontario International Airport is operated by the Ontario International Airport Authority (created as a Joint Powers Agreement between the City of Ontario and the County of San Bernardino). Brackett Field is owned and operated by Los Angeles County.

4.16.2 REGULATORY FRAMEWORK

Federal

There are no federal agencies or regulations that are directly applicable to Project transportation and traffic impacts.

State

State of California Department of Transportation (Caltrans)

As the owner and operator of the State Highway System, the State of California Department of Transportation (Caltrans) implements state planning priorities in all plans, programs, and activities. Caltrans has the responsibility to coordinate and consult with local jurisdictions when proposed local land use planning and development may impact state highway facilities. Pursuant to Section 21092.4 of the Public Resources Code (PRC), for projects of statewide, regional, or area-wide significance, the lead agency shall consult with transportation planning agencies and public agencies that have transportation facilities which could be affected by the Project. This Project is subject to Caltrans review.

Local

Southern California Association of Governments (SCAG)

The Southern California Association of Governments (SCAG) leads the development of the Regional Transportation Plan (RTP), which presents the vision for transportation throughout most of Southern California, including Los Angeles County. Senate Bill 375 (SB 375) was passed to reduce greenhouse gas emissions from both automobiles and light trucks through integrated transportation, land use, housing and environmental planning. Under SB 375, SCAG is tasked with developing a Sustainable Communities Strategy (SCS). SCS, as a component of the RTP, provides a plan for meeting emissions reduction targets set forth by the California Air Resources Board. The 2016 RTP/SCS identifies priorities for transportation planning within the Southern California region, sets goals and policies, and identifies performance measures for transportation improvements to ensure that future Projects are consistent with other planning goals for the area. The RTIP, also prepared by SCAG based on the RTP, lists all of the regional funded/programmed improvements within the next seven years. In order to qualify for CEQA streamlining benefits under SB 375 a Project must be consistent with the RTP/SCS.

County of Los Angeles Congestion Management Program (CMP)

Proposition 111 created the Congestion Management Program (CMP) in 1990 to address concerns related to increased traffic and congestion. The intent of the CMP is to provide the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP) process. A countywide approach has been established by Los Angeles County Metropolitan Transportation Authority (Metro), the local CMP agency, designating a highway network that includes all state highways and principal arterials within the County of Los Angeles. The Level of Service at each CMP monitoring station is supervised by local jurisdictions in order to implement the statutory requirements of the CMP. If Level of Service standards deteriorate, then local jurisdictions must prepare a deficiency plan to meet conformance standards outlined by the countywide plan.

The City of Covina requires traffic impact studies to meet the County of Los Angeles guidelines. These guidelines use a standardized volume to capacity (V/C) ratio method to determine the intersection level of service. The City's threshold for identifying an impact is 0.8. If this threshold is exceeded due to traffic expected from a project, that project is required to make improvements to the intersection in order to attain an acceptable level of service. Criteria for significant impacts can be found in the Los Angeles County, Metropolitan Transportation Authority 2010 Congestion Management Program. The program defines a significant impact

when the proposed project "…increases traffic demand on a CMP facility by 2% of capacity (V/C ≥ 0.02), causing LOS F (V/C > 1.00)." In the case of an area with LOS F, "…a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C ≥ 0.02)."

City of Covina Bicycle Master Plan

In 2011, the City of Covina approved the Bicycle Master Plan (BMP). The purpose of the BMP is to provide a broad vision of actions and strategies to improve conditions for bicycling in the City and the surrounding region. The BMP recommends improvements and policies to increase the bicycling population; increase cyclists' trip frequency and distance; improve bicyclist, pedestrian and motorist safety; and increase public awareness and support for bicycling. In terms of infrastructure, the BMP provides direction for expanding the City's existing bikeway network and integrating the system into the surrounding countywide bikeway and public transit network.

4.16.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to transportation and traffic if it would:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

e) Result in inadequate emergency access; or

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities;

4.16.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to transportation and traffic, which could result from the implementation of the Project.

Impact TRA-1 - ***Would the Project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?***

Analysis of Impacts

Project-related traffic impacts were determined by comparing the intersection LOS without and with the proposed Project. Significant adverse traffic impacts were identified based on the City of Covina's criteria for significant adverse Project impacts as described above.

Trip Generation

Trip generation for the Project was calculated based on the existing and proposed land uses as shown in the Specific Plan. The Project travel demand estimation was based on the methodologies and procedures obtained in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. The raw trip generation for proposed land use changes were reduced using the California Air Pollution Control Officers Association (CAPCOA) expected reduction factors based on parking and transportation demand management (TDM) recommendations contained in the Specific Plan. The values used for the reduction were assumed to be on the low end of the scale due to the general suburban and car-oriented nature of the region in and around the Project Area. For the purposes of the analysis, the Project was divided into five traffic analysis zones (Figure 4.16-3).

The following reduction values were used:

- Mixed Use Districts/Projects – Transit Oriented Development = 1% to 10% (depended on proximity to transit and zoning of mixed-use components)
- Unbundled Parking for new residential development = 1% (for multi-family only)
- Future Rideshare and Carshare Services = 0.5% (for residential and commercial only)

The net trip generation, by traffic analysis zone, is shown in Table 4.16-3. Traffic generation is shown daily and for the peak AM and PM period.

Table 4.16-3. Net Project Trip Generation

Traffic Analysis Zone	Daily	AM		PM	
		IN	Out	IN	Out
1	2,747	46	68	130	110
2	5,770	25	56	303	272
3	911	(86)	(25)	105	81
4	(395)	(52)	54	10	(64)
5	6,360	223	95	293	361
	13,394	**156**	**247**	**841**	**760**

Source: (Nelson / Nygaard Consulting Associates Inc. 2018)

As shown in Table 4.16-3, implementation of the Project is estimated by 2040 to generate 13,394 new net vehicle trips including 403 A.M. peak-hour trips and 1,601 P.M. peak hour trips.

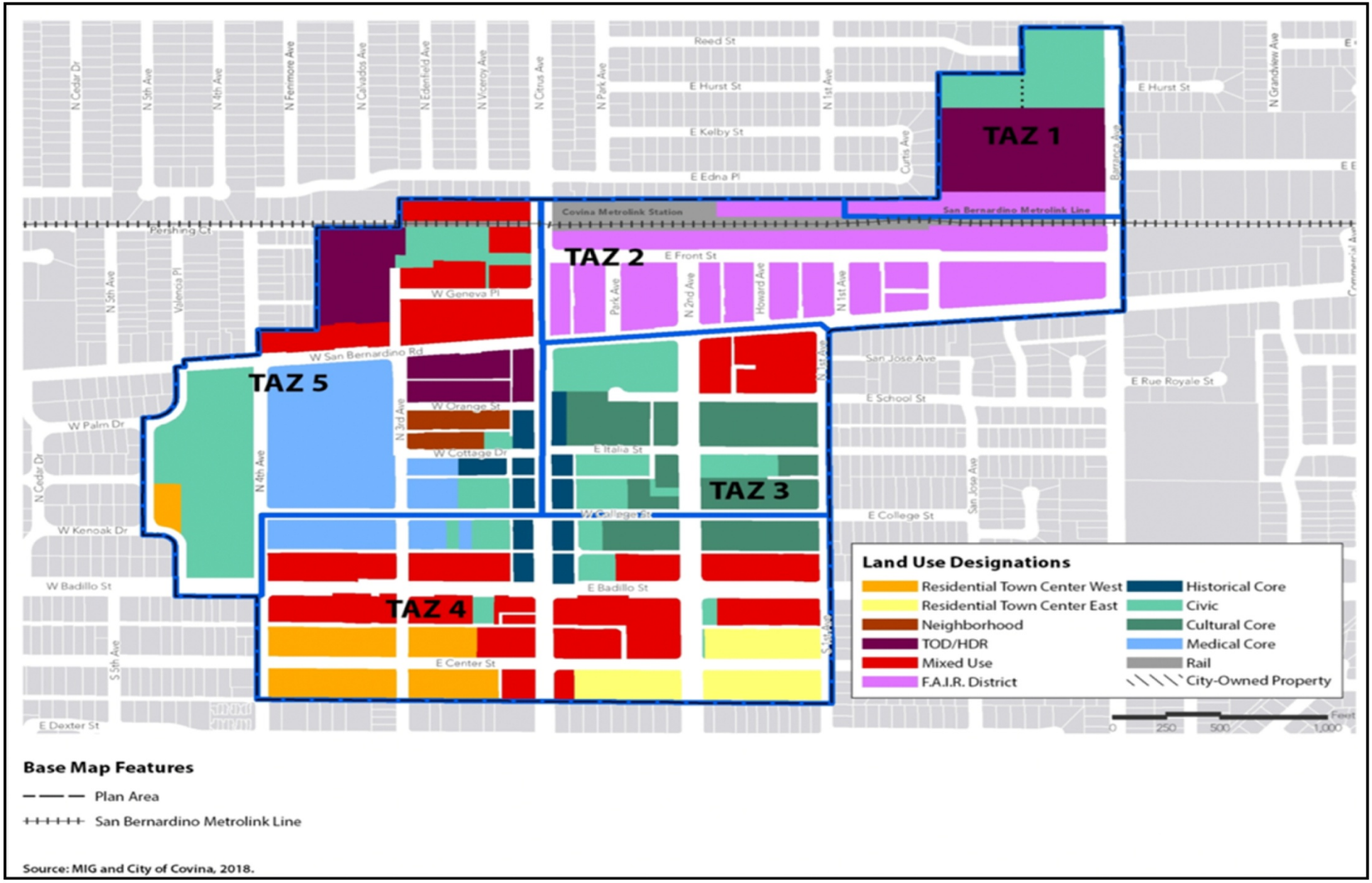

Exhibit 4.16-2 Traffic Analysis Zones

Covina Town Center Specific Plan Update
Covina, California

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Per the County of Los Angeles Traffic Impact Analysis Guidelines (as applied for the City of Covina) dated January 1, 1997, a traffic impact is considered significant if the Project related increase in the volume to capacity (V/C) ratio equals or exceeds thresholds shown above in Table 4.16-2.

After accounting for the net trip generation rates under future expected conditions, the LOS was calculated for the six study intersections (Table 4.16-4). The levels of service for the future condition with an annual growth rate and no Project shows an acceptable level of service at each of the intersections. The Project does not result in an impact to Project intersections.

Table 4.16-4. Future 2040 Conditions: Intersections Level of Service.

#	Intersection	Control Type[1]	Target LOS	AM Peak Hour		PM Peak Hour	
				V/C	LOS	V/C	LOS
1	Citrus Ave & Front St	Signal	C	0.22	A	0.30	A
2	Citrus Ave & San Bernardino Rd	Signal	C	0.62	B	0.62	B
3	Citrus Ave & Badillo St	Signal	C	0.69	B	0.64	B
4	Badillo St & 2nd Ave	Signal	C	0.49	A	0.55	A
5	San Bernardino Rd & Barranca Ave	Signal	C	0.55	A	0.52	A
6	2nd Ave & Front St	Unsignalized	C	0.11	A	0.15	A

Source: (Nelson / Nygaard Consulting Associates Inc. 2018)

Overall, the Project is consistent with local plans and ordinances. The Project is consistent with the City's Bicycle Management Plan with one change, the addition of a cycle track (Class IV) protected bike facility on 2nd Street from Badillo to San Bernardino. Additionally, the Project improves pedestrian access in relation to the Town Center and Metrolink Station.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Impact TRA-2 - ***Would the Project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?***

Analysis of Impacts

None of the roadways or intersections in the Planning Area are on the Los Angeles County Congestion Management Plan network. Therefore, the Project would not conflict with the Los Angeles County Congestion Management program.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Impact TRA-3 - ***Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?***

The project is a plan for a Town Center and there are no aspects of the Project that would result in change in air traffic patterns or result in an increase in air traffic levels. As such, there would be **no impact**.

Level of Significance Before Mitigation

The Project would not have any impact.

Mitigation Measures

No Mitigation is required.

Impact TRA-4 - ***Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?***

The Project does contain design changes to the Planning Area. However, these changes, to intersections as an example, are designed to increase walkability and pedestrian safety. As such, the Project does not include any hazardous design features nor does it introduce incompatible uses. Impacts with respect to hazards from Project design features would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Impact TRA-5 - ***Would the Project result in inadequate emergency access?***

The Project would maintain road access throughout the Planning Area. The plan to reduce North 2nd Ave from five lanes to three lanes, as described in the Specific Plan, explicitly states that roadway modifications would "Maintain key access points to the Fire and Police Departments' facilities." Additionally, emergency access to the Citrus Valley Inter-Community Hospital will be maintained while the 3rd Avenue Pedestrian Plaza is built.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Impact TRA-6 – ***Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?***

Analysis of Impacts

As discussed above in Impact 16(a), the Project is consistent with the 2011 Bicycle Management Plan (City of Covina 2011) with exception of the addition of a cycle track (Class IV) protected bike facility on 2nd Street from Badillo to San Bernardino, which is an improvement to bicycle use and access. Additionally, the Project contains numerous features that improve pedestrian movement and access including the following:

- Incorporating "complete streets" into the Town Center. The term "complete streets" describes a comprehensive approach to the practice of mobility planning. Complete streets principles recognize that transportation corridors have multiple users with different abilities and mode preferences (driving, biking, walking, and taking transit).

- Roadway improvements to North Citrus Avenue and East Front Street are necessary to better accommodate the high pedestrian volume between the Metrolink Covina Station's parking structure and the Metrolink Covina Station, to improve connectivity to the Town Center, and encourage more walking activity.

- The following aspects are also a part of the Project

    - Widened sidewalks,
    - Curb extensions,
    - Highly visible crosswalks
    - Improved traffic signalization

The Project will improve walkability to the Metrolink Station but would also improve other transit facilities including bus shelters and seating, waiting areas, and boarding zones along 2nd Avenue.

As such, the project would be consistent with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities in the Project Area. The impact would be **less than significant.**

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation is required.

Transportation and Traffic Cumulative Impacts

TRA Cumulative Impacts - ***Would the Project cause substantial adverse cumulative impacts with respect to transportation and traffic?***

The traffic impact analysis evaluated existing conditions (Table 4.16-1) and cumulative future conditions (Table 14.6-4) The year 2040 conditions assumed a 0.25% annual increase in existing traffic volumes. Overall, the Project is not anticipated to result in adverse cumulative impacts. Regardless, future Projects within the Specific Use Area will be evaluated on a site-by-site basis and traffic and transportation impacts will be considered.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

4.16.5 REFERENCES

City of Covina (2011) City of Covina Bicycle Management Plan. Completed by Alta Planning for the City of Covina.

Nelson / Nygaard Consulting Associates Inc. (2018). Covina Town Center Specific Plan Transportation Impact Analysis Report. Completed for the City of Covina.

4.17 Utilities and Service Systems

This EIR chapter addresses utilities and service systems impacts associated with the Covina Town Center Specific Plan Update. Issues of interest are utilities and service systems impacts identified by the CEQA Guidelines: whether the Project will exceed applicable wastewater treatment requirements, require or result in the construction of new water or wastewater treatment facilities, require or result in the construction of new or expanded stormwater drainage facilities, have insufficient water supplies, have sufficient wastewater treatment capacity, have sufficient landfill capacity, or comply with federal, state and local requirements related to solid waste.

4.17.1 ENVIRONMENTAL SETTING

Water Service

Water service for the Planning Area would be provided by Azusa Light & Water (ALW). ALW's service area encompasses about 14.2 square miles in the San Gabriel Valley including a portion of five cities and portions of unincorporated Los Angeles County. The water service area includes the City of Azusa and portions of the cities of Glendora, Covina, West Covina, Irwindale, and unincorporated Los Angeles County (ALW 2018). ALW's water supplies come from a combination of imported water from the Metropolitan Water District (which imports water from the Colorado River and the Sacramento-San Joaquin Bay Delta), groundwater from 11 municipal water wells, and local surface water (diversions from the San Gabriel River and the Morris Reservoir) (ALW 2018). Normally groundwater and local surface water diversions are sufficient to supply the service area, but ALW has the ability to import water from MWD in emergency situations (ALW 2018). On average, ALW supplies 19,615 acre-feet per year (afy) of water to its service area, with 12,993 afy (or 66%) of it from groundwater, and 6,622 afy (or 34%) of it from local surface water (ALW 2018).

Sewer System

The City of Covina's sanitary sewer collection system is managed by the City's Public Works Department. Sewer collection lines ranging in size from 6-inches to 10-inches exist throughout the Planning Area (City of Covina 2014). The City's sewer lines ultimately connect to trunk sewers operated by the Sanitation Districts of Los Angeles County (SDLAC) for transmission, treatment and disposal. The Planning Area is located within CSDLAC District 22, which is one of the seventeen districts that form the Join Outfall System (JOS) (SDLAC 2018). The JOS covers approximately 660 square miles, from the foothills of the San Gabriel Mountains in the north to San Pedro Bay in the south, and from the Los Angeles city limits on the west to the Los Angeles County border on the east. This system provides sewage treatment, reuse and disposal for residential, commercial, and industrial users. The JOS includes the main Joint Water Pollution Control Plant in Carson, and six satellite water reclamation plants (WRPs). The sewer trunk lines that collect sewage from the Planning Area convey it to the San Jose Creek WRP. The San Jose Creek WRP has the capacity to provide primary, secondary, and tertiary treatment for 100 million gallons per day (mgd) of wastewater and serves a large residential population of approximately one million people. The San Jose Creek WRP currently processes an average

flow of 65.7 mgd of wastewater, resulting in a remaining capacity of approximately 34.3 mgd of wastewater (SDLAC 2018).

The City requires that any discharge of non-domestic wastewater (e.g., industrial facilities, food service, and certain service commercial facilities) to the City's sewer system must be authorized through an industrial wastewater permit (City of Covina 2018a).

Storm Drain System

The project site would be served by the municipal storm drain system maintained by the Los Angeles County Flood Control District. Connections are located throughout the Planning Area. Connections within the Planning Area include reinforced concrete pipe (RCP) along East San Bernardino Road ranging in size from 27-inches to 51-inches, RCP along West Badillo Street ranging in size from 27-inches to 42-inches, and RCP along North Citrus Avenue ranging in size from 24-inches to 48-inches (County of Los Angeles 2018).

Solid Waste and Recycling Services

Covina Disposal (Athens Services) is the City of Covina's exclusive franchise hauler. Athens Services currently transports all of Covina's commercial waste to a Material Recovery Facility, where recyclable materials are sorted and then diverted from local landfills. As a result, Covina businesses and apartment complexes that are serviced by Athens Services are already in compliance with AB 341(See Section 3.17.2, Regulatory Setting, below).

Electrical Service

Electrical services to the Planning Area are provided by Southern California Edison (SCE).

Telecommunications Service

Telecommunication services would be provided by Time Warner, Charter Spectrum, or Verizon.

4.17.2 REGULATORY FRAMEWORK

Federal

Federal Clean Water Act of 1977

Section 401 of the Clean Water Act (CWA) requires that an applicant for any federal permit (e.g., a U.S. Army Corps of Engineers (ACOE) Section 404 permit) obtain certification from the state that the discharge would comply with other provisions of the CWA and with state water quality standards. For example, an applicant for a permit under Section 404 of the CWA must also obtain water quality certification per Section 401 of the CWA. Section 404 requires a permit from the ACOE prior to discharging dredged or fill material into waters of the United States, unless such a discharge is exempt from CWA Section 404.1 For the Planning Area, the Santa Ana RWQCB must provide the water quality certification required under Section 401 of the CWA. Water quality certification under Section 401, and the associated requirements and terms, is required in order to minimize or eliminate the potential water quality impacts associated with the action(s) requiring a federal permit.

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants from point sources. Section 404 of the CWA

established a permit program to regulate the discharge of dredged or fill material into waters of the United States. Section 303 of the CWA requires states to identify surface waters that have been impaired. Under Section 303(d), states, territories, and authorized tribes are required to develop a list of water quality segments that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology (33 U.S.C. Section 1251 et seq.).

State

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (Assembly Bill (AB) 939), administered by the California Integrated Waste Management Board, regulates nonhazardous solid waste. The law provides a solid waste management system to reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible and in an efficient and cost-effective manner to conserve natural resources, to protect the environment, and to improve landfill safety. Local agencies are required to establish recycling programs, reduce paper waste, purchase recycled products, and implement integrated waste management programs that conform to the State's requirements (California Public Resources Code, Section 40000 et seq.). AB 939 specifically requires that each city and county in California divert 25% of its waste stream by 1995 and 50% by 2000 (CalRecycle 1997). The bill also required each state agency to develop and adopt an integrated waste management plan, in consultation with the Waste Management Board, before July 1, 2000.

Senate Bill X7-7

Senate Bill (SB) X7-7, which became effective on February 3, 2010, is the water conservation component to the Delta legislative package (SB 1, Delta Governance / Delta Plan). It seeks to implement water use reduction goals established in 2008 to achieve a 20% statewide reduction in urban per capita water use by December 31, 2020. The bill requires each urban retail water supplier to develop urban water use targets to help meet the 20% goal by 2020 and an interim 10% goal by 2015. The bill establishes methods for urban retail water suppliers to determine targets to help achieve water reduction targets. The retail water supplier must select one of the four compliance options. The retail agency may choose to comply with SB X7-7 as an individual or as a region in collaboration with other water suppliers. Under the regional compliance option, the retail water supplier still has to report the water use target for its individual service area. The bill also includes reporting requirements in the 2010, 2015, and 2020 Urban Water Management Plans.

State Agency Model Integrated Waste Management Act of 1999

AB 75 was passed in 1999, and the State Agency Model Integrated Waste Management Act (Chapter 764, Statutes of 1999, Strom-Martin) took effect on January 1, 2000. The State Agency Model Integrated Waste Management Act mandated that state agencies develop and implement an integrated waste management plan. The act also mandated that community service districts providing solid waste services report disposal and diversion information to the city, county, or regional agency in which the community service district is located. Provisions of the Act require all state agencies and large state facilities to divert at least 50% of solid waste from landfills after 2004 and that each state agency and large facility submit an annual report to the California Department of Resources Recycling and Recovery summarizing its yearly progress in implementing waste diversion programs (CalRecycle 2018).

Energy Conservation Policies

- **Executive Order S-12-04.** This order requests the participation of all state agencies under the authority of the Governor and other entities not under the direct authority of the Governor to institute energy conservation measures that will reduce energy consumption. Additionally, the order requests that all state agencies review and assess energy conservation policies currently in place and expand those measures to all applicable facilities (State of California 2004a).
- **Executive Order S-20-04.** This order requires the State to commit to "aggressive" action to reduce state building energy usage by retrofitting, building, and operating energy and resource efficient buildings, and by taking all cost-effective measures described in the Green Building Action Plan for facilities owned, funded, or leased by the State. Executive Order S-20-04 requests that California Community Colleges participate in the effort to reduce energy usage (State of California 2004b).
- **State Executive Order S-3-05.** This order directs the State to reduce greenhouse gas emissions, which are linked to energy efficiency (State of California 2005).

Title 24 of the California Code of Regulations

Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in Title 24 guidelines.

Local

Covina Municipal Code

Section 13.06 (Water Conservation) of the Covina Municipal Code implements the City's Water Conservation Plan that will reduce water consumption within the City of Covina through conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within the City of Covina to avoid and minimize the effect and hardship of water shortage to the greatest extent possible. The following water conservation requirements are effective at all times and are permanent as listed in Section 13.06.040 of the Municipal Code:

A. Limits on Watering Hours. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Time on any day, except by use of hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing, shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
B. Limit on Watering Duration. Watering or irrigating of lawn, landscape, or other vegetated areas with potable water using a landscape irrigation system or water device that is not continuously attended is limited to no more than 15 minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow, drip-type irrigation systems when no emitter produces more than two gallons of

water per hour and weather-based controllers or stream rotor sprinklers that meet a 70 percent efficiency standard.

C. No Excessive Water Flow or Runoff. Watering or irrigating lawn, landscape, or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.
D. No Washing Down Hard or Paved Surfaces. Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive, self-closing shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume, high-pressure water broom.
E. Obligation to Fix Leaks, Breaks, or Malfunctions. Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected, and in no event more than seven days of receiving notice from the city, is prohibited.
F. Recirculating Water Required for Water Fountains and Decorative Water Features. Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.
G. Limits on Washing Vehicles. Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited, except by the use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing, shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.
H. Drinking Water Served upon Request Only. Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested. This subsection does not apply to permanently installed public drinking fountains.
I. Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services. Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.
J. No Installation of Single Pass Cooling Systems. Installation of single pass cooling systems is prohibited in buildings requesting new or increased capacity water service.
K. No Installation of Non-recirculating Water Systems in Commercial Car Wash and Laundry Systems. Installation of non-recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.
L. Restaurants Required to Use Water Conserving Dish Wash Spray Valves. Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water-conserving dish wash spray valves.
M. Commercial Car Wash Systems. Effective on January 1, 2011, all commercial conveyor car wash systems must have installed operational recirculating water systems, or must have secured a waiver from this requirement from the city. (Ord. 09-1973 § 1, 2009.)

Section 13.50 of the Covina Municipal Code (Adoption of the Sanitary Sewer and Industrial Waste Code of the County of Los Angeles), industrial facilities and certain commercial facilities (including food service facilities) which plan to discharge industrial wastewater to the City's sewage collection and treatment system are required to first obtain an industrial wastewater

permit. The permit provides a means for the City of Covina to protect its sewer collection and treatment systems (from being clogged or damaged) and to prevent regulated toxic wastewater constituents from passing through to receiving waters and recovered biosolids. Industrial wastewater is any water carrying waste other than domestic wastewater; this includes wastewater containing fats, oils and greases at food service establishments (City of Covina 2018a).

Covina General Plan

Land Use Element

The Land Use Element generally seeks to ensure zoning codes, allowed development intensities, and other land use policies not infringe upon its ability to provide adequate community services and utilities.

Natural Resources Element Policy Area 1 - Water Resources and Air Quality

i. The City shall ensure the adequacy of water supplies to meet all existing and future demands and applications, particularly public safety.
j. The City shall where necessary, work with other water providers serving Covina residents and businesses to ensure sufficient service and to communicate important issues and needs.
k. The City shall ensure adequate water pressure for all uses and purposes.
l. The City shall follow the Covina Water Conservation Ordinance, when necessary, and provide conservation kits and general information to best promote water conservation.
m. The City shall follow the City's Water-Efficient Landscape Ordinance for the sites of new and significantly expanded/remodeled developments as a viable conservation tool.
n. The City shall encourage the incorporation of water conservation features in the design of all new and significantly expanded/remodeled developments and in the installation of conservation devices in existing developments, including, but not limited to, low-flow toilets and shower registers.

4.17.3 SIGNIFICANCE THRESHOLDS

Per the CEQA Guidelines, implementation of the Covina Town Center Specific Plan Update would have a significant impact related to utilities and service systems if it would:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; or

g) Comply with federal, state, and local statutes and regulations related to solid waste;

4.17.4 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to wastewater treatment requirements, water and wastewater treatment facilities, stormwater drainage facilities, water supplies, wastewater treatment capacity, landfill capacity, and solid waste which could result from the implementation of the project and recommends mitigation measures as needed to reduce significant impacts.

Wastewater Treatment Requirements

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Analysis of Impacts

Future development within the Planning Area could affect RWQCB treatment standards by increasing wastewater production. Wastewater in Covina is collected via the sewer system and conveyed to and treated by the Sanitation Districts of Los Angeles. The Sanitation Districts operate ten water reclamation plants (WRPs) and one ocean discharge facility (Joint Water Pollution Control Plant), which treat approximately 510 million gallons per day (mgd), 165 mgd of which are available for reuse. The capacities at these facilities range from 0.2 mgd (La Cañada WRP) to 400 mgd (Joint Water Pollution Control Plant). The San Jose Creek WRP is the largest of the water reclamation plants with a capacity of 100 mgd (LA Sanitation Districts 2017).

Future development within the Planning Area is anticipated to consist of infill development on vacant parcels and focused private redevelopment activity on underutilized properties. Residential and commercial development proposals that would occur over the life of the Specific Plan could not individually result in wastewater treatment violations because these types of projects would not discharge sufficient wastewater volumes or constituents such that the wastewater treatment plant requires modified Wastewater Discharge Requirements (WDRs). According to the City of Covina, annual increases in sewer rates fund necessary sewer system upgrades, which include improvements to Sanitation Districts treatment plants. Wastewater treatment requirements are administered by the RWQCB. Future projects constructed and operated within the Planning Area would be incrementally responsible for payment of fees and adherence to any special requirements for discharging grey and black waters such that discharge to the WTP can properly produce effluent discharges that are within acceptable quality tolerances for discharge, as regulated by the California RWQCB, Los Angeles Region and the EPA.

The City of Covina (Sewer System Master Plan 9SSMP) does not include guidance for calculating potential sewer flow from proposed developments. As such, the *City of Los Angeles Sewer System Management Plan, which* provides guidance for calculating sewer flow utilizing

an equivalent population rate of 80 gallons per capita per day (gpcd), was used to estimate potential sewer flow from the proposed Specific Plan (LACSD 2015). To estimate per capita wastewater flow for non-residential uses, *System Management Plan* provides density conversion factors for commercial/hotel, office, and school/public uses based on assumed equivalent population per net acre of building area. As a conservative analysis, the highest equivalent population for commercial/hotel use has been utilized to calculate maximum wastewater generation. According to the United States Census Bureau American Community Survey, the City of Covina had an estimated population of 48,462 persons as of July 1, 2017 (Census Quick Facts, 2018). As of January 1, 2018, the California Department of Finance (DOF) estimated the City of Covina population to be 49,006 persons (DOF 2018). SCAG's Regional Growth Forecast projects that Covina will have a population of 51,600 persons by the year 2040. In 2018, the Planning Area had an estimated 487 housing units and is estimated to support 1,392 residents (2.99 persons per household). Table 4.17-1 (Wastewater Generation) summarizes calculated existing and proposed wastewater generation within the Planning Area.

Table 4.17-1:
Wastewater Generation

Land Use	Units	Equivalent Population Rate	Equivalent Population	Wastewater Generation (gal/day)[1]
EXISTING CONDITIONS				
Residential[2]	487 DU	2.99 Persons/DU	1,456	116,490
Non-Residential[3]	44 AC	43.7 Persons/AC	1,923	153,840
Total Existing Wastewater Generation (gal/day)				*270,330*
SPECIFIC PLAN BUILD OUT				
Residential[2]	746 DU	2.99 Persons/DU	2,231	178,480
Non-Residential[3]	54 AC	43.7 Persons/AC	2,360	188,800
Total Build Out Wastewater Generation (gal/day)				*367,280*
Net Additional Wastewater Generation (gal/day)				**96,950**

[1] *Wastewater generation per capita based on rate of 80 gallons per person per day (LACSD 2015).*
[2] *Average 2.99 persons per household in Covina (DOF 2017).*
[3] *Highest non-residential population equivalent rate of 43.7 persons per acre of building area utilized.*

Abbreviations: DU=dwelling unit; AC=acre; gal=gallons

As shown in Table 4.17-1, it is estimated that build out of the Planning Area would generate an additional 96,950 net gallons of wastewater per day. LA County Sanitation Districts operates ten water reclamation plants and one ocean discharge facility, which currently have combined a treatment capacity of over 510 MGPD (LACSD 2017). Based on anticipated demand for wastewater treatment and remaining treatment capacity at LACSD, impacts to wastewater treatment associated with implementation of the proposed Specific Plan would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Water and Wastewater Treatment Facilities

b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Analysis of Impacts

Covina Sewer Facilities

Wastewater collected within the City of Covina is conveyed for water treatment by sewer facilities owned and operated by the City. The Planning Area is served by a sewer system consisting of wastewater mains between eight and twelve inches in diameter that were installed between the 1950s and the late 2000s. Implementation of the Proejct would result in increased wastewater generation to be conveyed to LA County Sanitation Districts for treatment. The Planning Area is currently developed and served by existing sewer facilities. According to the City's Sewer System Management Plan, Covina has a Preventive Maintenance Program consisting of scheduled inspections of the sewer system manholes and pipes, pump station, pipeline cleaning, CCTV inspection, identifying problem indicators, needed repairs, and recording of maintenance activity. Covina also has a Rehabilitation and Replacement Plan, which includes a summary of of City capital improvement activities in recent years, a plan to identify and prioritize system deficiencies (condition assessment), and the programming of short-term and long-term rehabilitation projects and related funding development for those capital improvement projects (Covina SSMP 2014). Additionally, the City manages public infrastructure and facilities under a multi-year Capital Improvement Program (CIP) where funds are deposited for use on construction of public improvements. All future development within the Planning Area would be subject to the payment of connection fees and would be subject to review on a project-by-project basis by the Public Works Department to determine adequacy of existing facilities. Therefore, impacts to sewer facilities would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Stormwater Drainage Facilities

c) Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Analysis of Impacts

The Planning Area is in an urbanized area and is almost completely developed, allowing stormwater to either sheet flow or be conveyed to underground storm drains. Future development projects within the Planning Area would create little or no additional impermeable surfaces and would require installation of additional BMPs in compliance with the required

SUSMP/LID Plan. Implementation of the SUSMP would likely result in a decrease in the peak rate and volume of stormwater runoff entering the City's storm drain system. Therefore the Specific Plan Update would not require or result in the construction or expansion of any off-site stormwater drainage facilities. On-site drainage infrastructure would be required in accordance with modern drainage standards as outlined in the regional MS4 Permit and the City of Covina stormwater and runoff pollution control ordinance. Therefore, the proposed project would result in less than significant impacts.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None Required.

Water Supply

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Over the long term, population and employment growth within the Planning Area would likely require expanded water supplies to meet increased demand. Implementation of the proposed Specific Plan could result in significant impacts if it would demand water supplies beyond current entitlements. Future development within the Planning Area would likely be limited to restoration and renovation of existing structures and potential for adaptive reuse; however, some new construction could also occur. Water demand from residential and commercial uses would not require increases in trunk width, extension of conveyance lines, or specially treated water to serve the Planning Area because the Planning Area is currently built out and served by existing facilities.

The City of Covina provides water to the Planning Area. The City receives its waters from Three Valleys Municipal Water District, the Upper San Gabriel Valley Municipal Water District, and the Covina Irrigating Company. The water supply and demand assessment performed in Covina's 2015 UWMP is based on a conservative analysis including only "verifiable" supplies. See Table 4.17-2 (Supply and Demand Comparison) for a comparison of projected supply and demand totals over the normal year, single dry year, and multiple dry year scenarios. According to the UWMP, Covina has the right to purchase additional supplies from MWD in the years where local supplies are insufficient to meet demands. Therefore, it was determined that, based on existing entitlements, there would be sufficient supply to meet demands under the normal year, single dry year, and multiple dry year scenarios.

Table 4.17-2:
Supply and Demand Comparison

Water Supply		Projected (Acre Feet per Year)				
		2020	2025	2030	2035	2040
Normal Year						
Supply		5,705	5,762	5,821	5,880	5,940
Demand		5,705	5,762	5,821	5,880	5,940
Potential Surplus		0	0	0	0	0
Single Dry Year						
Supply		5,451	5,506	5,562	5,618	5,676
Demand		5,451	5,506	5,562	5,618	5,676
Potential Deficit		0	0	0	0	0
Multiple Dry Years						
First Dry Year	Supply	5,451	5,506	5,562	5,618	5,676
	Demand	5,451	5,506	5,562	5,618	5,676
	Potential Deficit	0	0	0	0	0
Second Dry Year	Supply	5,677	5,734	5,792	5,851	5,911
	Demand	5,677	5,734	5,792	5,851	5,911
	Potential Deficit	0	0	0	0	0
Third Dry Year	Supply	5,693	5,751	5,809	5,868	5,928
	Demand	5,693	5,751	5,809	5,868	5,928
	Potential Deficit	0	0	0	0	0
	Conservation & Recycled Water Supply	0	0	0	0	0
	Supply Deficit	0	0	0	0	0
Source: Covina UMWP, 2015						

As discussed in the UWMP and detailed above under the Regulatory Framework, the City's Water Conservation Plan (adopted by the Covina City Council as Municipal Code Chapter 13.06) identifies three stages of water shortage contingency planning. With implementation of water conservation measures as required by the Covina Municipal Code, water demand under dry years would be reduced to levels resulting in zero supply deficit.

According to the UWMP, Covina's water use for the year 2015 was 5,396 AFY. The water use for 2015 was approximately 309 AFY less than the 5,705 AFY projected in the UWMP for the Normal Year 2020 condition and approximately 55 AFY for the First Dry Year 2020 condition. It is also worth noting that the estimated City population in 2015 was 48,946 and dropped slightly through 2018 with an estimated population of 48,876.

The proposed specific plan could support a net increase of 259 residential units. Based on an average of 2.99 persons per household in Covina as estimated by the DOF, the proposed project could result in an increase of up to 745 residents (DOF 2018). Based on a 2015 per capita water use of 213 gallons per capita per day (GPCD) (per capita water usage as calculated in the 2015 UWMP is based on Covina population), buildout of the proposed Specific Plan would result in an increase in water demand of 158,685 GPD (178 AFY). Although the per capita water usage rate of 213 GPCD applies to residential population, which uses the largest volume of water in the City at approximately 30 percent, the rate has been applied to the increase in nonresidential users to provide a worst-case scenario. The net increase in non-residential building area for the Project is projected to be approximately 448,800 square feet by the year 2040.

Although the Project would increase water demand over current conditions by an estimated 178 AFY by the Year 2040, it is important to note that the EIR for the Town Center Specific Plan, originally certified in 2004, forecasted much higher water use than the current project. The 2004 EIR estimated water use ranging from 226.3 to 532.7 AFY. Also, the water use under the 2004 Specific Plan EIR is higher even though the proposed amended Specific Plan would increase the area of the plan from 170 to 236 gross acres. Also, the increase in growth from the originally adopted 2004 Specific Plan will have been accounted for in each of the subsequent Urban Water Management Plans (including the 2015 UWMP), which are required by state law to be updated every five years. That is, the 2004 EIR water use estimate would be included in the 2015 UWMP supply and demand figures shown in Table 4.17.2. Since the Project is estimated to use less water overall than the 2004 specific plan, and since water use for the 2004 specific plan is folded in to the 2015 UWMP, impacts of the Specific Plan Amendment with respect to water supply would be less than significant.

The proposed Specific Plan does not contain policies or programs that would conflict with existing policies and standards designed to conserve water. The proposed Specific Plan supports green building and sustainable building practices that would support water conservation efforts. Based on existing water supplies and existing and potential future water conservation efforts, impacts related to the need for new or expanded water supplies would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None Required.

Wastewater Treatment Capacity

e) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Analysis of Impacts

The existing infrastructure within the Planning Area would be able to accommodate the wastewater discharges from future development. Wastewater from the Planning Area will be treated at one of the facilities operated by SDLAC. The sewer trunk lines that collect sewage from the Planning Area direct it to the San Jose Creek WRP. The San Jose Creek WRP has the capacity to provide primary, secondary, and tertiary treatment for 100 million gallons per day (mgd) of wastewater and serves a large residential population of approximately one million people. The San Jose Creek WRP currently processes an average flow of 65.7 mgd of wastewater, resulting in a remaining capacity of approximately 34.3 mgd of wastewater (SDLAC 2018). The Specific Plan Update has the capacity to support up to 259 new dwelling units, up to 448,800 square feet of additional non-residential floor area, and up to 745 new additional residents. As shown in Table 4.17-1 above, buildout of the Specific Plan Update would result in a net additional wastewater generation of 96,950 gallons per day. This increase is well within the remaining capacity of the San Jose Creek WRP.

Future development within the Planning Area is anticipated to consist of infill development on vacant parcels and focused private redevelopment activity on underutilized properties. Residential and commercial development proposals that would occur over the life of the Specific Plan could not individually result in a determination by the wastewater treatment provider that it has inadequate capacity to serve additional demand because these types of projects would not discharge sufficient wastewater volumes or constituents such that the wastewater treatment plant requires modified wastewater discharge requirements WDRs. According to the City of Covina, annual increases in sewer rates fund necessary sewer system upgrades, which include improvements to the Sanitation Districts treatment plants. Wastewater treatment requirements are administered by the RWQCB. Future projects constructed and operated within the Planning Area would be incrementally responsible for payment of fees and adherence to any special requirements for discharging grey and black waters such that discharge to the WTP can properly produce effluent discharges that are within acceptable quality tolerances for discharge, as regulated by the California RWQCB, Santa Ana Region and the EPA. Further, the City requires that any discharge of non-domestic wastewater (e.g., industrial facilities, food service, and certain service commercial facilities) to the City's sewer system must be authorized through an industrial wastewater permit (City of Covina 2018a).The SDLAC has established the Will Serve Program to provide information on available trunk sewer and treatment plant capacities for proposed development projects within the Sanitation Districts' service area. As part of the application process for a Tentative Tract Map (subdivision) and Site Plan Review, the City requires project applicants to provide "will-serve" letters from applicable utilities indicating their intent and ability to supply the project with wastewater service as a condition of approval. As such, impacts are considered to be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Landfill Capacity

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Analysis of Impacts

Demolition activities from future development projects are likely to produce substantial quantities of debris that would need to be disposed of. The City's Construction and Demolition (C&D) Diversion Program requires as a condition of demolition and building permits that 75% of all building and demolition materials be recycled. The City maintains an exclusive franchise agreement with Athens Services doing business as (dba) Covina Disposal to carry out the C&D Diversion Program for construction contractors (City of Covina 2018b). The City's requirement of a 75% construction waste diversion rate would substantially reduce solid waste associated with future development projects in the Planning Area. Further, any hazardous wastes that are generated during construction activities would be managed and disposed of in compliance with all applicable federal, state, and local laws. The remaining 25% of C&D material would either be recycled or disposed of at a solid waste facility with available capacity.

Solid waste produced on a regular basis during operation and maintenance of future development projects in the Planning Area would be collected and disposed of by Athens Services. Athens Services is a waste management company that serves several cities in the region. Athens is a mixed-waste processor that can process 5,000 tons of mixed material each day. Athens uses regional landfills in Los Angeles County and San Bernardino County to dispose of waste from its collection, transfer and disposal services. For 2018, Los Angeles County landfills have a total yearly surplus capacity of 5,891,813 tons (or about 47% capacity remaining) and San Bernardino County landfills have a total yearly surplus capacity of 7,779,840 tons (or about 80% capacity remaining) (CalRecycle 2018). The landfills in both counties have adequate capacity to accommodate waste disposal needs through 2040 assuming a medium growth rate projection for the region (CalRecycle 2018).

Therefore, it is anticipated that one of the landfills utilized by Athens would have sufficient permitted capacity to accommodate increases in solid waste disposal needs resulting from the Specific Plan Update. For these reasons, the impact of C&D activities, as well as project operations, with respect to permitted landfill capacity, would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Solid Waste

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Analysis of Impacts

Waste from development within the Planning Area would be serviced by Covina Disposal (Athens Services). Waste generated from future construction activities would be diverted to a recycling facility at a rate of 75%, in accordance with the requirements of the City's Construction and Demolition Diversion Program. Waste generated during operation of future developments would be managed by Covina Disposal. Hazardous waste produced during construction and operation of developments within the Planning Area would be managed and disposed of in compliance with all applicable federal, state, and local laws. Since development within the Planning Area would be required to comply with federal, state and local statutes and regulations related to solid waste during both phases of construction and operation of the proposed project, impacts would be considered less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Cumulative Impacts

Would the project cause substantial adverse cumulative impacts with respect to utilities and service systems?

Analysis of Impacts

The geographic extent for the analysis of cumulative impacts associated with utilities and service systems consists of the service area associated with each utility. The analysis of increased demand associated with utilities and service systems is by nature a cumulative impacts analysis, because it deals with the current and future demands on potable water, wastewater, stormwater, and solid waste facilities and systems in the context of the whole service area. Water and wastewater utility service providers will continue to be responsible for meeting water quality regulations and waste discharge requirements, and continue to be responsible for providing sufficient and reliable service within their respective service areas. The environmental impacts of infrastructure and/or CIP projects necessary to increase capacity or meet NPDES requirements or WDRs on a regional level are assessed pursuant to CEQA by each agency/utility provider that carries such projects out. Projects requiring new or altered connections or services must coordinate with the applicable utility to execute service agreement(s), and if applicable, pay impact fees.

According to the 2015 UWMP, Covina's water use for the year 2015 was 5,396 AF. The proposed Specific Plan will support a net increase of 259 residential units and 448,800 square feet of non-residential building area. As discussed above (Impact Statement d – Water Supply), the water use estimate for the EIR for the originally adopted 2004 specific plan EIR is greater that the water use projected under the Amended Specific Plan, and the water use identified in the 2004 EIR has since been folded in to the 2015 UWMP. Therefore, impacts with respect to water supply are less than significant. Likewise, cumulative impacts with respect to water supply would be less than significant, since water use under the Amended Specific Plan would be lower that the originally adopted 2004 Specific Plan.

Determinations of water sufficiency found in the applicable UWMP (ALW 2018), landfill capacity provided by CalRecycle (2018), and sewer system capacity assurance found in the applicable sewer system management plan (City of Covina 2014) take future growth into consideration. Therefore, the less than significant conclusions reached in Section 4.17.4 are equally applicable in the cumulative context. Cumulative impacts are considered less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

4.17.5 REFERENCES

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City of Covina. 2018b. *Construction and Demolition Debris Recycling and Waste Handling Requirement.* City of Covina Environmental Services. http://www.covinaca.gov/sites/default/files/fileattachments/public_works/page/579/covina_cd_recycling_requirement.pdf [Accessed September 2018].

City of Covina. 2014. *City of Covina Sewer System Management Plan (Final Report).* Prepared by Hall & Foreman, Inc. December 2014.

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SDLAC (Sanitation Districts of Los Angeles County) undated. Table 1 – Loadings for each class of land use. Undated.

County of Los Angeles. 2018. Los Angeles County GIS Portal. Department of Public Works Storm Drain System Web Map Viewer. http://dpw.lacounty.gov/fcd/stormdrain/index.cfm [Accessed September 2018].

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

5.1 PURPOSE

Section 15126.6 of the CEQA Guidelines requires an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives". Pursuant to Section 15126.6, this chapter describes four alternatives to the Covina Town Specific Plan update and compares their impacts to those of the proposed Specific Plan. Pursuant to the CEQA Guidelines, the ability of the alternatives to meet the project objectives is also described, and the environmentally superior alternative among the alternatives is identified.

Under CEQA, the analysis of alternatives needs only to evaluate how an alternative could avoid or reduce significant impacts. Environmental impacts identified as less than significant do not require mitigation and, therefore, do not need to be further reduced under the analysis of alternatives. Similarly, potentially significant impacts that would be reduced to less-than-significant levels after mitigation could require less mitigation under an alternative. For a more thorough comparison, however, the evaluation below includes all 17 impact categories included in this EIR (aesthetics and visual resources, air quality, biological resources, etc.).

This EIR has identified two significant unavoidable impacts that could result from the Covina Town Center Specific Plan update:

- Impact 4.3.4 (b): Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard.
- Impact 4.8.4 (a): Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

In accordance with CEQA Guidelines Section 15126.6(a), this EIR does not evaluate every conceivable alternative. A feasible range of alternatives that will allow decision-makers to make a reasoned choice has been evaluated. Also, the Lead Agency may choose to adopt a combination of the alternatives described below. The Covina Town Center Specific Plan update objectives are set forth in Chapter 3. In this EIR, these objectives are referred to under the CEQA term "basic project objectives" (CEQA Guidelines section 15124[b]).

1. Create a memorable, accessible, and economically vibrant Town Center.
2. Bolster sense of character and place for the entire Covina community.
3. Enhance mobility options, including walking, bicycling and stronger accessibility to the Covina Metrolink station.
4. Encourage Transit-Oriented Development (TOD).
5. Create additional employment opportunities.
6. Create opportunities for additional housing.
7. Expand the City's tax base.

Existing Planning Area land use is shown in Table 5-1. Projected buildout year 2040 land use is shown in Table 5-2.

Table 5-1
Existing 2018 Land Use

Land Use Category	Dwelling Units	Non-Residential (sf)	Population (Est.)
Single Family Residential	78	--	223
Duplex Residential	17	--	49
Multi Family Residential	344	--	984
Mobile Home Residential	21	--	60
Commercial	--	451,282	--
Office	--	292,506	--
Mixed Use	27	33,324	76
Industrial/Commercial Ind.	--	381,760	--
Hospital	--	412,078	--
Public Facility	--	116,218	--
Institutional (Place of Worship)	--	211,702	--
Parking	--	--	--
Open Space	--	--	--
Railroad	--	--	--
Vacant	--	--	--
Total Existing	**487**	**1,898,870**	**1,392**

Table 5-2
Projected Year 2040 Land Use

Land Use Category	Dwelling Units	Non-Residential (sf)	Population
Residential Town Center (West)	140	--	401
Residential Town Center (East)	92	--	263
Single Family Residential	8	--	23
Live/Work	16	81,593	46
Multi Family Residential	399	70,487	1,143
Commercial	--	762,634	--
Office	--	289,129	--
Mixed Use	91	106,713	261
Industrial	--	252,937	--
Hospital	--	406,127	--
Institutional	--	378,050	--
Parking	--	--	--
Open Space	--	--	--
Railroad	--	--	--
Vacant	--	--	--
Total Projected	**746**	**2,347,670**	**2,137**
Change Over Existing	**+259 (54%)**	**+448,800 (24%)**	**+745 (65%)**

5.2 ALTERNATIVES SELECTION

The following alternatives have been evaluated in comparison to the proposed Plan:

- Alternative 1: No Project - Existing Covina Town Center Specific Plan
- Alternative 2: Reduced Non-Residential Development Potential
- Alternative 3: Reduced Residential Development Potential

In accordance with CEQA Guidelines Section 15126.6, 1) an "environmentally superior alternative" has been chosen and 2) the discussion in this chapter of the impacts of the alternatives is less detailed than the discussions in chapters 4.1 through 4.17 (the environmental topic chapters) of the impacts of this EIR. Table 4.19-3 at the end of this chapter qualitatively summarizes impacts of the alternatives compared to impacts of the proposed Project. Also, for analytic purposes, it is assumed that the mitigation measures that have been applied to the project would also be applicable to each of the alternatives.

Since the Covina Town Center Specific Plan update focuses on methods to redevelop and improve the Covina Town Center, considering alternatives at different locations within the City is not practical or necessary. There are no other districts within the City that are either undeveloped, have the unique market demand opportunity, or land use characteristics similar to the Town Center area. Therefore, no off-site alternatives have been evaluated.

ALTERNATIVE 1: NO PROJECT - EXISTING COVINA TOWN CENTER SPECIFIC PLAN

Alternative 1: Characteristics

Under Alternative 1 (No Project), the City would not adopt any changes to current land use and zoning controls within the Planning Area. None of the proposed roadway improvements, including the West Cottage Drive and West College Street Health Corridors, would be implemented. Under the No Project alternative, development is assumed to remain static although, due to the age of many of the buildings in the Town Center area, recycling to newer buildings would be expected to occur over time. Absent the incentives provided by the Specific Plan update, redevelopment would possibly occur at a slower pace. Under this alternative, it is assumed that there would be no net increase in building floor area or residential units. In contrast, the proposed project would add 448,800 square feet of building area and 259 additional dwelling units.

(a) Aesthetics and Visual Resources. Since the Planning Area is already a developed, the No Project Alternative would result in no change with respect to impacts on aesthetic and visual resources, as compared with the proposed Specific Plan update. However, the visual character, identity, and cohesion of the district would be relatively static without adoption of the Plan, whose unified development standards and context-sensitive design strategies are purposely designed to achieve and maintain a cohesive, compatible visual identity and sense of place. Impacts would be less than significant for both the project and this alternative.

b) Agriculture and Forestry Resources. There are no agriculture or forestry resources with the boundaries of the Covina Town Center area. There would be no impact on these resources for the project or for this alternative.

(c) Air Quality. This alternative would result in decreased air pollutant emissions compared to the Project because there would be less building area for office, commercial, and medical uses,

which would result in fewer vehicle trips (the predominant source of emissions). Emissions would also be lower compared to the proposed project since there would be 448,800 less square feet of non-residential building area and 259 fewer dwelling units.

(d) Biological Resources. Since the Covina Town Center area is already developed, no impacts to biological resources would occur, with the exception of potential impacts to nesting birds protected by the Migratory Bird Treaty Act (MBTA). With mitigation, impacts would be less than significant for both the project and this alternative.

(e) Cultural and Historical Resources. Because it would involve less overall new development, this alternative could have fewer potential physical impacts on historic resources compared to the proposed Plan. With mitigation, impacts would likely be similar. Impacts would be less than significant for both the project and this alternative.

(f) Geology and Soils. The reduced building area under the No Project alternative would attract fewer people who could be exposed to potential ground shaking, liquefaction, lateral spreading, expansive soils, subsidence, and differential settlement hazards associated with geologic and soils conditions within the Plan area. Impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

(g) Greenhouse Gas Emissions and Global Climate Change. Development under this alternative would result in fewer GHG emissions compared to the proposed Project because of the reduced building area and reduced vehicle trips under the No Project alternative. The significant adverse and unavoidable impact with respect to GHG emissions might be eliminated under the No Project Alternative since less development would occur. However, development under this alternative would not be as pedestrian-, bicycle-, and transit-oriented as under the proposed Covina Town Center Specific Plan update.

(h) Hazards and Hazardous Materials. Impact under the No Project Alternative would be slightly less because the No Project alternative would attract fewer people, resulting in exposure of fewer people and properties to hazards and hazardous materials compared to the proposed Plan. Impacts would be less than significant for both the Covina Town Center Specific Plan update project and this alternative.

(i) Hydrology and Water Quality. The No Project alternative would have similar impacts on drainage and water quality compared to the proposed Covina Town Center Specific Plan update. From an engineering standpoint, surface runoff is determined by a parcel's impervious surface area and not by land use intensity. Even with less development under the No Project alternative, there would be virtually no change in terms of impervious surface area, stormwater runoff generation, and pollutant loading. Development under this alternative still would be subject to standard City stormwater runoff requirements. Impacts would be less than significant for both the Covina Town Center Specific Plan update project and this alternative.

(j) Land Use and Planning. Since the Covina Town Center area is already fully developed and the basic pattern of development and roadway system are already intact, impacts would be similar under both the Project and the No Project Alternative with respect to dividing existing communities. The Project would have somewhat less impact with respect to plan consistency, as it would better support RTP/SCS goals. It would maximize mobility by providing bicycle and pedestrian access improvements (Goal G2); improve travel safety for pedestrians and bicyclists (Goal G3); maximize productivity of the transportation system by increasing the development potential of land that is already well served by the regional transportation system (Goal G5); and

protect the environment by encouraging active transportation (Goal 6), providing additional facilities that support walking and bicycling and by increasing job opportunities near residential areas, thereby reducing commuter VMT and air pollution from mobile sources. Impacts would be less than significant for both the Covina Town Center Specific Plan update project and this alternative.

(k) Mineral Resources. The Covina Town Center Specific Plan area does not contain any known mineral resources. Implementation of the Specific Plan update or this alternative would not result in significant impacts with respect to the loss of the availability of mineral resources because the Planning Area is already developed.

(l) Noise. Buildout under the No Project alternative would result in less noise than the proposed Project due primarily to fewer new vehicle trips added to local roadways. Implementation of the Specific Plan update or this alternative would not result in significant impacts with respect to temporary or permanent increases in ambient noise in the Project vicinity. Impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

(m) Population and Housing. Because this alternative would not include additional housing development and would not involve construction of new infrastructure with the capacity to support extensive growth, impacts would be virtually the same as the proposed Project. Impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

(n) Public Services and Recreation. Compared to the proposed Project, this alternative would result in fewer impacts on fire protection/emergency medical service, police service, public schools, parks and recreational facilities, and other public facilities (e.g., library, community center) because there would be less building area and fewer new employees requiring public services. Impacts would be less than significant for both the proposed Project and this alternative.

(o) Transportation and Circulation. Under the No Project alternative, trip generation and traffic impacts from new development within the Plan area would be lower than associated with the proposed Project. Implementation of the proposed Specific Plan update or this alternative would not result in significant impacts with respect to conflicts with applicable programs plans, ordinances, or policies addressing the circulation system. Impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

(p) Utilities and Service Systems. This alternative would result in reduced water demand, wastewater generation, and solid waste compared to the proposed Plan update. Impacts would be less than significant for both the Project and this alternative.

Alternative 1: Impacts and Attainment of Project Objectives

This alternative would have impacts similar to or less than the proposed Project, except for compliance with the SCAG RTP/SCS, since the No Project alternative would be less effective in supporting transit and promoting bicycling and walking as transportation alternatives. Under this alternative, all of the significant and unavoidable impacts associated with the proposed project would likely be reduced to less-than-significant levels. However, the No Project Alternative would not support attainment of any of the project objectives.

Objectives 1 and 2 would not be supported, as this alternative would not create a memorable, accessible and economically vibrant Town Center, and would not bolster a sense of character and place for the entire Covina community.

Objective 3 would not be attained since development standards and design guidelines that enhance mobility options, including walking, bicycling, and stronger accessibility to the Covina Metrolink Station, would not be provided.

Objective 4 would not be achieved since none of the features of the Specific Plan update would be provided to encourage transit-oriented development.

Objective 5 and 6 would not be achieved since additional employment opportunities and additional housing would not be created.

Objectives 7 would not be attained since the City's tax base would not be expanded.

ALTERNATIVE 2: REDUCED NON-RESIDENTIAL DEVELOPMENT POTENTIAL

Alternative 2 Characteristics

Alternative 2 would be the same as the proposed Project, except that this alternative would include less non-residential development potential. A reduction of new non-residential development potential would result in fewer vehicle new trips and thus less traffic-related noise and air pollutant emissions. The land use, zoning, and proposed increase in floor-area ratios (FAR) for residential development under Alternative 2 would be identical to those proposed in the Specific Plan update. The development and design standards and guidelines would also be the same as those proposed in the Specific Plan update. However, this alternative would not include the proposed additional non-residential building area of 448,800 square feet when compared to the Project. This alternative would therefore result in fewer non-residential vehicle trips when compared to the Project.

Comparative Impacts and Mitigating Effects

(a) Aesthetics and Visual Resources. Impacts would be similar under this alternative compared to the Project since the streetscape enhancements included with the various roadway reconfigurations would still be provided. These enhancements would help to improve the aesthetic and visual quality of the Planning Area as it redevelops at the higher intensities envisioned under the Specific Plan update. Impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

(b) Agriculture and Forestry Resources. There are no agriculture or forestry resources within the boundaries of the Covina Town Center area. There would be no impact on these resources for the Project or for this alternative.

(c) Air Quality. This alternative would result in decreased air pollutant emissions compared to the proposed Plan because there would be less building area for office, commercial, hospital, and other non-residential uses, which would result in fewer vehicle trips (the predominant source of emissions). Emissions would also be lower compared to the proposed Project since there would be 448,800 less square feet of non-residential building area. Because non-residential land uses account for approximately 84 percent of the vehicle miles travelled (VMT) estimate, it can be assumed that emissions of NOX will be below significance thresholds and

impacts would be less than significant. Therefore, this alternative would eliminate the significant, adverse, and unavoidable impacts that would occur with the Project with respect to Air Quality.

(d) Biological Resources. Since the Covina Town Center area is already developed, no impacts to biological resources would occur, with the exception of potential impacts to nesting birds protected by the Migratory Bird Treaty Act (MBTA). With mitigation, impacts would be less than significant for both the Project and this alternative.

(e) Cultural and Historical Resources. This alternative would result in impacts less than the proposed project since less development would be approved that would lead to ground disturbing activities. Impacts would be less than significant for both the Project and this alternative.

(f) Geology and Soils. This alternative would result in somewhat less compared to the proposed Project since the level of development would be less. Consequently, potential impacts with respect to ground shaking, liquefaction, lateral spreading, expansive soils, subsidence, and differential settlement hazards associated with geologic and soils conditions would be less compared to the Project. Impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

(g) Greenhouse Gas Emissions and Global Climate Change. This alternative would result in decreased greenhouse gas emissions compared to the proposed Plan because there would be less building area for office, commercial, hospital, and other non-residential uses, which would result in fewer vehicle trips (the predominant source of emissions). Emissions would also be lower compared to the proposed Project since there would be 448,800 less square feet of non-residential building area. Because non-residential land uses account for approximately 84 percent of the vehicle miles travelled (VMT) estimate, it can be assumed that GHG emissions will be below significance thresholds and impacts would be less than significant. Therefore, this alternative would eliminate the significant, adverse, and unavoidable impacts that would occur with the Project with respect to Air Quality.

(h) Hazards and Hazardous Materials. This alternative would result in impacts less than the Project since there would be 480,800 less square feet of non-residential building area which would reduce exposure to potential hazards and hazardous materials. Potential exposure of people and property to hazards and hazardous materials would be less under this alternative compared to the Project. Impacts would be less than significant for both the Project and this alternative.

(i) Hydrology and Water Quality. This alternative has similar impacts on drainage and water quality compared to the proposed Project. From an engineering standpoint, surface runoff is determined by a parcel's impervious surface area and not by land use intensity. Since the Planning Area is already developed there would be very little change in terms of impervious surface area, stormwater runoff generation, and pollutant loading with respect to this alternative or the Project. Development under this alternative would still be subject to standard City stormwater runoff requirements. Impacts would be less than significant for both the Project and this alternative.

(j) Land Use and Planning. Since the Planning Area is already fully developed and the basic pattern of development and roadway system are already intact, impacts would be similar under both the Project and this alternative with respect to dividing existing communities. This alternative would have similar impacts with respect to conflicts with a land use plan, policy or

regulation adopted for the purposed of avoiding or mitigating an environmental effect. Impacts would be less than significant for both the Project and this alternative.

(k) Mineral Resources. The Covina Town Center Specific Plan area does not contain any known mineral resources. Implementation of the Specific Plan update or this alternative would not result in significant impacts with respect to the loss of the availability of mineral resources because the Covina Town Center area is already developed.

(l) Noise. Buildout under the Reduced Non-Residential Development alternative would result in less noise than the proposed Plan due primarily to fewer new vehicle trips added to local roadways. Implementation of the Project or this alternative would not result in significant impacts with respect to temporary or permanent increases in ambient noise in the Project vicinity. Impacts would be less than significant for both the Project and this alternative.

(m) Population and Housing. This alternative would result in impacts similar to the proposed Project since residential development potential would be the same for the Project and this alternative. This alternative would result in 259 new dwelling units and no new non-residential floor space. The anticipated increases in population and housing are within the SCAG RTP/SCS growth projections. Impacts would be less than significant for both the Project and this alternative.

(n) Public Services and Recreation. This alternative would result in reduced impacts when compared to the proposed Project. While this alternative would include capacity for up to 259 new dwelling units in the Planning area, it would reduce the capacity for non-residential floor space. As such, impacts to Public Services and Recreation are anticipated to be less than significant under the Reduced Non-Residential Development Potential alternative. Impacts would be less than significant for both the Project and this alternative.

(o) Transportation and Circulation. Impacts with respect to traffic level of service (LOS) would be less under this alternative compared to the Project. With reduced non-residential development potential, impacts to the circulation system would be less than the proposed Project. Impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

(p) Utilities and Service Systems. This alternative would result in less impacts compared to the proposed project since this alternative would have 448,800 square feet less of non-residential floor space. Impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

Alternative 2 Impacts and Attainment of Project Objectives

This alternative would have impacts that are similar to the Project for most impacts. This alternative would have slightly less impacts with respect to Cultural Resources, Noise, Public Services and Recreation, Transportation and Circulation, and Utilities and Service Systems. This alternative would reduce impacts related to Air Quality and Greenhouse Gas emissions to less than significant since it would reduce non-residential development potential and traffic generation when compared to the proposed Project. However, this alternative would not support attainment of several project objectives.

Objectives 1, 2, 3, and 6 would be attained under this alternative; however, Alternatives 1 and 2 would not be met to the extent that they would under the Project.

Objective 4 would not be achieved since Transit Oriented Development needs to include non-residential land uses as well as residential land uses.

Objective 5 would not be achieved since reduced non-residential development potential would create less employment opportunities.

Objective 7 would not be attained since reduced non-residential development potential would lead to less expansion of the City's tax base.

ALTERNATIVE 3: REDUCED RESIDENTIAL DEVELOPMENT POTENTIAL

Alternative 3 Characteristics

Alternative 3 would be the same as the proposed Project, except that this alternative would include less residential development potential. This change would result in the elimination of all potential new dwelling units (259) as compared to the Project. A reduction of new residential development potential could result in fewer new trips and thus less traffic-related noise and air pollutant emissions. The land use, zoning, and proposed increase in floor-area ratios (FAR) for non-residential development under Alternative 2 would be identical to those proposed in the Specific Plan update. The development and design standards and guidelines would also be the same as those proposed in the Specific Plan update. This alternative would also result in fewer residential vehicle trips compared to the Project.

Comparative Impacts and Mitigating Effects

(a) Aesthetics and Visual Resources. Impacts would be similar under this alternative compared to the Project since the streetscape enhancements included with the various roadway reconfigurations would still be provided. These enhancements would help to improve the aesthetic and visual quality of the Planning Area as it redevelops at the higher intensities envisioned under the Specific Plan update. Impacts would be less than significant for both the Project and this alternative.

(b) Agriculture and Forestry Resources. There are no agriculture or forestry resources within the boundaries of the Covina Town Center area. There would be no impact on these resources for the Project or for this alternative.

(c) Air Quality. This alternative would result in decreased air pollutant emissions compared to the proposed Project because there would be less residential development potential, which would result in fewer vehicle trips (the predominant source of emissions). Emissions would also be lower compared to the proposed Project since there would be 259 less residential dwelling units under this alternative. However, because residential land uses only account for approximately 16 percent of the projected VMT, this alternative would not eliminate the significant, adverse, and unavoidable impacts that would occur with the Project with respect to Air Quality.

(d) Biological Resources. Since the Planning Area is already developed, no impacts to biological resources would occur, with the exception of potential impacts to nesting birds protected by the Migratory Bird Treaty Act (MBTA). With mitigation, impacts would be less than significant for both the Project and this alternative.

(e) Cultural and Historical Resources. This alternative would result in impacts slightly less than the proposed project since less development would be approved that would lead to ground disturbing activities. Impacts would be less than significant for both the Covina Town Center Specific Plan Update and this alternative.

(f) Geology and Soils. This alternative would result in impacts similar to the proposed Project since the level of development would be similar for non-residential uses. Consequently, potential impacts with respect to ground shaking, liquefaction, lateral spreading, expansive soils, subsidence, and differential settlement hazards associated with geologic and soils conditions would be similar. Impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

(g) Greenhouse Gas Emissions and Global Climate Change. This alternative would result in decreased greenhouse gas emissions compared to the proposed Plan because there would be less potential residential development, which would result in fewer vehicle trips (the predominant source of emissions). Emissions would also be lower compared to the proposed Project since there would be 259 less residential dwelling units under this alternative. However, because residential land uses only account for approximately 16 percent of the projected VMT, this alternative would not eliminate the significant, adverse, and unavoidable impacts that would occur with the Project with respect to Greenhouse Gases.

(h) Hazards and Hazardous Materials. This alternative would result in impacts similar to the proposed Project since land uses and types of development would be the same for the Project and this alternative. Potential exposure of people and property to hazards and hazardous materials would also be similar. However, impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

(i) Hydrology and Water Quality. This alternative has similar impacts on drainage and water quality compared to the proposed Project. From an engineering standpoint, surface runoff is determined by a parcel's impervious surface area and not by land use intensity. Since the Planning Area is already developed there would be very little change in terms of impervious surface area, stormwater runoff generation, and pollutant loading with respect to this alternative or the Project. Development under this alternative would still be subject to standard City stormwater runoff requirements. Impacts would be less than significant for both the Covina Town Center Specific Plan update and this alternative.

(j) Land Use and Planning. Since the Planning Area is already fully developed and the basic pattern of development and roadway system are already intact, impacts would be similar under both the Project and this alternative with respect to dividing existing communities. This alternative would have similar impacts with respect to conflicts with a land use plan, policy or regulation adopted for the purposed of avoiding or mitigating an environmental effect Impacts would be less than significant for both the project and this alternative.

(k) Mineral Resources. The Planning Area does not contain any known mineral resources. Implementation of the Specific Plan update or this alternative would not result in significant impacts with respect to the loss of the availability of mineral resources.

(l) Noise. Buildout under the Reduced Residential Development alternative would result in less noise than the proposed Plan due primarily to fewer new vehicle trips added to local roadways. Implementation of the Specific Plan update or this alternative would not result in

significant impacts with respect to temporary or permanent increases in ambient noise in the Project vicinity. Impacts would be less than significant for both the Project and this alternative.

(m) Population and Housing. This alternative would result in reduced impacts as compared to the proposed Project since residential development potential would be reduced under this alternative. This alternative would result in new non-residential development but would result in 259 fewer new dwelling units than the proposed Project. Therefore, this alternative would not have the result in less population growth and housing development. Impacts would be less than significant for both the Project and this alternative.

(n) Public Services and Recreation. This alternative would result in reduced impacts when compared to the proposed Project. This alternative would support up to 448, 800 square feet of non-residential uses in the Planning area but would not support any new residential development. Therefore, impacts to Public Services and Recreation are anticipated to be less than the Project. Impacts would be less than significant for both the Project and this alternative.

(o) Transportation and Circulation. Impacts with respect to traffic level of service (LOS) would be less under this alternative compared to the Project. With reduced residential development potential, impacts to the circulation system would be less than the proposed Project. Impacts would be less than significant for both the Project and this alternative.

(p) Utilities and Service Systems. This alternative would result in less impacts when compared to the proposed Project since this alternative would include 259 fewer residential dwelling units. Impacts would be less than significant for both the Project and this alternative.

Alternative 3 Impacts and Attainment of Project Objectives

This alternative would have impacts that are similar to the Project for most impacts. This alternative would have slightly less impacts with respect to Air Quality, Cultural Resources, Greenhouse Gas emissions, Noise, Public Services and Recreation, Transportation and Circulation, and Utilities and Service Systems since it would reduce non-residential development potential and traffic generation when compared to the proposed Project. Under this alternative, all of the significant and unavoidable impacts associated with the proposed Project would still occur, although impacts would be less severe since fewer trips would be generated.

This alternative would not support attainment of several project objectives to the same extent as the proposed Project, mainly because there would be fewer residents in the Planning Area.

Objectives 1, 2, 3, and 5 would be attained under this alternative; however, Alternatives 1 and 2 would not be met to the extent that they would under the Project.

Objective 4 would not be achieved since Transit Oriented Development needs to include residential land uses as well as non-residential land uses.

Objective 6 would not be achieved since reduced residential development potential would create less opportunities for additional housing.

Objective 7 would not be attained since reduced residential development potential would lead to less expansion of the City's tax base.

5.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines (Section 15126[e][2]) indicate that, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." The No Project Alternative is the environmentally superior alternative. Of the other identified alternatives, Alternative 2: Reduced Non-Residential Development Potential would result in the least adverse overall environmental impacts, due to the fact that non-residential vehicle trips are the single biggest source of emissions in the Project area. Therefore, Alternative 2 would be the “environmentally superior alternative.” This conclusion is based on the overall reduction in the severity of impacts (see Table 5-4, Alternatives Comparison to the Covina Town center Plan Update).

Table 5-4: Alternatives Comparison to the Covina Town Center Specific Plan Update

Impact Area	Alternatives		
	Alternative 1: No Project-Existing Covina Town Center Specific Plan	**Alternative 2: Reduced Non-Residential Development Potential**	**Alternative 3: Reduced Residential Development Potential**
(a) Aesthetics and Visual Resources	Slightly greater impacts.	Similar impacts.	Similar impacts.
(b) Agriculture and Forestry Resources)	Similar, no impact.	Similar, no impact.	Similar, no impact
(c) Air Quality	Reduced impacts	Reduced to Less than Significant.	Similar, reduce impacts.
(d) Biological Resources	Similar impacts.	Similar impacts.	Similar Impacts
(e) Cultural and Historic Resources	Reduced impacts.	Reduced impacts.	Reduced impacts
(f) Geology and Soils	Reduced impacts.	Similar impacts.	Similar impacts.
(g) Greenhouse Gas Emissions	Reduced impacts.	Reduced to Less than Significant.	Similar, reduced impacts.
(h) Hazards and Hazardous Materials	Reduced impacts.	Similar impacts.	Similar impacts.
(i) Hydrology and Water Quality	Similar impacts.	Similar impacts.	Similar impacts.
(j) Land Use and Planning	Similar impacts.	Similar impacts.	Similar impacts.
(k) Mineral Resources	Similar, no impact.	Similar, no impact	Similar, no impact
(l) Noise	Reduced impacts.	Reduced impacts.	Reduced impacts.
(m) Population and Housing	Similar impacts.	Similar impacts	Reduced impacts.
(n) Public Services	Reduced impacts.	Reduced impacts.	Reduced impacts.
(o) Transportation and Circulation	Reduced impacts.	Reduced impacts.	Reduced impacts.
(p) Utilities and Service Systems	Reduced impacts.	Reduced impacts.	Reduced impacts.
Attainment of Project Objectives	Less attainment.	Less attainment.	Less attainment.

6.0 CEQA-MANDATED SECTIONS

6.1 GROWTH-INDUCING EFFECTS

CEQA Guidelines Section 15126.2(e) requires that the EIR discuss "...the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

Implementation of the Covina Town Center Specific Plan update would result in a net increase of 448,800 square feet of non-residential building area and approximately 259 dwelling units. This capacity forecast is based on the potential redevelopment within the Planning Area consistent with Specific Plan Update development standards. However, no substantial, detrimental, growth-inducing effect is expected. Specific Plan Update implementation would not involve the extension of roads or sewer or water lines, or the construction of other major infrastructure facilities that would induce growth. A key feature of the Specific Plan Update is to facilitate appropriate development efficiently and effectively in an area where roads and infrastructure already exist.

While the increase in building area that would occur as the result of Specific Plan implementation would create new jobs, such job creation would be expected to occur gradually over time as properties redevelop to higher intensities. The incremental nature of growth expected in the planning area is also affected by the relatively small average lot size—a little more than one-quarter acre—which would tend to favor a gradual nature of redevelopment (due to the time required to consolidate lots for larger projects). Due to the gradual nature of job creation, it is expected that any increase in population would be absorbed over time by the existing housing stock available in Covina and the San Gabriel Valley region.

6.2 SIGNIFICANT UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires that the EIR discuss "significant environmental effects which cannot be avoided if the proposed project is implemented." The impacts listed below are identified as significant and unavoidable for one of four reasons: 1) no potentially feasible mitigation has been identified; 2) potential mitigation has been identified but may be found by the Lead Agency to be infeasible; 3) with implementation of feasible mitigation, the impact still would not, or might not, be reduced to a less-than-significant level; or 4) implementation of the mitigation measure would require approval of another jurisdictional agency, whose approval will be pursued by the Lead Agency but cannot be guaranteed as of the publication of this EIR. Because these significant unavoidable impacts “cannot be alleviated without imposing an alternative design” (CEQA Guidelines Section 15126.2[b]), Chapter 19 (Alternatives to the Proposed Project) of this EIR evaluates a range of feasible alternatives that could lessen the identified significant unavoidable impacts, and evaluates the alternatives’ ability to meet the project objectives.

The following impacts have been identified in this EIR as significant and unavoidable:

- Impact AIR-1: Conflict with or obstruct implementation of applicable air quality plan (Chapter 4.3)
- Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for

which the Project region is non-attainment under an applicable Federal or State ambient air quality standard (Chapter 4.3) (Operational)
- Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (Chapter 4.7) (Operational)
- Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (Chapter 4.7)(Plan Consistency)

The implications of each significant unavoidable impact identified above are described in the particular EIR chapter referenced with the impact. The Covina Town Center Specific Plan update is being proposed, notwithstanding these effects, to fully achieve the project objectives described in Chapter 3 of this EIR. If the City approves the Specific Plan (or an alternative to the proposed Plan), that would result in significant unavoidable impacts, the City must adopt a “Statement of Overriding Considerations” per CEQA Guidelines section 15093, describing why the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of the approved Plan outweigh its significant unavoidable impacts.

6.4 IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines Section 15126.2(c) requires that the EIR discuss "significant irreversible environmental changes which would be caused by the proposed project should it be implemented." Since Covina and the Town Center area is already developed and the Project will not significantly change the circulation pattern or make other major changes to backbone infrastructure facilities, there would not be any irreversible physical changes caused by the Specific Plan update.

Specific Plan implementation would result in an irreversible commitment of energy resources, primarily in the form of fossil fuels, including fuel oil, natural gas, and gasoline or diesel fuel for construction equipment and vehicles, as well as the use of these same resources during long-term operation of individual projects facilitated by the Plan. Because development facilitated by the Covina Town Center Specific Plan update would be required by law to comply with California Code of Regulations Title 24 (including updates over time) and adopted City energy conservation ordinances and regulations, Plan implementation would not be expected to use energy in a wasteful, inefficient, or unnecessary manner.

The consumption or destruction of other non-renewable or slowly renewable resources would also result during construction, occupancy, and use of individual development sites under the Plan. These resources would include, but would not be limited to, lumber, concrete, sand, gravel, asphalt, masonry, metals, and water. Plan implementation would also irreversibly use water and solid waste landfill resources. However, development under the Plan would not involve a large commitment of those resources relative to supply, nor would it consume any of those resources wastefully, inefficiently, or unnecessarily, especially considering ongoing City conservation and recycling programs.

7.0 PREPARATION TEAM

Lead Agency

City of Covina
Community Development Department
125 East College Street
Covina, California 91723
626-384-5400

Contact: Nancy Fong, Community Development Consultant

Consultants to the Lead Agency

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CITY OF COVINA www.c
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NOTICE OF PREPARATION
TOWN CENTER SPECIFIC PLAN UPDATE
DRAFT ENVIRONMENTAL IMPACT

DATE:	August 1, 2018
TO:	Responsible Agencies, Trustee Agencies, and Interested Parties
LEAD AGENCY:	City of Covina Contact: Nancy Fong, Planner 125 East College Street, Covina, CA 91723
SUBJECT:	Notice of Preparation of a Draft Environmental Impact Report for th Town Center Specific Plan Update

The City of Covina (City) will be the Lead Agency and will prepare a Draft Environmental Report (DEIR) for the proposed Town Center Specific Plan Update ("Project") described We are interested in your agency's views as to the appropriate scope and content of the environmental information pertaining to your agency's statutory responsibilities related Project. We will need the name of a contact person for your agency. For interested indi we would like to be informed of environmental topics of interest to you regarding the Proj

The City, as the Lead Agency, has already determined that an EIR is clearly required proposed Project. Therefore, in accordance with California Environmental Quality Act (Guidelines Section 15060(d) (Preliminary Review), the City will not prepare an Initial St the Project.

The proposed Project, its location, and its potential environmental effects are described The City welcomes public input during the Notice of Preparation (NOP) review period. the time limits mandated by the CEQA Guidelines, your response must be sent ***not lat 30 days after your receipt of this notice***. If no response or request for additional received by the end of the review period, the City may presume that you have no re Please send your comments to:

Nancy Fong, Planner
City of Covina
125 East College Street, Covina, CA 91723
nfong@covinaca.gov

To allow for mailing, receipt, and 30-day review of this NOP, the comment period clo September 4, 2018, before 5 pm.

Notice of Scoping Meeting: Pursuant to CEQA Guidelines Section 15082(c) (No Preparation and Determination of Scope of EIR), the City will conduct a scoping mee soliciting comments of adjacent cities, responsible agencies, trustee agencies, and int parties requesting notice as to the appropriate scope and content of the DEIR.

The scoping meeting will be held on **August 14, 2018, from 7 p.m. until 9 p.m., in the Covina City Hall Council Chamber, 125 East College Street, Covina, CA 91723**

Brian K. Lee, AICP
Director of Community Development
626.384.5458
blee@covinaca.gov

August 1, 2018

PROJECT DESCRIPTION

Project Location: The City of Covina (City) is in the San Gabriel Valley region of Los A County, approximately 22 miles east of downtown Los Angeles. The Town Center Speci area ("Plan Area") is in the central portion of the City, in the City's "Downtown" district, a with a charming downtown, well-established neighborhoods, and the Covina Metrolink sta

The Town Center Specific Plan was adopted by the City in 2004, and amended on 2006 2008, 2009, 2012, and 2016.

The Plan Area is irregularly shaped and generally bounded by Barranca Avenue and 1st A to the east, 4th Avenue and Valencia Place to the west, the alley south of Center Stree south, and one to three parcels deep north of the rail tracks (north of Front Street) on the The Project includes a General Plan Amendment, Town Center Specific Plan Amen Zoning Map Amendment, and Zoning Code Text Amendment to revise the Town Specific Plan boundary (Figure 1) and revise the zoning designations within the Plan Area

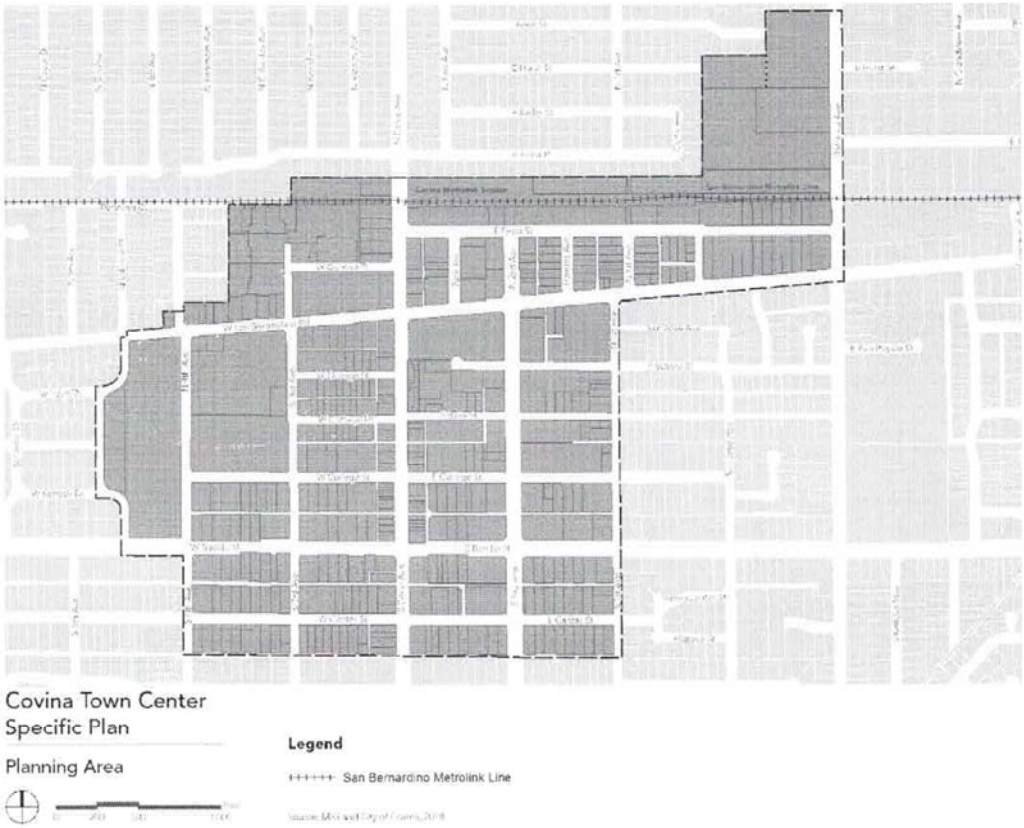
The proposed increased Plan Area encompasses approximately 226 gross acres. R access to the Plan Area is provided by Interstates 10 (San Bernardino Freeway) a (Foothill Freeway), and State Route 57 (Orange Freeway).

The Plan Area is in an urbanized suburban downtown. The Plan Area has unique, histo civic charm and character. The Plan Area was developed over the past century w Downtown prospering when citrus growing predominated in Covina and the San Gabriel The Plan Area includes both older and more recent industrial buildings, 1960s style commercial buildings, a local hospital (Inter-Community Hospital) and related r offices/businesses, local civic uses, and a mix of low scale residential uses.

Project Characteristics: The Town Center Specific Plan identifies the long-term visi objectives for private development and public improvements within the Plan Area.

The proposed Town Center Specific Plan Update will include the following components:

- Introduction and Overview;
- Vision Framework;
- Land Use and Zoning;



- Design Standards and Guidelines;
- Specific Plan Process and Administration; and
- Implementation and Financing.

The Town Center Specific Plan Update establishes land use, transportation, infrastructu urban design strategies to promote transit-oriented development, provide inc opportunities for rail ridership, improve first/last mile opportunities, and revitaliz reinvigorate Covina's town center.

The Town Center Specific Plan Update provides new development standards and incent high density/transit-oriented housing, and for the redevelopment/rehabilitation of structures, particularly regarding underutilized buildings and properties. Streetscape fe pedestrian and bicycle enhancements will link the Metrolink station to Covina's historic sh district, the local hospital/medical area, and the envisioned "maker district" known as the (Food, Arts, Industrial, Arts) district. These will further the vision of the Town Center Plan.

The Town Center Specific Plan Update establishes a new boundary for the Plan Area, both sides of the residential Center Street, and expanding the northeastern boundary to the Metrolink adjacent Kelby Park and the vacant Vita Pakt site. The proposed increase Area is 226 gross acres (an increase of 66 gross acres). The City GIS estimated that th 485 housing units and 448,801 square feet of nonresidential uses within the proposed boundaries.

The City's population was approximately 47,800 persons in 2010 (US Census). Accor Southern California Association of Governments (SCAG), the City's population is proje grow to 51,600 persons by 2040, representing a 7.9% increase over the 30-year peric 2010 to 2040.

Based on (1) the SCAG projections, (2) the Town Center Specific Plan Update's pr components, (3) an analysis of existing underutilized sites that are likely to be redevelope (4) the Town Center Specific Plan Update's market analysis, a projected capacity ha determined through the 2040 horizon year. The City estimates that the Town Center S Plan Update will support total gross development of up to 2.3 million square feet of retail industrial, and public facility building space and 746 units through 2040, or a total net ir of approximately 1.9 million square feet of nonresidential uses and 261 residential units.

Projected Development Capacity (2018-2040), Town Center Specific Plan Update		
	Residential (Units)	**Nonresidential (square feet)**
Existing	485	448,801
Additional (Net New) Capacity by 2040	261	1,898,870
Total by 2040	746	2,347,670
Source: City of Covina and MIG		

Required Approvals: Implementation of the Project will require the following discre approvals by the City of Covina:

- Certification of the Final Environmental Impact Report;
- Amendment of the Town Center Specific Plan;
- Adoption of General Plan Amendments and any Zoning Code Text an Amendments necessary to ensure consistency between the Town Center Specif the General Plan, and the Zoning Ordinance; and

EIR Scope: The City has determined that the proposed Project will require preparati DEIR pursuant to CEQA. Since none of the topical issue areas that would hav considered in an Initial Study have been screened out, the EIR will be comprehensive in and will address the environmental topics listed below. Where necessary, mitigation me will be recommended to reduce potential adverse impacts.

Aesthetics: The EIR will describe and evaluate the potential aesthetic and visual impact: proposed Town Center Specific Plan Update, including its visual relationships surrounding vicinity and the potential impacts of Town Center Specific Plan developme proposed array of building masses, heights, view corridors, etc.) on important surrc scenic vistas and other visual resources.

Agriculture and Forestry Resources: The EIR will explain why these CEQA-environmental topics will not be adversely affected by the Project.

Air Quality: The EIR will describe and evaluate the potential short (construction)- and lor (operational) impacts of the Town Center Specific Plan Update on local and regional air based on methodologies defined by the South Coast Air Quality Management (SCAQMD).

Biological Resources: The EIR will evaluate potential impacts on biological resources re from the Town Center Specific Plan Update implementation, including potential impa nesting birds.

Cultural Resources and Tribal Cultural Resources: The EIR will identify and evalu: potential Town Center Specific Plan Update impacts associated with historical, archae and paleontological resources, and tribal cultural resources.

Geology and Soils: The EIR will describe existing conditions and hazards (if any) with to earthquake faults and ground shaking, and potentially unstable soil, and the p geotechnical implications of implementation of the Town Center Specific Plan Update.

Greenhouse Gas (GHG) Emissions: The EIR will describe existing conditions, e Project-generated emissions, and evaluate potential Project impacts following the approach and methodologies recommended by State and regional agencies.

Hazards and Hazardous Materials: The EIR will describe existing conditions with hazardous materials/waste sites, the potential for hazardous material use or hazardou: investigation, and cleanup activities anticipated in the Plan Area and will descri associated potential Project impacts. Potential demolition or construction related haza also be evaluated.

Hydrology and Water Quality: The EIR will evaluate potential impacts on hydrology ar quality resulting from implementation of the Town Center Specific Plan Update, ir possible effects related to drainage and flooding.

Land Use and Planning: The EIR will describe the potential effects of implementatio Town Center Specific Plan Update on existing and planned land use characteristics in t Area vicinity, including the Town Center Specific Plan's relationship to other adopted and local plans.

Mineral Resources: The EIR will evaluate potential mineral resources (if any), ir resources of statewide, regional, or local importance.

Noise: The EIR will describe the existing noise setting and potential construction and lo operation noise (traffic, mechanical systems, etc.) impacts.

Population and Housing: The EIR will describe the anticipated effects of the Town Specific Plan Update implementation on existing and projected population and characteristics. This information will be used to forecast public service and utility need Plan Area.

Public Services: The EIR will describe and evaluate potential impacts on public s (police and fire protection parks and recreation, and schools) and any mitigation needs.

Recreation: Potential Impacts to existing recreation facilities will be evaluated as well potential of the Project to generate the need for new or expanded facilities.

Transportation and Traffic: The EIR will describe the transportation and cir implications of the proposed Town Center Specific Plan Update, including its incre contribution to daily and peak hour traffic on local and regional roadways.

Utilities and Service Systems: The EIR will describe potential Town Center Specif Update impacts on local utility and service systems, including water supply, wat wastewater treatment, and solid waste and recycling.

Alternatives: Pursuant to CEQA Guidelines Section 15126.6, the EIR will identify and c a reasonable range of alternatives to the Town Center Specific Plan Update.

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

September 4, 2018

Nancy Fong, Planner
City of Covina
125 East College Street
Covina, CA 91723

RE: Covina Town Center Specific Plan Update – Notice of Preparation of a Draft Environmental Impact Report

Dear Ms. Fong:

Thank you for coordinating with the Los Angeles County Metropolitan Transportation Authority (Metro) regarding the proposed Covina Town Center Specific Plan Update (Plan Update), located in the City of Covina (City). Metro is committed to working with local municipalities, developers, and other stakeholders across Los Angeles County on transit-supportive developments to grow ridership, reduce driving, and promote walkable neighborhoods. Transit Oriented Communities (TOCs) are places (such as corridors or neighborhoods) that, by their design, allow people to drive less and access transit more. TOCs maximize equitable access to a multi-modal transit network as a key organizing principle of land use planning and holistic community development.

The purpose of this letter is to briefly describe the proposed Plan Update, based on the Notice of Preparation, and to outline recommendations from Metro concerning issues that are germane to our agency's statutory responsibility in relation to our rail facilities and services that may be affected by the proposed Plan.

Plan Description

The Covina Town Center Specific Plan Update establishes land use, transportation, infrastructure, and urban design strategies to promote transit-oriented development (TOD), provide increased opportunities for rail ridership, improve first/last mile opportunities, and revitalize and reinvigorate Covina's town center.

Metro Comments

The following section outlines key considerations for properties and streets adjacent to Metro transit facilities and service in the Plan Area. In addition to the specific items outlined below, Metro would like to provide the City with a user-friendly resource, the Metro Adjacent Development Handbook (attached), which provides an overview of common concerns for development adjacent to Metro right-of-way (ROW), as well as the Adjacent Construction Manual with technical information for development near our facilities (also attached). These documents and additional resources are available at www.metro.net/projects/devreview/.

Metro TOD Planning Grant Program

As a recipient of the Round 4 TOD Planning Grant, Metro's program requires the City to develop and adopt transit-supportive regulations that promote equitable, sustainable, transit-supportive planning to increase transit ridership. To achieve Metro's program objectives, it is strongly recommended that the City use the transit-supportive planning Toolkit which identifies 10 elements of transit-supportive places and applied collectively has shown to reduce vehicle miles traveled by establishing community-scaled density, diverse land use mix, combination of affordable housing, and infrastructure projects for pedestrians, bicyclists, and people of all ages and abilities. This resource is available at http://www.metro.net/projects/tod-toolkit. For questions about Metro's TOD Planning Grant Program, please contact Desiree Portillo Rabinov at PortilloRabinovD@metro.net.

Metrolink Adjacency

The Plan area includes a portion of Metro-owned ROW operated and maintained by the Southern California Regional Rail Authority (SCRRA) to run the Metrolink commuter rail service. Additionally, the Metrolink San Bernardino Line stops within the Plan area. Metro recommends that the Specific Plan include language that requires future developers to coordinate with Metrolink for projects in close proximity to the station and/or ROW that could impact operations.

Metro looks forward to continuing to collaborate with the City of Covina to effectuate policies and implementation activities that promote transit-oriented communities. If you have any questions regarding this response, please contact Eddi Zepeda at 213-418-3484 or by email at DevReview@metro.net, or by mail at the following address:

Metro Development Review
One Gateway Plaza MS 99-23-4
Los Angeles, CA 90012-2952

Sincerely,

Georgia Sheridan, AICP
Senior Manager, Transit Oriented Communities

Attachments and links:

- Adjacent Construction Design Manual
- Adjacent Development Handbook: https://www.metro.net/projects/devreview/

METROLINK.
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
900 Wilshire Blvd. Suite 1500 Los Angeles, CA 90017
metrolinktrains.com

August 30, 2018

Nancy Fong
Planner
City of Covina
125 East College Street
Covina, CA 91723

RE: Covina Town Center Specific Plan Update – Notice of Preparation (NOP) of Draft Environmental Impact Report (DEIR)

Dear Ms. Fong:

The Southern California Regional Rail Authority (SCRRA) has received the NOP for the DEIR for the Covina Town Center Specific Plan Update. Thank you for the opportunity to comment on key issues relative to SCRRA and operations of the railroad adjacent to the project site. As background information, SCRRA is a five-county Joint Powers Authority (JPA) that operates the regional commuter rail system known as Metrolink. The JPA consists of the Los Angeles County Metropolitan Transportation Authority (METRO), San Bernardino County Transportation Authority (SBCTA), Orange County Transportation Authority (OCTA), Riverside County Transportation Commission (RCTC) and Ventura County Transportation Commission (VCTC).

The railroad right of way that is located on the northern portion of the plan area is owned by Metro and operated and maintained by SCRRA. Our Metrolink Covina Station is also located immediately adjacent to the Citrus Avenue at-grade crossing of our San Bernardino Line.

We are encouraged to see that the Town Center Specific Plan Update establishes land use, transportation, infrastructure and urban design strategies to promote transit-oriented development, provide increased opportunities for rail ridership, improve first/last mile opportunities and revitalize Covina's downtown area.

Below are initial general comments from SCRRA on areas of concern that may be addressed in the preparation of the DEIR or this Specific Plan Update. SCRRA may follow up with more specific comments for consideration if further analysis deems it necessary.

1. Currently there are 38 Metrolink commuter trains that serve the existing Covina Station on a daily basis during the week with reduced number of trains on the weekends. There are also 4 freight trains that pass through the Specific Plan area on a daily basis. Please modify the Project Description (as noted on Page 3 of the NOP) to include the Metrolink San Bernardino commuter rail line as another mode of regional access the Plan Area along with the freeways noted.
2. Trains produce noise and vibrations. Service levels often change over time. Mitigation for noise could include petitioning the Federal Railroad Administration (FRA) to apply for

quiet zone status. This process would involve working with SCRRA to add grade crossing supplemental safety measures at the Citrus Avenue crossing. More on the FRA process for establishment of Quiet Zones can be found on the FRA website.

3. Safe access to and from the Metrolink Station to new developments within the Specific Plan Update area should be included. New developments along the rail line within the Specific Plan area must be designed and constructed to preclude any trespassing within the rail corridor.
4. Any development immediately adjacent to the railroad right of way must be coordinated with SCRRA Engineering Department personnel. Right of Way Encroachment Approval Procedures and SCRRA Engineering Standards can be found on the Metrolink website at www.metrolinktrains.com.

City shall provide timely notice, in accordance with Public Resources Code Section 21092.5 and State CEQA Guideline Section 15088, of the written proposed responses to our comments on this environmental document and the time and place of any scheduled public meetings or public hearings by the agency decision makers at least 10 days prior to such a meeting.

Thank you again for consideration and inclusion of SCRRA comments in the DEIR. If you have specific questions or comments please contact me at (213) 452-0456 or via e-mail at mathieur@scrra.net.

Sincerely,

Ron Mathieu
Planning Manager II

Cc: Roderick Diaz, SCRRA
Georgia Sheridan, Metro
Jeanet Owens, Metro

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

Edmund G. Brown Jr., Governor

September 4, 2018

Nancy Fong
City of Covina
125 E. College Street
Covina, CA 91723

RE: SCH # 2018081009 Covina Town Center Specific Plan Update, Los Angeles County

Dear Ms. Fong:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
    a. A brief description of the project.
    b. The lead agency contact information.
    c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
    d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
    a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
    a. Alternatives to the project.
    b. Recommended mitigation measures.
    c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
    a. Type of environmental review necessary.
    b. Significance of the tribal cultural resources.
    c. Significance of the project's impacts on tribal cultural resources.
    d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
    a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
    b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
   a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
   b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Frank.Lienert@nahc.ca.gov.

Sincerely,

Frank Lienert
Associate Governmental Program Analyst

cc: State Clearinghouse

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Covina Town Center Existing Conditions 2018

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	209.09	1000sqft	9.60	209,088.00	0
Government (Civic Center)	116.22	1000sqft	6.67	116,218.00	0
Hospital	412.08	1000sqft	4.73	412,078.00	0
Medical Office Building	82.76	1000sqft	3.80	82,764.00	0
Place of Worship	211.70	1000sqft	12.15	211,702.00	0
Industrial Park	381.76	1000sqft	21.91	381,760.00	0
Parking Lot	803.25	1000sqft	18.44	803,246.00	0
Apartments Low Rise	44.00	Dwelling Unit	3.20	44,000.00	126
Apartments Mid Rise	344.00	Dwelling Unit	16.40	344,000.00	984
Mobile Home Park	21.00	Dwelling Unit	1.05	25,200.00	60
Single Family Housing	78.00	Dwelling Unit	24.00	140,400.00	223
Strip Mall	485.26	1000sqft	14.80	485,259.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	538.87	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeler Name: Chris Dugan and Cameron Hile

Land Use - Source: MIG Existing Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Trips and VMT -

Grading - Existing Conditions model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018); Strip mall rates adjusted from 37.75 to 38.95 to match total TIA trip gen estimate.

Energy Use - CalEEMod Notes: T24 standards adjusted upwards to reflect decreased efficiency between 2013-2016 standards. See CalEEMod Appendix E5, Tables 3 and 4.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	949,435.00	949,108.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	2,848,304.00	2,847,324.00
tblAreaCoating	Area_Nonresidential_Exterior	949435	949108
tblAreaCoating	Area_Nonresidential_Interior	2848304	2847324
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00

tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	5.31	5.39
tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	3.10	3.15
tblEnergyUse	LightingElect	6.26	6.35
tblEnergyUse	T24E	257.27	291.49
tblEnergyUse	T24E	252.63	286.23
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	9.96	10.44
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	221.74	251.23
tblEnergyUse	T24E	2.25	2.36
tblEnergyUse	T24E	443.48	502.46
tblEnergyUse	T24E	4.01	4.20
tblEnergyUse	T24NG	9,955.77	12,604.00
tblEnergyUse	T24NG	7,012.17	8,877.41
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	54.94	55.21
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	11,587.45	14,669.71
tblEnergyUse	T24NG	13.65	13.72

tblEnergyUse	T24NG	21,090.59	26,700.69
tblEnergyUse	T24NG	1.15	1.16
tblLandUse	LandUseSquareFeet	209,090.00	209,088.00
tblLandUse	LandUseSquareFeet	116,220.00	116,218.00
tblLandUse	LandUseSquareFeet	412,080.00	412,078.00
tblLandUse	LandUseSquareFeet	82,760.00	82,764.00
tblLandUse	LandUseSquareFeet	211,700.00	211,702.00
tblLandUse	LandUseSquareFeet	803,250.00	803,246.00
tblLandUse	LandUseSquareFeet	485,260.00	485,259.00
tblLandUse	LotAcreage	4.80	9.60
tblLandUse	LotAcreage	2.67	6.67
tblLandUse	LotAcreage	9.46	4.73
tblLandUse	LotAcreage	1.90	3.80
tblLandUse	LotAcreage	4.86	12.15
tblLandUse	LotAcreage	8.76	21.91
tblLandUse	LotAcreage	2.75	3.20
tblLandUse	LotAcreage	9.05	16.40
tblLandUse	LotAcreage	2.65	1.05
tblLandUse	LotAcreage	25.32	24.00
tblLandUse	LotAcreage	11.14	14.80
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	538.87
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	WD_TR	6.59	7.32
tblVehicleTrips	WD_TR	6.65	7.32
tblVehicleTrips	WD_TR	11.03	16.19
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	13.22	10.72
tblVehicleTrips	WD_TR	6.83	3.37
tblVehicleTrips	WD_TR	36.13	16.19
tblVehicleTrips	WD_TR	4.99	7.32

tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	38.95

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	1.8700e-003	0.0000	0.0000	1.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.9900e-003	0.0000	0.0000	1.8400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.4931	0.0000	0.0000	0.4672	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2031	0.0000	0.0000	0.0000	0.0000	0.0000	8.5000e-004	0.0000	0.0000	7.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140	0.0000	0.0000	0.0129	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4931**	**0.0000**	**0.0000**	**0.4672**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	1.8700e-003	0.0000	0.0000	1.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.9900e-003	0.0000	0.0000	1.8400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.4931	0.0000	0.0000	0.4672	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2031	0.0000	0.0000	0.0000	0.0000	0.0000	8.5000e-004	0.0000	0.0000	7.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140	0.0000	0.0000	0.0129	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4931**	**0.0000**	**0.0000**	**0.4672**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	183.5601	10.5767	288.4067	0.6340		37.4230	37.4230		37.4230	37.4230	4,561.6893	8,838.9363	13,400.6256	13.6772	0.3096	13,834.8198
Energy	1.4423	12.9648	9.9373	0.0787		0.9965	0.9965		0.9965	0.9965		15,733.9203	15,733.9203	0.3016	0.2885	15,827.4191
Mobile	100.0784	419.9166	1,219.2086	3.3315	240.2306	3.9387	244.1693	64.3074	3.7060	68.0134		337,827.5014	337,827.5014	20.9788		338,351.9709
Total	**285.0808**	**443.4581**	**1,517.5526**	**4.0441**	**240.2306**	**42.3581**	**282.5888**	**64.3074**	**42.1254**	**106.4328**	**4,561.6893**	**362,400.3580**	**366,962.0473**	**34.9575**	**0.5981**	**368,014.2098**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	183.5601	10.5767	288.4067	0.6340		37.4230	37.4230		37.4230	37.4230	4,561.6893	8,838.9363	13,400.6256	13.6772	0.3096	13,834.8198
Energy	1.4423	12.9648	9.9373	0.0787		0.9965	0.9965		0.9965	0.9965		15,733.9203	15,733.9203	0.3016	0.2885	15,827.4191
Mobile	100.0784	419.9166	1,219.2086	3.3315	240.2306	3.9387	244.1693	64.3074	3.7060	68.0134		337,827.5014	337,827.5014	20.9788		338,351.9709
Total	**285.0808**	**443.4581**	**1,517.5526**	**4.0441**	**240.2306**	**42.3581**	**282.5888**	**64.3074**	**42.1254**	**106.4328**	**4,561.6893**	**362,400.3580**	**366,962.0473**	**34.9575**	**0.5981**	**368,014.2098**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	12/30/2016	5	0	
2	Site Preparation	Site Preparation	10/7/2017	10/6/2017	5	0	
3	Grading	Grading	3/24/2018	3/23/2018	5	0	
4	Building Construction	Building Construction	6/1/2019	5/31/2019	5	0	
5	Paving	Paving	4/19/2031	4/18/2031	5	0	
6	Architectural Coating	Architectural Coating	2/21/2032	2/20/2032	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 18.44

Residential Indoor: 1,121,040; Residential Outdoor: 373,680; Non-Residential Indoor: 2,847,324; Non-Residential Outdoor: 949,108; Striped Parking Area: 48,195 (Architectural Coating – sqft)

OffRoad Equipment

Covina Town Center Existing Conditions 2018 - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	1,327.00	495.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	265.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	100.0784	419.9166	1,219.2086	3.3315	240.2306	3.9387	244.1693	64.3074	3.7060	68.0134		337,827.5014	337,827.5014	20.9788		338,351.9709
Unmitigated	100.0784	419.9166	1,219.2086	3.3315	240.2306	3.9387	244.1693	64.3074	3.7060	68.0134		337,827.5014	337,827.5014	20.9788		338,351.9709

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	322.08	315.04	267.08	1,070,311	1,070,311
Apartments Mid Rise	2,518.08	2,198.16	2015.84	8,203,313	8,203,313
General Office Building	3,385.17	514.36	219.54	8,127,167	8,127,167
Government (Civic Center)	2,625.41	0.00	0.00	5,791,149	5,791,149
Hospital	4,417.50	4,194.97	3671.63	16,589,612	16,589,612
Industrial Park	1,286.53	950.58	278.68	4,352,943	4,352,943
Medical Office Building	1,339.88	741.53	128.28	2,804,787	2,804,787
Mobile Home Park	153.72	105.00	91.56	471,157	471,157
Parking Lot	0.00	0.00	0.00		
Place of Worship	1,471.32	2,195.33	7754.57	5,273,010	5,273,010
Single Family Housing	736.32	772.98	672.36	2,502,790	2,502,790
Strip Mall	18,900.88	20,400.33	9913.86	33,925,604	33,925,604
Total	37,156.88	32,388.29	25,013.41	89,111,843	89,111,843

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Mobile Home Park	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Apartments Mid Rise	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
General Office Building	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Government (Civic Center)	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Hospital	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Industrial Park	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Medical Office Building	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Mobile Home Park	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Parking Lot	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Place of Worship	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Single Family Housing	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Strip Mall	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4423	12.9648	9.9373	0.0787		0.9965	0.9965		0.9965	0.9965		15,733.9203	15,733.9203	0.3016	0.2885	15,827.4191
NaturalGas Unmitigated	1.4423	12.9648	9.9373	0.0787		0.9965	0.9965		0.9965	0.9965		15,733.9203	15,733.9203	0.3016	0.2885	15,827.4191

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	2288.96	0.0247	0.2109	0.0898	1.3500e-003		0.0171	0.0171		0.0171	0.0171		269.2899	269.2899	5.1600e-003	4.9400e-003	270.8902
Apartments Mid Rise	14383.4	0.1551	1.3255	0.5641	8.4600e-003		0.1072	0.1072		0.1072	0.1072		1,692.1596	1,692.1596	0.0324	0.0310	1,702.2152
General Office Building	5991.95	0.0646	0.5875	0.4935	3.5200e-003		0.0447	0.0447		0.0447	0.0447		704.9349	704.9349	0.0135	0.0129	709.1240
Government (Civic Center)	3330.52	0.0359	0.3265	0.2743	1.9600e-003		0.0248	0.0248		0.0248	0.0248		391.8260	391.8260	7.5100e-003	7.1800e-003	394.1545
Hospital	73417.6	0.7918	7.1978	6.0462	0.0432		0.5470	0.5470		0.5470	0.5470		8,637.3674	8,637.3674	0.1656	0.1584	8,688.6950
Industrial Park	10940.3	0.1180	1.0726	0.9010	6.4400e-003		0.0815	0.0815		0.0815	0.0815		1,287.0942	1,287.0942	0.0247	0.0236	1,294.7427
Medical Office Building	2371.81	0.0256	0.2325	0.1953	1.4000e-003		0.0177	0.0177		0.0177	0.0177		279.0367	279.0367	5.3500e-003	5.1200e-003	280.6949
Mobile Home Park	1211.31	0.0131	0.1116	0.0475	7.1000e-004		9.0300e-003	9.0300e-003		9.0300e-003	9.0300e-003		142.5070	142.5070	2.7300e-003	2.6100e-003	143.3538
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	10538.7	0.1137	1.0332	0.8679	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.8470	1,239.8470	0.0238	0.0227	1,247.2148
Single Family Housing	7070.15	0.0763	0.6516	0.2773	4.1600e-003		0.0527	0.0527		0.0527	0.0527		831.7827	831.7827	0.0159	0.0153	836.7256
Strip Mall	2193.64	0.0237	0.2151	0.1807	1.2900e-003		0.0163	0.0163		0.0163	0.0163		258.0749	258.0749	4.9500e-003	4.7300e-003	259.6085
Total		**1.4423**	**12.9648**	**9.9373**	**0.0787**		**0.9965**	**0.9965**		**0.9965**	**0.9965**		**15,733.9203**	**15,733.9203**	**0.3016**	**0.2885**	**15,827.4191**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	2.28896	0.0247	0.2109	0.0898	1.3500e-003		0.0171	0.0171		0.0171	0.0171		269.2899	269.2899	5.1600e-003	4.9400e-003	270.8902
Apartments Mid Rise	14.3834	0.1551	1.3255	0.5641	8.4600e-003		0.1072	0.1072		0.1072	0.1072		1,692.1596	1,692.1596	0.0324	0.0310	1,702.2152
General Office Building	5.99195	0.0646	0.5875	0.4935	3.5200e-003		0.0447	0.0447		0.0447	0.0447		704.9349	704.9349	0.0135	0.0129	709.1240
Government (Civic Center)	3.33052	0.0359	0.3265	0.2743	1.9600e-003		0.0248	0.0248		0.0248	0.0248		391.8260	391.8260	7.5100e-003	7.1800e-003	394.1545
Hospital	73.4176	0.7918	7.1978	6.0462	0.0432		0.5470	0.5470		0.5470	0.5470		8,637.3674	8,637.3674	0.1656	0.1584	8,688.6950
Industrial Park	10.9403	0.1180	1.0726	0.9010	6.4400e-003		0.0815	0.0815		0.0815	0.0815		1,287.0942	1,287.0942	0.0247	0.0236	1,294.7427
Medical Office Building	2.37181	0.0256	0.2325	0.1953	1.4000e-003		0.0177	0.0177		0.0177	0.0177		279.0367	279.0367	5.3500e-003	5.1200e-003	280.6949
Mobile Home Park	1.21131	0.0131	0.1116	0.0475	7.1000e-004		9.0300e-003	9.0300e-003		9.0300e-003	9.0300e-003		142.5070	142.5070	2.7300e-003	2.6100e-003	143.3538
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	10.5387	0.1137	1.0332	0.8679	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.8470	1,239.8470	0.0238	0.0227	1,247.2148
Single Family Housing	7.07015	0.0763	0.6516	0.2773	4.1600e-003		0.0527	0.0527		0.0527	0.0527		831.7827	831.7827	0.0159	0.0153	836.7256
Strip Mall	2.19364	0.0237	0.2151	0.1807	1.2900e-003		0.0163	0.0163		0.0163	0.0163		258.0749	258.0749	4.9500e-003	4.7300e-003	259.6085
Total		**1.4423**	**12.9648**	**9.9373**	**0.0787**		**0.9965**	**0.9965**		**0.9965**	**0.9965**		**15,733.9203**	**15,733.9203**	**0.3016**	**0.2885**	**15,827.4191**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	183.5601	10.5767	288.4067	0.6340		37.4230	37.4230		37.4230	37.4230	4,561.6893	8,838.9363	13,400.6256	13.6772	0.3096	13,834.8198
Unmitigated	183.5601	10.5767	288.4067	0.6340		37.4230	37.4230		37.4230	37.4230	4,561.6893	8,838.9363	13,400.6256	13.6772	0.3096	13,834.8198

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.8312					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	48.8434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	127.6115	10.1044	247.6648	0.6318		37.2011	37.2011		37.2011	37.2011	4,561.6893	8,766.0000	13,327.6893	13.6038	0.3096	13,760.0505
Landscaping	1.2740	0.4723	40.7420	2.1400e-003		0.2218	0.2218		0.2218	0.2218		72.9363	72.9363	0.0733		74.7693
Total	**183.5601**	**10.5767**	**288.4067**	**0.6340**		**37.4230**	**37.4230**		**37.4230**	**37.4230**	**4,561.6893**	**8,838.9363**	**13,400.6256**	**13.6772**	**0.3096**	**13,834.8198**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.8312					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	48.8434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	127.6115	10.1044	247.6648	0.6318		37.2011	37.2011		37.2011	37.2011	4,561.6893	8,766.0000	13,327.6893	13.6038	0.3096	13,760.0505
Landscaping	1.2740	0.4723	40.7420	2.1400e-003		0.2218	0.2218		0.2218	0.2218		72.9363	72.9363	0.0733		74.7693
Total	**183.5601**	**10.5767**	**288.4067**	**0.6340**		**37.4230**	**37.4230**		**37.4230**	**37.4230**	**4,561.6893**	**8,838.9363**	**13,400.6256**	**13.6772**	**0.3096**	**13,834.8198**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Existing Conditions 2018

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	209.09	1000sqft	9.60	209,088.00	0
Government (Civic Center)	116.22	1000sqft	6.67	116,218.00	0
Hospital	412.08	1000sqft	4.73	412,078.00	0
Medical Office Building	82.76	1000sqft	3.80	82,764.00	0
Place of Worship	211.70	1000sqft	12.15	211,702.00	0
Industrial Park	381.76	1000sqft	21.91	381,760.00	0
Parking Lot	803.25	1000sqft	18.44	803,246.00	0
Apartments Low Rise	44.00	Dwelling Unit	3.20	44,000.00	126
Apartments Mid Rise	344.00	Dwelling Unit	16.40	344,000.00	984
Mobile Home Park	21.00	Dwelling Unit	1.05	25,200.00	60
Single Family Housing	78.00	Dwelling Unit	24.00	140,400.00	223
Strip Mall	485.26	1000sqft	14.80	485,259.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	538.87	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeler Name: Chris Dugan and Cameron Hile

Land Use - Source: MIG Existing Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Trips and VMT -

Grading - Existing Conditions model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018); Strip mall rates adjusted from 37.75 to 38.95 to match total TIA trip gen estimate.

Energy Use - CalEEMod Notes: T24 standards adjusted upwards to reflect decreased efficiency between 2013-2016 standards. See CalEEMod Appendix E5, Tables 3 and 4.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	949,435.00	949,108.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	2,848,304.00	2,847,324.00
tblAreaCoating	Area_Nonresidential_Exterior	949435	949108
tblAreaCoating	Area_Nonresidential_Interior	2848304	2847324
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00

tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	5.31	5.39
tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	3.10	3.15
tblEnergyUse	LightingElect	6.26	6.35
tblEnergyUse	T24E	257.27	291.49
tblEnergyUse	T24E	252.63	286.23
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	9.96	10.44
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	221.74	251.23
tblEnergyUse	T24E	2.25	2.36
tblEnergyUse	T24E	443.48	502.46
tblEnergyUse	T24E	4.01	4.20
tblEnergyUse	T24NG	9,955.77	12,604.00
tblEnergyUse	T24NG	7,012.17	8,877.41
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	54.94	55.21
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	11,587.45	14,669.71
tblEnergyUse	T24NG	13.65	13.72

tblEnergyUse	T24NG	21,090.59	26,700.69
tblEnergyUse	T24NG	1.15	1.16
tblLandUse	LandUseSquareFeet	209,090.00	209,088.00
tblLandUse	LandUseSquareFeet	116,220.00	116,218.00
tblLandUse	LandUseSquareFeet	412,080.00	412,078.00
tblLandUse	LandUseSquareFeet	82,760.00	82,764.00
tblLandUse	LandUseSquareFeet	211,700.00	211,702.00
tblLandUse	LandUseSquareFeet	803,250.00	803,246.00
tblLandUse	LandUseSquareFeet	485,260.00	485,259.00
tblLandUse	LotAcreage	4.80	9.60
tblLandUse	LotAcreage	2.67	6.67
tblLandUse	LotAcreage	9.46	4.73
tblLandUse	LotAcreage	1.90	3.80
tblLandUse	LotAcreage	4.86	12.15
tblLandUse	LotAcreage	8.76	21.91
tblLandUse	LotAcreage	2.75	3.20
tblLandUse	LotAcreage	9.05	16.40
tblLandUse	LotAcreage	2.65	1.05
tblLandUse	LotAcreage	25.32	24.00
tblLandUse	LotAcreage	11.14	14.80
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	538.87
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	WD_TR	6.59	7.32
tblVehicleTrips	WD_TR	6.65	7.32
tblVehicleTrips	WD_TR	11.03	16.19
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	13.22	10.72
tblVehicleTrips	WD_TR	6.83	3.37
tblVehicleTrips	WD_TR	36.13	16.19
tblVehicleTrips	WD_TR	4.99	7.32

tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	38.95

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	1.8700e-003	0.0000	0.0000	1.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.9900e-003	0.0000	0.0000	1.8400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.4991	0.0000	0.0000	0.4730	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2031	0.0000	0.0000	0.0000	0.0000	0.0000	8.5000e-004	0.0000	0.0000	7.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140	0.0000	0.0000	0.0129	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4991**	**0.0000**	**0.0000**	**0.4730**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	1.8700e-003	0.0000	0.0000	1.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.9900e-003	0.0000	0.0000	1.8400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.4991	0.0000	0.0000	0.4730	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2031	0.0000	0.0000	0.0000	0.0000	0.0000	8.5000e-004	0.0000	0.0000	7.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140	0.0000	0.0000	0.0129	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4991**	**0.0000**	**0.0000**	**0.4730**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	183.5601	10.5767	288.4067	0.6340		37.4230	37.4230		37.4230	37.4230	4,561.6893	8,838.9363	13,400.6256	13.6772	0.3096	13,834.8198
Energy	1.4423	12.9648	9.9373	0.0787		0.9965	0.9965		0.9965	0.9965		15,733.9203	15,733.9203	0.3016	0.2885	15,827.4191
Mobile	97.8569	431.0626	1,176.1091	3.1646	240.2306	3.9717	244.2024	64.3074	3.7376	68.0450		321,050.8981	321,050.8981	20.9539		321,574.7446
Total	**282.8593**	**454.6041**	**1,474.4531**	**3.8772**	**240.2306**	**42.3912**	**282.6218**	**64.3074**	**42.1571**	**106.4644**	**4,561.6893**	**345,623.7547**	**350,185.4440**	**34.9326**	**0.5981**	**351,236.9835**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	183.5601	10.5767	288.4067	0.6340		37.4230	37.4230		37.4230	37.4230	4,561.6893	8,838.9363	13,400.6256	13.6772	0.3096	13,834.8198
Energy	1.4423	12.9648	9.9373	0.0787		0.9965	0.9965		0.9965	0.9965		15,733.9203	15,733.9203	0.3016	0.2885	15,827.4191
Mobile	97.8569	431.0626	1,176.1091	3.1646	240.2306	3.9717	244.2024	64.3074	3.7376	68.0450		321,050.8981	321,050.8981	20.9539		321,574.7446
Total	**282.8593**	**454.6041**	**1,474.4531**	**3.8772**	**240.2306**	**42.3912**	**282.6218**	**64.3074**	**42.1571**	**106.4644**	**4,561.6893**	**345,623.7547**	**350,185.4440**	**34.9326**	**0.5981**	**351,236.9835**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	12/30/2016	5	0	
2	Site Preparation	Site Preparation	10/7/2017	10/6/2017	5	0	
3	Grading	Grading	3/24/2018	3/23/2018	5	0	
4	Building Construction	Building Construction	6/1/2019	5/31/2019	5	0	
5	Paving	Paving	4/19/2031	4/18/2031	5	0	
6	Architectural Coating	Architectural Coating	2/21/2032	2/20/2032	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 18.44

Residential Indoor: 1,121,040; Residential Outdoor: 373,680; Non-Residential Indoor: 2,847,324; Non-Residential Outdoor: 949,108; Striped Parking Area: 48,195 (Architectural Coating – sqft)

OffRoad Equipment

Covina Town Center Existing Conditions 2018 - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	1,327.00	495.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	265.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	97.8569	431.0626	1,176.1091	3.1646	240.2306	3.9717	244.2024	64.3074	3.7376	68.0450		321,050.8981	321,050.8981	20.9539		321,574.7446
Unmitigated	97.8569	431.0626	1,176.1091	3.1646	240.2306	3.9717	244.2024	64.3074	3.7376	68.0450		321,050.8981	321,050.8981	20.9539		321,574.7446

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	322.08	315.04	267.08	1,070,311	1,070,311
Apartments Mid Rise	2,518.08	2,198.16	2015.84	8,203,313	8,203,313
General Office Building	3,385.17	514.36	219.54	8,127,167	8,127,167
Government (Civic Center)	2,625.41	0.00	0.00	5,791,149	5,791,149
Hospital	4,417.50	4,194.97	3671.63	16,589,612	16,589,612
Industrial Park	1,286.53	950.58	278.68	4,352,943	4,352,943
Medical Office Building	1,339.88	741.53	128.28	2,804,787	2,804,787
Mobile Home Park	153.72	105.00	91.56	471,157	471,157
Parking Lot	0.00	0.00	0.00		
Place of Worship	1,471.32	2,195.33	7754.57	5,273,010	5,273,010
Single Family Housing	736.32	772.98	672.36	2,502,790	2,502,790
Strip Mall	18,900.88	20,400.33	9913.86	33,925,604	33,925,604
Total	37,156.88	32,388.29	25,013.41	89,111,843	89,111,843

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Mobile Home Park	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Apartments Mid Rise	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
General Office Building	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Government (Civic Center)	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Hospital	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Industrial Park	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Medical Office Building	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Mobile Home Park	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Parking Lot	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Place of Worship	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Single Family Housing	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Strip Mall	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4423	12.9648	9.9373	0.0787		0.9965	0.9965		0.9965	0.9965		15,733.9203	15,733.9203	0.3016	0.2885	15,827.4191
NaturalGas Unmitigated	1.4423	12.9648	9.9373	0.0787		0.9965	0.9965		0.9965	0.9965		15,733.9203	15,733.9203	0.3016	0.2885	15,827.4191

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	2288.96	0.0247	0.2109	0.0898	1.3500e-003		0.0171	0.0171		0.0171	0.0171		269.2899	269.2899	5.1600e-003	4.9400e-003	270.8902
Apartments Mid Rise	14383.4	0.1551	1.3255	0.5641	8.4600e-003		0.1072	0.1072		0.1072	0.1072		1,692.1596	1,692.1596	0.0324	0.0310	1,702.2152
General Office Building	5991.95	0.0646	0.5875	0.4935	3.5200e-003		0.0447	0.0447		0.0447	0.0447		704.9349	704.9349	0.0135	0.0129	709.1240
Government (Civic Center)	3330.52	0.0359	0.3265	0.2743	1.9600e-003		0.0248	0.0248		0.0248	0.0248		391.8260	391.8260	7.5100e-003	7.1800e-003	394.1545
Hospital	73417.6	0.7918	7.1978	6.0462	0.0432		0.5470	0.5470		0.5470	0.5470		8,637.3674	8,637.3674	0.1656	0.1584	8,688.6950
Industrial Park	10940.3	0.1180	1.0726	0.9010	6.4400e-003		0.0815	0.0815		0.0815	0.0815		1,287.0942	1,287.0942	0.0247	0.0236	1,294.7427
Medical Office Building	2371.81	0.0256	0.2325	0.1953	1.4000e-003		0.0177	0.0177		0.0177	0.0177		279.0367	279.0367	5.3500e-003	5.1200e-003	280.6949
Mobile Home Park	1211.31	0.0131	0.1116	0.0475	7.1000e-004		9.0300e-003	9.0300e-003		9.0300e-003	9.0300e-003		142.5070	142.5070	2.7300e-003	2.6100e-003	143.3538
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	10538.7	0.1137	1.0332	0.8679	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.8470	1,239.8470	0.0238	0.0227	1,247.2148
Single Family Housing	7070.15	0.0763	0.6516	0.2773	4.1600e-003		0.0527	0.0527		0.0527	0.0527		831.7827	831.7827	0.0159	0.0153	836.7256
Strip Mall	2193.64	0.0237	0.2151	0.1807	1.2900e-003		0.0163	0.0163		0.0163	0.0163		258.0749	258.0749	4.9500e-003	4.7300e-003	259.6085
Total		**1.4423**	**12.9648**	**9.9373**	**0.0787**		**0.9965**	**0.9965**		**0.9965**	**0.9965**		**15,733.9203**	**15,733.9203**	**0.3016**	**0.2885**	**15,827.4191**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	2.28896	0.0247	0.2109	0.0898	1.3500e-003		0.0171	0.0171		0.0171	0.0171		269.2899	269.2899	5.1600e-003	4.9400e-003	270.8902
Apartments Mid Rise	14.3834	0.1551	1.3255	0.5641	8.4600e-003		0.1072	0.1072		0.1072	0.1072		1,692.1596	1,692.1596	0.0324	0.0310	1,702.2152
General Office Building	5.99195	0.0646	0.5875	0.4935	3.5200e-003		0.0447	0.0447		0.0447	0.0447		704.9349	704.9349	0.0135	0.0129	709.1240
Government (Civic Center)	3.33052	0.0359	0.3265	0.2743	1.9600e-003		0.0248	0.0248		0.0248	0.0248		391.8260	391.8260	7.5100e-003	7.1800e-003	394.1545
Hospital	73.4176	0.7918	7.1978	6.0462	0.0432		0.5470	0.5470		0.5470	0.5470		8,637.3674	8,637.3674	0.1656	0.1584	8,688.6950
Industrial Park	10.9403	0.1180	1.0726	0.9010	6.4400e-003		0.0815	0.0815		0.0815	0.0815		1,287.0942	1,287.0942	0.0247	0.0236	1,294.7427
Medical Office Building	2.37181	0.0256	0.2325	0.1953	1.4000e-003		0.0177	0.0177		0.0177	0.0177		279.0367	279.0367	5.3500e-003	5.1200e-003	280.6949
Mobile Home Park	1.21131	0.0131	0.1116	0.0475	7.1000e-004		9.0300e-003	9.0300e-003		9.0300e-003	9.0300e-003		142.5070	142.5070	2.7300e-003	2.6100e-003	143.3538
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	10.5387	0.1137	1.0332	0.8679	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.8470	1,239.8470	0.0238	0.0227	1,247.2148
Single Family Housing	7.07015	0.0763	0.6516	0.2773	4.1600e-003		0.0527	0.0527		0.0527	0.0527		831.7827	831.7827	0.0159	0.0153	836.7256
Strip Mall	2.19364	0.0237	0.2151	0.1807	1.2900e-003		0.0163	0.0163		0.0163	0.0163		258.0749	258.0749	4.9500e-003	4.7300e-003	259.6085
Total		**1.4423**	**12.9648**	**9.9373**	**0.0787**		**0.9965**	**0.9965**		**0.9965**	**0.9965**		**15,733.9203**	**15,733.9203**	**0.3016**	**0.2885**	**15,827.4191**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	183.5601	10.5767	288.4067	0.6340		37.4230	37.4230		37.4230	37.4230	4,561.6893	8,838.9363	13,400.6256	13.6772	0.3096	13,834.8198
Unmitigated	183.5601	10.5767	288.4067	0.6340		37.4230	37.4230		37.4230	37.4230	4,561.6893	8,838.9363	13,400.6256	13.6772	0.3096	13,834.8198

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.8312					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	48.8434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	127.6115	10.1044	247.6648	0.6318		37.2011	37.2011		37.2011	37.2011	4,561.6893	8,766.0000	13,327.6893	13.6038	0.3096	13,760.0505
Landscaping	1.2740	0.4723	40.7420	2.1400e-003		0.2218	0.2218		0.2218	0.2218		72.9363	72.9363	0.0733		74.7693
Total	**183.5601**	**10.5767**	**288.4067**	**0.6340**		**37.4230**	**37.4230**		**37.4230**	**37.4230**	**4,561.6893**	**8,838.9363**	**13,400.6256**	**13.6772**	**0.3096**	**13,834.8198**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.8312					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	48.8434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	127.6115	10.1044	247.6648	0.6318		37.2011	37.2011		37.2011	37.2011	4,561.6893	8,766.0000	13,327.6893	13.6038	0.3096	13,760.0505
Landscaping	1.2740	0.4723	40.7420	2.1400e-003		0.2218	0.2218		0.2218	0.2218		72.9363	72.9363	0.0733		74.7693
Total	**183.5601**	**10.5767**	**288.4067**	**0.6340**		**37.4230**	**37.4230**		**37.4230**	**37.4230**	**4,561.6893**	**8,838.9363**	**13,400.6256**	**13.6772**	**0.3096**	**13,834.8198**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Existing Conditions 2018

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	209.09	1000sqft	9.60	209,088.00	0
Government (Civic Center)	116.22	1000sqft	6.67	116,218.00	0
Hospital	412.08	1000sqft	4.73	412,078.00	0
Medical Office Building	82.76	1000sqft	3.80	82,764.00	0
Place of Worship	211.70	1000sqft	12.15	211,702.00	0
Industrial Park	381.76	1000sqft	21.91	381,760.00	0
Parking Lot	803.25	1000sqft	18.44	803,246.00	0
Apartments Low Rise	44.00	Dwelling Unit	3.20	44,000.00	126
Apartments Mid Rise	344.00	Dwelling Unit	16.40	344,000.00	984
Mobile Home Park	21.00	Dwelling Unit	1.05	25,200.00	60
Single Family Housing	78.00	Dwelling Unit	24.00	140,400.00	223
Strip Mall	485.26	1000sqft	14.80	485,259.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	538.87	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeler Name: Chris Dugan and Cameron Hile

Land Use - Source: MIG Existing Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Trips and VMT -

Grading - Existing Conditions model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018); Strip mall rates adjusted from 37.75 to 38.95 to match total TIA trip gen estimate.

Energy Use - CalEEMod Notes: T24 standards adjusted upwards to reflect decreased efficiency between 2013-2016 standards. See CalEEMod Appendix E5, Tables 3 and 4.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	949,435.00	949,108.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	2,848,304.00	2,847,324.00
tblAreaCoating	Area_Nonresidential_Exterior	949435	949108
tblAreaCoating	Area_Nonresidential_Interior	2848304	2847324
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00

tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	5.31	5.39
tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	3.77	3.83
tblEnergyUse	LightingElect	3.10	3.15
tblEnergyUse	LightingElect	6.26	6.35
tblEnergyUse	T24E	257.27	291.49
tblEnergyUse	T24E	252.63	286.23
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	9.96	10.44
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	4.60	4.82
tblEnergyUse	T24E	221.74	251.23
tblEnergyUse	T24E	2.25	2.36
tblEnergyUse	T24E	443.48	502.46
tblEnergyUse	T24E	4.01	4.20
tblEnergyUse	T24NG	9,955.77	12,604.00
tblEnergyUse	T24NG	7,012.17	8,877.41
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	54.94	55.21
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	10.02	10.07
tblEnergyUse	T24NG	11,587.45	14,669.71
tblEnergyUse	T24NG	13.65	13.72

tblEnergyUse	T24NG	21,090.59	26,700.69
tblEnergyUse	T24NG	1.15	1.16
tblLandUse	LandUseSquareFeet	209,090.00	209,088.00
tblLandUse	LandUseSquareFeet	116,220.00	116,218.00
tblLandUse	LandUseSquareFeet	412,080.00	412,078.00
tblLandUse	LandUseSquareFeet	82,760.00	82,764.00
tblLandUse	LandUseSquareFeet	211,700.00	211,702.00
tblLandUse	LandUseSquareFeet	803,250.00	803,246.00
tblLandUse	LandUseSquareFeet	485,260.00	485,259.00
tblLandUse	LotAcreage	4.80	9.60
tblLandUse	LotAcreage	2.67	6.67
tblLandUse	LotAcreage	9.46	4.73
tblLandUse	LotAcreage	1.90	3.80
tblLandUse	LotAcreage	4.86	12.15
tblLandUse	LotAcreage	8.76	21.91
tblLandUse	LotAcreage	2.75	3.20
tblLandUse	LotAcreage	9.05	16.40
tblLandUse	LotAcreage	2.65	1.05
tblLandUse	LotAcreage	25.32	24.00
tblLandUse	LotAcreage	11.14	14.80
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	538.87
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	WD_TR	6.59	7.32
tblVehicleTrips	WD_TR	6.65	7.32
tblVehicleTrips	WD_TR	11.03	16.19
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	13.22	10.72
tblVehicleTrips	WD_TR	6.83	3.37
tblVehicleTrips	WD_TR	36.13	16.19
tblVehicleTrips	WD_TR	4.99	7.32

tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	38.95

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	11.7325	0.1853	8.1886	8.1700e-003		0.4927	0.4927		0.4927	0.4927	51.7287	107.6756	159.4043	0.1626	3.5100e-003	164.5150
Energy	0.2632	2.3661	1.8136	0.0144		0.1819	0.1819		0.1819	0.1819	0.0000	10,381.4902	10,381.4902	0.5262	0.1055	10,426.0778
Mobile	13.4800	62.5587	169.9015	0.4604	33.8272	0.5658	34.3930	9.0700	0.5324	9.6024	0.0000	42,373.5649	42,373.5649	2.7068	0.0000	42,441.2350
Waste						0.0000	0.0000		0.0000	0.0000	1,759.9986	0.0000	1,759.9986	104.0129	0.0000	4,360.3221
Water						0.0000	0.0000		0.0000	0.0000	90.3931	1,181.5036	1,271.8967	9.3566	0.2280	1,573.7531
Total	**25.4757**	**65.1101**	**179.9036**	**0.4830**	**33.8272**	**1.2404**	**35.0676**	**9.0700**	**1.2070**	**10.2770**	**1,902.1205**	**54,044.2343**	**55,946.3548**	**116.7651**	**0.3370**	**58,965.9030**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	11.7325	0.1853	8.1886	8.1700e-003		0.4927	0.4927		0.4927	0.4927	51.7287	107.6756	159.4043	0.1626	3.5100e-003	164.5150
Energy	0.2632	2.3661	1.8136	0.0144		0.1819	0.1819		0.1819	0.1819	0.0000	10,381.4902	10,381.4902	0.5262	0.1055	10,426.0778
Mobile	13.4800	62.5587	169.9015	0.4604	33.8272	0.5658	34.3930	9.0700	0.5324	9.6024	0.0000	42,373.5649	42,373.5649	2.7068	0.0000	42,441.2350
Waste						0.0000	0.0000		0.0000	0.0000	1,759.9986	0.0000	1,759.9986	104.0129	0.0000	4,360.3221
Water						0.0000	0.0000		0.0000	0.0000	90.3931	1,181.5036	1,271.8967	9.3566	0.2280	1,573.7531
Total	**25.4757**	**65.1101**	**179.9036**	**0.4830**	**33.8272**	**1.2404**	**35.0676**	**9.0700**	**1.2070**	**10.2770**	**1,902.1205**	**54,044.2343**	**55,946.3548**	**116.7651**	**0.3370**	**58,965.9030**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	12/30/2016	5	0	
2	Site Preparation	Site Preparation	10/7/2017	10/6/2017	5	0	
3	Grading	Grading	3/24/2018	3/23/2018	5	0	
4	Building Construction	Building Construction	6/1/2019	5/31/2019	5	0	
5	Paving	Paving	4/19/2031	4/18/2031	5	0	
6	Architectural Coating	Architectural Coating	2/21/2032	2/20/2032	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 18.44

Residential Indoor: 1,121,040; Residential Outdoor: 373,680; Non-Residential Indoor: 2,847,324; Non-Residential Outdoor: 949,108; Striped Parking Area: 48,195 (Architectural Coating – sqft)

OffRoad Equipment

Covina Town Center Existing Conditions 2018 - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	1,327.00	495.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	265.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	13.4800	62.5587	169.9015	0.4604	33.8272	0.5658	34.3930	9.0700	0.5324	9.6024	0.0000	42,373.5649	42,373.5649	2.7068	0.0000	42,441.2350
Unmitigated	13.4800	62.5587	169.9015	0.4604	33.8272	0.5658	34.3930	9.0700	0.5324	9.6024	0.0000	42,373.5649	42,373.5649	2.7068	0.0000	42,441.2350

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	322.08	315.04	267.08	1,070,311	1,070,311
Apartments Mid Rise	2,518.08	2,198.16	2015.84	8,203,313	8,203,313
General Office Building	3,385.17	514.36	219.54	8,127,167	8,127,167
Government (Civic Center)	2,625.41	0.00	0.00	5,791,149	5,791,149
Hospital	4,417.50	4,194.97	3671.63	16,589,612	16,589,612
Industrial Park	1,286.53	950.58	278.68	4,352,943	4,352,943
Medical Office Building	1,339.88	741.53	128.28	2,804,787	2,804,787
Mobile Home Park	153.72	105.00	91.56	471,157	471,157
Parking Lot	0.00	0.00	0.00		
Place of Worship	1,471.32	2,195.33	7754.57	5,273,010	5,273,010
Single Family Housing	736.32	772.98	672.36	2,502,790	2,502,790
Strip Mall	18,900.88	20,400.33	9913.86	33,925,604	33,925,604
Total	37,156.88	32,388.29	25,013.41	89,111,843	89,111,843

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Mobile Home Park	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Apartments Mid Rise	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
General Office Building	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Government (Civic Center)	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Hospital	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Industrial Park	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Medical Office Building	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Mobile Home Park	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Parking Lot	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Place of Worship	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Single Family Housing	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Strip Mall	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7,776.5633	7,776.5633	0.4762	0.0577	7,805.6711
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7,776.5633	7,776.5633	0.4762	0.0577	7,805.6711
NaturalGas Mitigated	0.2632	2.3661	1.8136	0.0144		0.1819	0.1819		0.1819	0.1819	0.0000	2,604.9270	2,604.9270	0.0499	0.0478	2,620.4067
NaturalGas Unmitigated	0.2632	2.3661	1.8136	0.0144		0.1819	0.1819		0.1819	0.1819	0.0000	2,604.9270	2,604.9270	0.0499	0.0478	2,620.4067

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	835472	4.5000e-003	0.0385	0.0164	2.5000e-004		3.1100e-003	3.1100e-003		3.1100e-003	3.1100e-003	0.0000	44.5840	44.5840	8.5000e-004	8.2000e-004	44.8489
Apartments Mid Rise	5.24993e+006	0.0283	0.2419	0.1029	1.5400e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.1560	280.1560	5.3700e-003	5.1400e-003	281.8208
General Office Building	2.18706e+006	0.0118	0.1072	0.0901	6.4000e-004		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	116.7099	116.7099	2.2400e-003	2.1400e-003	117.4034
Government (Civic Center)	1.21564e+006	6.5500e-003	0.0596	0.0501	3.6000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003	0.0000	64.8712	64.8712	1.2400e-003	1.1900e-003	65.2567
Hospital	2.67974e+007	0.1445	1.3136	1.1034	7.8800e-003		0.0998	0.0998		0.0998	0.0998	0.0000	1,430.0130	1,430.0130	0.0274	0.0262	1,438.5109
Industrial Park	3.99321e+006	0.0215	0.1958	0.1644	1.1700e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.0929	213.0929	4.0800e-003	3.9100e-003	214.3592
Medical Office Building	865711	4.6700e-003	0.0424	0.0357	2.5000e-004		3.2300e-003	3.2300e-003		3.2300e-003	3.2300e-003	0.0000	46.1977	46.1977	8.9000e-004	8.5000e-004	46.4722
Mobile Home Park	442128	2.3800e-003	0.0204	8.6700e-003	1.3000e-004		1.6500e-003	1.6500e-003		1.6500e-003	1.6500e-003	0.0000	23.5936	23.5936	4.5000e-004	4.3000e-004	23.7338
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	3.84663e+006	0.0207	0.1886	0.1584	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	205.2706	205.2706	3.9300e-003	3.7600e-003	206.4904
Single Family Housing	2.58061e+006	0.0139	0.1189	0.0506	7.6000e-004		9.6100e-003	9.6100e-003		9.6100e-003	9.6100e-003	0.0000	137.7110	137.7110	2.6400e-003	2.5200e-003	138.5293
Strip Mall	800677	4.3200e-003	0.0393	0.0330	2.4000e-004		2.9800e-003	2.9800e-003		2.9800e-003	2.9800e-003	0.0000	42.7272	42.7272	8.2000e-004	7.8000e-004	42.9811
Total		**0.2632**	**2.3661**	**1.8136**	**0.0144**		**0.1819**	**0.1819**		**0.1819**	**0.1819**	**0.0000**	**2,604.9270**	**2,604.9270**	**0.0499**	**0.0478**	**2,620.4067**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	835472	4.5000e-003	0.0385	0.0164	2.5000e-004		3.1100e-003	3.1100e-003		3.1100e-003	3.1100e-003	0.0000	44.5840	44.5840	8.5000e-004	8.2000e-004	44.8489
Apartments Mid Rise	5.24993e+006	0.0283	0.2419	0.1029	1.5400e-003		0.0196	0.0196		0.0196	0.0196	0.0000	280.1560	280.1560	5.3700e-003	5.1400e-003	281.8208
General Office Building	2.18706e+006	0.0118	0.1072	0.0901	6.4000e-004		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	116.7099	116.7099	2.2400e-003	2.1400e-003	117.4034
Government (Civic Center)	1.21564e+006	6.5500e-003	0.0596	0.0501	3.6000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003	0.0000	64.8712	64.8712	1.2400e-003	1.1900e-003	65.2567
Hospital	2.67974e+007	0.1445	1.3136	1.1034	7.8800e-003		0.0998	0.0998		0.0998	0.0998	0.0000	1,430.0130	1,430.0130	0.0274	0.0262	1,438.5109
Industrial Park	3.99321e+006	0.0215	0.1958	0.1644	1.1700e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.0929	213.0929	4.0800e-003	3.9100e-003	214.3592
Medical Office Building	865711	4.6700e-003	0.0424	0.0357	2.5000e-004		3.2300e-003	3.2300e-003		3.2300e-003	3.2300e-003	0.0000	46.1977	46.1977	8.9000e-004	8.5000e-004	46.4722
Mobile Home Park	442128	2.3800e-003	0.0204	8.6700e-003	1.3000e-004		1.6500e-003	1.6500e-003		1.6500e-003	1.6500e-003	0.0000	23.5936	23.5936	4.5000e-004	4.3000e-004	23.7338
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	3.84663e+006	0.0207	0.1886	0.1584	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	205.2706	205.2706	3.9300e-003	3.7600e-003	206.4904
Single Family Housing	2.58061e+006	0.0139	0.1189	0.0506	7.6000e-004		9.6100e-003	9.6100e-003		9.6100e-003	9.6100e-003	0.0000	137.7110	137.7110	2.6400e-003	2.5200e-003	138.5293
Strip Mall	800677	4.3200e-003	0.0393	0.0330	2.4000e-004		2.9800e-003	2.9800e-003		2.9800e-003	2.9800e-003	0.0000	42.7272	42.7272	8.2000e-004	7.8000e-004	42.9811
Total		**0.2632**	**2.3661**	**1.8136**	**0.0144**		**0.1819**	**0.1819**		**0.1819**	**0.1819**	**0.0000**	**2,604.9270**	**2,604.9270**	**0.0499**	**0.0478**	**2,620.4067**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	188083	45.9726	2.8200e-003	3.4000e-004	46.1447
Apartments Mid Rise	1.40413e+006	343.2075	0.0210	2.5500e-003	344.4921
General Office Building	2.7746e+006	678.1875	0.0415	5.0300e-003	680.7260
Government (Civic Center)	1.54221e+006	376.9590	0.0231	2.8000e-003	378.3699
Hospital	9.63438e+006	2,354.9066	0.1442	0.0175	2,363.7210
Industrial Park	5.06596e+006	1,238.2579	0.0758	9.1900e-003	1,242.8927
Medical Office Building	1.09828e+006	268.4492	0.0164	1.9900e-003	269.4540
Mobile Home Park	111186	27.1769	1.6600e-003	2.0000e-004	27.2786
Parking Lot	281136	68.7173	4.2100e-003	5.1000e-004	68.9746
Place of Worship	2.38376e+006	582.6572	0.0357	4.3300e-003	584.8381
Single Family Housing	644847	157.6182	9.6500e-003	1.1700e-003	158.2082
Strip Mall	6.68687e+006	1,634.4535	0.1001	0.0121	1,640.5713
Total		**7,776.5633**	**0.4762**	**0.0577**	**7,805.6711**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	188083	45.9726	2.8200e-003	3.4000e-004	46.1447
Apartments Mid Rise	1.40413e+006	343.2075	0.0210	2.5500e-003	344.4921
General Office Building	2.7746e+006	678.1875	0.0415	5.0300e-003	680.7260
Government (Civic Center)	1.54221e+006	376.9590	0.0231	2.8000e-003	378.3699
Hospital	9.63438e+006	2,354.9066	0.1442	0.0175	2,363.7210
Industrial Park	5.06596e+006	1,238.2579	0.0758	9.1900e-003	1,242.8927
Medical Office Building	1.09828e+006	268.4492	0.0164	1.9900e-003	269.4540
Mobile Home Park	111186	27.1769	1.6600e-003	2.0000e-004	27.2786
Parking Lot	281136	68.7173	4.2100e-003	5.1000e-004	68.9746
Place of Worship	2.38376e+006	582.6572	0.0357	4.3300e-003	584.8381
Single Family Housing	644847	157.6182	9.6500e-003	1.1700e-003	158.2082
Strip Mall	6.68687e+006	1,634.4535	0.1001	0.0121	1,640.5713
Total		**7,776.5633**	**0.4762**	**0.0577**	**7,805.6711**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	11.7325	0.1853	8.1886	8.1700e-003		0.4927	0.4927		0.4927	0.4927	51.7287	107.6756	159.4043	0.1626	3.5100e-003	164.5150
Unmitigated	11.7325	0.1853	8.1886	8.1700e-003		0.4927	0.4927		0.4927	0.4927	51.7287	107.6756	159.4043	0.1626	3.5100e-003	164.5150

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0642					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.9139					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5951	0.1263	3.0958	7.9000e-003		0.4650	0.4650		0.4650	0.4650	51.7287	99.4048	151.1335	0.1543	3.5100e-003	156.0364
Landscaping	0.1593	0.0590	5.0927	2.7000e-004		0.0277	0.0277		0.0277	0.0277	0.0000	8.2708	8.2708	8.3100e-003	0.0000	8.4787
Total	**11.7325**	**0.1853**	**8.1886**	**8.1700e-003**		**0.4927**	**0.4927**		**0.4927**	**0.4927**	**51.7287**	**107.6756**	**159.4043**	**0.1626**	**3.5100e-003**	**164.5151**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0642					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.9139					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5951	0.1263	3.0958	7.9000e-003		0.4650	0.4650		0.4650	0.4650	51.7287	99.4048	151.1335	0.1543	3.5100e-003	156.0364
Landscaping	0.1593	0.0590	5.0927	2.7000e-004		0.0277	0.0277		0.0277	0.0277	0.0000	8.2708	8.2708	8.3100e-003	0.0000	8.4787
Total	**11.7325**	**0.1853**	**8.1886**	**8.1700e-003**		**0.4927**	**0.4927**		**0.4927**	**0.4927**	**51.7287**	**107.6756**	**159.4043**	**0.1626**	**3.5100e-003**	**164.5151**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,271.8967	9.3566	0.2280	1,573.7531
Unmitigated	1,271.8967	9.3566	0.2280	1,573.7531

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2.86678 / 1.80732	14.9415	0.0943	2.3100e-003	17.9867
Apartments Mid Rise	22.413 / 14.1299	116.8152	0.7371	0.0181	140.6229
General Office Building	37.1623 / 22.7769	191.9188	1.2220	0.0299	231.3871
Government (Civic Center)	23.0882 / 14.1508	119.2353	0.7592	0.0186	143.7562
Hospital	51.708 / 9.84915	207.7213	1.6966	0.0412	262.4158
Industrial Park	88.282 / 0	308.9819	2.8939	0.0700	402.1918
Medical Office Building	10.3848 / 1.97805	41.7177	0.3407	8.2800e-003	52.7022
Mobile Home Park	1.36823 / 0.862583	7.1312	0.0450	1.1000e-003	8.5845
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	6.62386 / 10.3604	51.3177	0.2189	5.4600e-003	58.4166
Single Family Housing	5.08201 / 3.20388	26.4872	0.1671	4.0900e-003	31.8854
Strip Mall	35.9444 / 22.0305	185.6291	1.1819	0.0290	223.8039
Total		**1,271.8967**	**9.3566**	**0.2280**	**1,573.7531**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2.86678 / 1.80732	14.9415	0.0943	2.3100e-003	17.9867
Apartments Mid Rise	22.413 / 14.1299	116.8152	0.7371	0.0181	140.6229
General Office Building	37.1623 / 22.7769	191.9188	1.2220	0.0299	231.3871
Government (Civic Center)	23.0882 / 14.1508	119.2353	0.7592	0.0186	143.7562
Hospital	51.708 / 9.84915	207.7213	1.6966	0.0412	262.4158
Industrial Park	88.282 / 0	308.9819	2.8939	0.0700	402.1918
Medical Office Building	10.3848 / 1.97805	41.7177	0.3407	8.2800e-003	52.7022
Mobile Home Park	1.36823 / 0.862583	7.1312	0.0450	1.1000e-003	8.5845
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	6.62386 / 10.3604	51.3177	0.2189	5.4600e-003	58.4166
Single Family Housing	5.08201 / 3.20388	26.4872	0.1671	4.0900e-003	31.8854
Strip Mall	35.9444 / 22.0305	185.6291	1.1819	0.0290	223.8039
Total		**1,271.8967**	**9.3566**	**0.2280**	**1,573.7531**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1,759.9986	104.0129	0.0000	4,360.3221
Unmitigated	1,759.9986	104.0129	0.0000	4,360.3221

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	20.24	4.1085	0.2428	0.0000	10.1787
Apartments Mid Rise	158.24	32.1213	1.8983	0.0000	79.5791
General Office Building	194.45	39.4716	2.3327	0.0000	97.7892
Government (Civic Center)	662.45	134.4714	7.9470	0.0000	333.1471
Hospital	4450.46	903.4032	53.3896	0.0000	2,238.1431
Industrial Park	473.38	96.0919	5.6789	0.0000	238.0635
Medical Office Building	893.81	181.4354	10.7225	0.0000	449.4984
Mobile Home Park	9.66	1.9609	0.1159	0.0000	4.8580
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	1206.69	244.9472	14.4760	0.0000	606.8462
Single Family Housing	91.43	18.5595	1.0968	0.0000	45.9803
Strip Mall	509.52	103.4280	6.1124	0.0000	256.2384
Total		**1,759.9986**	**104.0129**	**0.0000**	**4,360.3221**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	20.24	4.1085	0.2428	0.0000	10.1787
Apartments Mid Rise	158.24	32.1213	1.8983	0.0000	79.5791
General Office Building	194.45	39.4716	2.3327	0.0000	97.7892
Government (Civic Center)	662.45	134.4714	7.9470	0.0000	333.1471
Hospital	4450.46	903.4032	53.3896	0.0000	2,238.1431
Industrial Park	473.38	96.0919	5.6789	0.0000	238.0635
Medical Office Building	893.81	181.4354	10.7225	0.0000	449.4984
Mobile Home Park	9.66	1.9609	0.1159	0.0000	4.8580
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	1206.69	244.9472	14.4760	0.0000	606.8462
Single Family Housing	91.43	18.5595	1.0968	0.0000	45.9803
Strip Mall	509.52	103.4280	6.1124	0.0000	256.2384
Total		**1,759.9986**	**104.0129**	**0.0000**	**4,360.3221**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Specific Plan Existing Future 2040

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	209.09	1000sqft	9.60	209,088.00	0
Government (Civic Center)	116.22	1000sqft	6.67	116,218.00	0
Hospital	412.08	1000sqft	4.73	412,078.00	0
Medical Office Building	82.76	1000sqft	3.80	82,764.00	0
Place of Worship	211.70	1000sqft	12.15	211,702.00	0
Industrial Park	381.76	1000sqft	21.91	381,760.00	0
Parking Lot	803.25	1000sqft	18.44	803,246.00	0
Apartments Low Rise	44.00	Dwelling Unit	4.20	44,000.00	126
Apartments Mid Rise	344.00	Dwelling Unit	16.40	344,000.00	984
Mobile Home Park	21.00	Dwelling Unit	1.05	25,200.00	60
Single Family Housing	78.00	Dwelling Unit	7.80	140,400.00	223
Strip Mall	485.26	1000sqft	14.80	485,259.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	53.38	**CH4 Intensity (lb/MWhr)**	0.03	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Chris Dugan and Cameron Hile

Land Use - Source: MIG Existing Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Grading - Existing Conditions model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018); Strip mall rates adjusted from 37.75 to 38.95 to match total TIA trip gen estimate.

Energy Use - T24 standards adjusted upwards to reflect decreased efficiency between 2013-2016 standards. See CalEEMod Appendix E5, Tables 3 and 4.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblLandUse	LandUseSquareFeet	209,090.00	209,088.00
tblLandUse	LandUseSquareFeet	116,220.00	116,218.00
tblLandUse	LandUseSquareFeet	412,080.00	412,078.00
tblLandUse	LandUseSquareFeet	82,760.00	82,764.00
tblLandUse	LandUseSquareFeet	211,700.00	211,702.00

tblLandUse	LandUseSquareFeet	803,250.00	803,246.00
tblLandUse	LandUseSquareFeet	485,260.00	485,259.00
tblLandUse	LotAcreage	4.80	9.60
tblLandUse	LotAcreage	2.67	6.67
tblLandUse	LotAcreage	9.46	4.73
tblLandUse	LotAcreage	1.90	3.80
tblLandUse	LotAcreage	4.86	12.15
tblLandUse	LotAcreage	8.76	21.91
tblLandUse	LotAcreage	2.75	4.20
tblLandUse	LotAcreage	9.05	16.40
tblLandUse	LotAcreage	2.65	1.05
tblLandUse	LotAcreage	25.32	7.80
tblLandUse	LotAcreage	11.14	14.80
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.03
tblProjectCharacteristics	CO2IntensityFactor	702.44	53.38
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	WD_TR	6.59	7.32
tblVehicleTrips	WD_TR	6.65	7.32
tblVehicleTrips	WD_TR	11.03	16.19
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	13.22	10.72
tblVehicleTrips	WD_TR	6.83	3.37
tblVehicleTrips	WD_TR	36.13	16.19
tblVehicleTrips	WD_TR	4.99	7.32
tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	38.95

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	7.7000e-004	0.0000	0.0000	7.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	6.6000e-004	0.0000	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0766	0.0000	0.0000	0.0716	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0766**	**0.0000**	**0.0000**	**0.0716**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	7.7000e-004	0.0000	0.0000	7.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	6.6000e-004	0.0000	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0766	0.0000	0.0000	0.0716	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0766**	**0.0000**	**0.0000**	**0.0716**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	183.5093	10.5686	287.9405	0.6340		37.4249	37.4249		37.4249	37.4249	4,561.6893	8,838.9363	13,400.6256	13.6742	0.3096	13,834.7465
Energy	1.4000	12.6008	9.7634	0.0764		0.9673	0.9673		0.9673	0.9673		15,272.7102	15,272.7102	0.2927	0.2800	15,363.4683
Mobile	34.5168	226.9195	415.9224	2.3122	240.2857	0.9606	241.2463	64.2895	0.8940	65.1835		238,019.8855	238,019.8855	8.9647		238,244.0019
Total	**219.4260**	**250.0890**	**713.6263**	**3.0225**	**240.2857**	**39.3528**	**279.6385**	**64.2895**	**39.2861**	**103.5756**	**4,561.6893**	**262,131.5320**	**266,693.2212**	**22.9316**	**0.5896**	**267,442.2167**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	183.5093	10.5686	287.9405	0.6340		37.4249	37.4249		37.4249	37.4249	4,561.6893	8,838.9363	13,400.6256	13.6742	0.3096	13,834.7465
Energy	1.4000	12.6008	9.7634	0.0764		0.9673	0.9673		0.9673	0.9673		15,272.7102	15,272.7102	0.2927	0.2800	15,363.4683
Mobile	34.5168	226.9195	415.9224	2.3122	240.2857	0.9606	241.2463	64.2895	0.8940	65.1835		238,019.8855	238,019.8855	8.9647		238,244.0019
Total	**219.4260**	**250.0890**	**713.6263**	**3.0225**	**240.2857**	**39.3528**	**279.6385**	**64.2895**	**39.2861**	**103.5756**	**4,561.6893**	**262,131.5320**	**266,693.2212**	**22.9316**	**0.5896**	**267,442.2167**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2039	12/31/2038	5	0	
2	Site Preparation	Site Preparation	10/8/2039	10/7/2039	5	0	
3	Grading	Grading	3/24/2040	3/23/2040	5	0	
4	Building Construction	Building Construction	6/1/2041	5/31/2041	5	0	
5	Paving	Paving	4/19/2053	4/18/2053	5	0	
6	Architectural Coating	Architectural Coating	2/21/2054	2/20/2054	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 18.44

Residential Indoor: 1,121,040; Residential Outdoor: 373,680; Non-Residential Indoor: 2,848,304; Non-Residential Outdoor: 949,435; Striped Parking Area: 48,195 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	1,327.00	495.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	265.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	34.5168	226.9195	415.9224	2.3122	240.2857	0.9606	241.2463	64.2895	0.8940	65.1835		238,019.8855	238,019.8855	8.9647		238,244.0019
Unmitigated	34.5168	226.9195	415.9224	2.3122	240.2857	0.9606	241.2463	64.2895	0.8940	65.1835		238,019.8855	238,019.8855	8.9647		238,244.0019

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	322.08	315.04	267.08	1,070,311	1,070,311
Apartments Mid Rise	2,518.08	2,198.16	2015.84	8,203,313	8,203,313
General Office Building	3,385.17	514.36	219.54	8,127,167	8,127,167
Government (Civic Center)	2,625.41	0.00	0.00	5,791,149	5,791,149
Hospital	4,417.50	4,194.97	3671.63	16,589,612	16,589,612
Industrial Park	1,286.53	950.58	278.68	4,352,943	4,352,943
Medical Office Building	1,339.88	741.53	128.28	2,804,787	2,804,787
Mobile Home Park	153.72	105.00	91.56	471,157	471,157
Parking Lot	0.00	0.00	0.00		
Place of Worship	1,471.32	2,195.33	7754.57	5,273,010	5,273,010
Single Family Housing	736.32	772.98	672.36	2,502,790	2,502,790
Strip Mall	18,900.88	20,400.33	9913.86	33,925,604	33,925,604
Total	37,156.88	32,388.29	25,013.41	89,111,843	89,111,843

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Mobile Home Park	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Apartments Mid Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Government (Civic Center)	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Hospital	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Industrial Park	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Medical Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Mobile Home Park	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Parking Lot	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Place of Worship	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Strip Mall	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4000	12.6008	9.7634	0.0764		0.9673	0.9673		0.9673	0.9673		15,272.7102	15,272.7102	0.2927	0.2800	15,363.4683
NaturalGas Unmitigated	1.4000	12.6008	9.7634	0.0764		0.9673	0.9673		0.9673	0.9673		15,272.7102	15,272.7102	0.2927	0.2800	15,363.4683

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1969.73	0.0212	0.1815	0.0772	1.1600e-003		0.0147	0.0147		0.0147	0.0147		231.7324	231.7324	4.4400e-003	4.2500e-003	233.1095
Apartments Mid Rise	12625.4	0.1362	1.1635	0.4951	7.4300e-003		0.0941	0.0941		0.0941	0.0941		1,485.3449	1,485.3449	0.0285	0.0272	1,494.1715
General Office Building	5963.3	0.0643	0.5846	0.4911	3.5100e-003		0.0444	0.0444		0.0444	0.0444		701.5652	701.5652	0.0135	0.0129	705.7343
Government (Civic Center)	3314.6	0.0358	0.3250	0.2730	1.9500e-003		0.0247	0.0247		0.0247	0.0247		389.9531	389.9531	7.4700e-003	7.1500e-003	392.2704
Hospital	73112.8	0.7885	7.1679	6.0211	0.0430		0.5448	0.5448		0.5448	0.5448		8,601.5057	8,601.5057	0.1649	0.1577	8,652.6201
Industrial Park	10888	0.1174	1.0675	0.8967	6.4000e-003		0.0811	0.0811		0.0811	0.0811		1,280.9417	1,280.9417	0.0246	0.0235	1,288.5537
Medical Office Building	2360.47	0.0255	0.2314	0.1944	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.7029	277.7029	5.3200e-003	5.0900e-003	279.3532
Mobile Home Park	1033.97	0.0112	0.0953	0.0406	6.1000e-004		7.7000e-003	7.7000e-003		7.7000e-003	7.7000e-003		121.6440	121.6440	2.3300e-003	2.2300e-003	122.3669
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	10498.1	0.1132	1.0292	0.8646	6.1800e-003		0.0782	0.0782		0.0782	0.0782		1,235.0705	1,235.0705	0.0237	0.0226	1,242.4099
Single Family Housing	5871.28	0.0633	0.5411	0.2303	3.4500e-003		0.0438	0.0438		0.0438	0.0438		690.7391	690.7391	0.0132	0.0127	694.8438
Strip Mall	2180.34	0.0235	0.2138	0.1796	1.2800e-003		0.0163	0.0163		0.0163	0.0163		256.5108	256.5108	4.9200e-003	4.7000e-003	258.0351
Total		**1.4000**	**12.6008**	**9.7634**	**0.0764**		**0.9673**	**0.9673**		**0.9673**	**0.9673**		**15,272.7102**	**15,272.7102**	**0.2927**	**0.2800**	**15,363.4683**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.96973	0.0212	0.1815	0.0772	1.1600e-003		0.0147	0.0147		0.0147	0.0147		231.7324	231.7324	4.4400e-003	4.2500e-003	233.1095
Apartments Mid Rise	12.6254	0.1362	1.1635	0.4951	7.4300e-003		0.0941	0.0941		0.0941	0.0941		1,485.3449	1,485.3449	0.0285	0.0272	1,494.1715
General Office Building	5.9633	0.0643	0.5846	0.4911	3.5100e-003		0.0444	0.0444		0.0444	0.0444		701.5652	701.5652	0.0135	0.0129	705.7343
Government (Civic Center)	3.3146	0.0358	0.3250	0.2730	1.9500e-003		0.0247	0.0247		0.0247	0.0247		389.9531	389.9531	7.4700e-003	7.1500e-003	392.2704
Hospital	73.1128	0.7885	7.1679	6.0211	0.0430		0.5448	0.5448		0.5448	0.5448		8,601.5057	8,601.5057	0.1649	0.1577	8,652.6201
Industrial Park	10.888	0.1174	1.0675	0.8967	6.4000e-003		0.0811	0.0811		0.0811	0.0811		1,280.9417	1,280.9417	0.0246	0.0235	1,288.5537
Medical Office Building	2.36047	0.0255	0.2314	0.1944	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.7029	277.7029	5.3200e-003	5.0900e-003	279.3532
Mobile Home Park	1.03397	0.0112	0.0953	0.0406	6.1000e-004		7.7000e-003	7.7000e-003		7.7000e-003	7.7000e-003		121.6440	121.6440	2.3300e-003	2.2300e-003	122.3669
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	10.4981	0.1132	1.0292	0.8646	6.1800e-003		0.0782	0.0782		0.0782	0.0782		1,235.0705	1,235.0705	0.0237	0.0226	1,242.4099
Single Family Housing	5.87128	0.0633	0.5411	0.2303	3.4500e-003		0.0438	0.0438		0.0438	0.0438		690.7391	690.7391	0.0132	0.0127	694.8438
Strip Mall	2.18034	0.0235	0.2138	0.1796	1.2800e-003		0.0163	0.0163		0.0163	0.0163		256.5108	256.5108	4.9200e-003	4.7000e-003	258.0351
Total		**1.4000**	**12.6008**	**9.7634**	**0.0764**		**0.9673**	**0.9673**		**0.9673**	**0.9673**		**15,272.7102**	**15,272.7102**	**0.2927**	**0.2800**	**15,363.4683**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	183.5093	10.5686	287.9405	0.6340		37.4249	37.4249		37.4249	37.4249	4,561.6893	8,838.9363	13,400.6256	13.6742	0.3096	13,834.7465
Unmitigated	183.5093	10.5686	287.9405	0.6340		37.4249	37.4249		37.4249	37.4249	4,561.6893	8,838.9363	13,400.6256	13.6742	0.3096	13,834.7465

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.8329					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	48.8434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	127.6115	10.1044	247.6648	0.6318		37.2011	37.2011		37.2011	37.2011	4,561.6893	8,766.0000	13,327.6893	13.6038	0.3096	13,760.0505
Landscaping	1.2215	0.4642	40.2757	2.1400e-003		0.2238	0.2238		0.2238	0.2238		72.9363	72.9363	0.0704		74.6959
Total	**183.5093**	**10.5686**	**287.9405**	**0.6340**		**37.4249**	**37.4249**		**37.4249**	**37.4249**	**4,561.6893**	**8,838.9363**	**13,400.6256**	**13.6742**	**0.3096**	**13,834.7465**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.8329					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	48.8434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	127.6115	10.1044	247.6648	0.6318		37.2011	37.2011		37.2011	37.2011	4,561.6893	8,766.0000	13,327.6893	13.6038	0.3096	13,760.0505
Landscaping	1.2215	0.4642	40.2757	2.1400e-003		0.2238	0.2238		0.2238	0.2238		72.9363	72.9363	0.0704		74.6959
Total	**183.5093**	**10.5686**	**287.9405**	**0.6340**		**37.4249**	**37.4249**		**37.4249**	**37.4249**	**4,561.6893**	**8,838.9363**	**13,400.6256**	**13.6742**	**0.3096**	**13,834.7465**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Specific Plan Existing Future 2040

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	209.09	1000sqft	9.60	209,088.00	0
Government (Civic Center)	116.22	1000sqft	6.67	116,218.00	0
Hospital	412.08	1000sqft	4.73	412,078.00	0
Medical Office Building	82.76	1000sqft	3.80	82,764.00	0
Place of Worship	211.70	1000sqft	12.15	211,702.00	0
Industrial Park	381.76	1000sqft	21.91	381,760.00	0
Parking Lot	803.25	1000sqft	18.44	803,246.00	0
Apartments Low Rise	44.00	Dwelling Unit	4.20	44,000.00	126
Apartments Mid Rise	344.00	Dwelling Unit	16.40	344,000.00	984
Mobile Home Park	21.00	Dwelling Unit	1.05	25,200.00	60
Single Family Housing	78.00	Dwelling Unit	7.80	140,400.00	223
Strip Mall	485.26	1000sqft	14.80	485,259.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	53.38	**CH4 Intensity (lb/MWhr)**	0.03	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Chris Dugan and Cameron Hile

Land Use - Source: MIG Existing Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Grading - Existing Conditions model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018); Strip mall rates adjusted from 37.75 to 38.95 to match total TIA trip gen estimate.

Energy Use - T24 standards adjusted upwards to reflect decreased efficiency between 2013-2016 standards. See CalEEMod Appendix E5, Tables 3 and 4.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblLandUse	LandUseSquareFeet	209,090.00	209,088.00
tblLandUse	LandUseSquareFeet	116,220.00	116,218.00
tblLandUse	LandUseSquareFeet	412,080.00	412,078.00
tblLandUse	LandUseSquareFeet	82,760.00	82,764.00
tblLandUse	LandUseSquareFeet	211,700.00	211,702.00

tblLandUse	LandUseSquareFeet	803,250.00	803,246.00
tblLandUse	LandUseSquareFeet	485,260.00	485,259.00
tblLandUse	LotAcreage	4.80	9.60
tblLandUse	LotAcreage	2.67	6.67
tblLandUse	LotAcreage	9.46	4.73
tblLandUse	LotAcreage	1.90	3.80
tblLandUse	LotAcreage	4.86	12.15
tblLandUse	LotAcreage	8.76	21.91
tblLandUse	LotAcreage	2.75	4.20
tblLandUse	LotAcreage	9.05	16.40
tblLandUse	LotAcreage	2.65	1.05
tblLandUse	LotAcreage	25.32	7.80
tblLandUse	LotAcreage	11.14	14.80
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.03
tblProjectCharacteristics	CO2IntensityFactor	702.44	53.38
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	WD_TR	6.59	7.32
tblVehicleTrips	WD_TR	6.65	7.32
tblVehicleTrips	WD_TR	11.03	16.19
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	13.22	10.72
tblVehicleTrips	WD_TR	6.83	3.37
tblVehicleTrips	WD_TR	36.13	16.19
tblVehicleTrips	WD_TR	4.99	7.32
tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	38.95

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	7.7000e-004	0.0000	0.0000	7.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	6.6000e-004	0.0000	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0769	0.0000	0.0000	0.0720	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0769**	**0.0000**	**0.0000**	**0.0720**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	7.7000e-004	0.0000	0.0000	7.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	6.6000e-004	0.0000	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0769	0.0000	0.0000	0.0720	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0769**	**0.0000**	**0.0000**	**0.0720**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	183.5093	10.5686	287.9405	0.6340		37.4249	37.4249		37.4249	37.4249	4,561.6893	8,838.9363	13,400.6256	13.6742	0.3096	13,834.7465
Energy	1.4000	12.6008	9.7634	0.0764		0.9673	0.9673		0.9673	0.9673		15,272.7102	15,272.7102	0.2927	0.2800	15,363.4683
Mobile	33.6104	227.6347	400.0762	2.2043	240.2857	0.9633	241.2491	64.2895	0.8966	65.1860		227,012.9625	227,012.9625	9.1159		227,240.8589
Total	**218.5197**	**250.8041**	**697.7801**	**2.9146**	**240.2857**	**39.3555**	**279.6412**	**64.2895**	**39.2887**	**103.5782**	**4,561.6893**	**251,124.6090**	**255,686.2983**	**23.0828**	**0.5896**	**256,439.0736**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	183.5093	10.5686	287.9405	0.6340		37.4249	37.4249		37.4249	37.4249	4,561.6893	8,838.9363	13,400.6256	13.6742	0.3096	13,834.7465
Energy	1.4000	12.6008	9.7634	0.0764		0.9673	0.9673		0.9673	0.9673		15,272.7102	15,272.7102	0.2927	0.2800	15,363.4683
Mobile	33.6104	227.6347	400.0762	2.2043	240.2857	0.9633	241.2491	64.2895	0.8966	65.1860		227,012.9625	227,012.9625	9.1159		227,240.8589
Total	**218.5197**	**250.8041**	**697.7801**	**2.9146**	**240.2857**	**39.3555**	**279.6412**	**64.2895**	**39.2887**	**103.5782**	**4,561.6893**	**251,124.6090**	**255,686.2983**	**23.0828**	**0.5896**	**256,439.0736**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2039	12/31/2038	5	0	
2	Site Preparation	Site Preparation	10/8/2039	10/7/2039	5	0	
3	Grading	Grading	3/24/2040	3/23/2040	5	0	
4	Building Construction	Building Construction	6/1/2041	5/31/2041	5	0	
5	Paving	Paving	4/19/2053	4/18/2053	5	0	
6	Architectural Coating	Architectural Coating	2/21/2054	2/20/2054	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 18.44

Residential Indoor: 1,121,040; Residential Outdoor: 373,680; Non-Residential Indoor: 2,848,304; Non-Residential Outdoor: 949,435; Striped Parking Area: 48,195 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	1,327.00	495.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	265.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	33.6104	227.6347	400.0762	2.2043	240.2857	0.9633	241.2491	64.2895	0.8966	65.1860		227,012.9625	227,012.9625	9.1159		227,240.8589
Unmitigated	33.6104	227.6347	400.0762	2.2043	240.2857	0.9633	241.2491	64.2895	0.8966	65.1860		227,012.9625	227,012.9625	9.1159		227,240.8589

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	322.08	315.04	267.08	1,070,311	1,070,311
Apartments Mid Rise	2,518.08	2,198.16	2015.84	8,203,313	8,203,313
General Office Building	3,385.17	514.36	219.54	8,127,167	8,127,167
Government (Civic Center)	2,625.41	0.00	0.00	5,791,149	5,791,149
Hospital	4,417.50	4,194.97	3671.63	16,589,612	16,589,612
Industrial Park	1,286.53	950.58	278.68	4,352,943	4,352,943
Medical Office Building	1,339.88	741.53	128.28	2,804,787	2,804,787
Mobile Home Park	153.72	105.00	91.56	471,157	471,157
Parking Lot	0.00	0.00	0.00		
Place of Worship	1,471.32	2,195.33	7754.57	5,273,010	5,273,010
Single Family Housing	736.32	772.98	672.36	2,502,790	2,502,790
Strip Mall	18,900.88	20,400.33	9913.86	33,925,604	33,925,604
Total	37,156.88	32,388.29	25,013.41	89,111,843	89,111,843

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Mobile Home Park	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Apartments Mid Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Government (Civic Center)	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Hospital	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Industrial Park	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Medical Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Mobile Home Park	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Parking Lot	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Place of Worship	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Strip Mall	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4000	12.6008	9.7634	0.0764		0.9673	0.9673		0.9673	0.9673		15,272.7102	15,272.7102	0.2927	0.2800	15,363.4683
NaturalGas Unmitigated	1.4000	12.6008	9.7634	0.0764		0.9673	0.9673		0.9673	0.9673		15,272.7102	15,272.7102	0.2927	0.2800	15,363.4683

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1969.73	0.0212	0.1815	0.0772	1.1600e-003		0.0147	0.0147		0.0147	0.0147		231.7324	231.7324	4.4400e-003	4.2500e-003	233.1095
Apartments Mid Rise	12625.4	0.1362	1.1635	0.4951	7.4300e-003		0.0941	0.0941		0.0941	0.0941		1,485.3449	1,485.3449	0.0285	0.0272	1,494.1715
General Office Building	5963.3	0.0643	0.5846	0.4911	3.5100e-003		0.0444	0.0444		0.0444	0.0444		701.5652	701.5652	0.0135	0.0129	705.7343
Government (Civic Center)	3314.6	0.0358	0.3250	0.2730	1.9500e-003		0.0247	0.0247		0.0247	0.0247		389.9531	389.9531	7.4700e-003	7.1500e-003	392.2704
Hospital	73112.8	0.7885	7.1679	6.0211	0.0430		0.5448	0.5448		0.5448	0.5448		8,601.5057	8,601.5057	0.1649	0.1577	8,652.6201
Industrial Park	10888	0.1174	1.0675	0.8967	6.4000e-003		0.0811	0.0811		0.0811	0.0811		1,280.9417	1,280.9417	0.0246	0.0235	1,288.5537
Medical Office Building	2360.47	0.0255	0.2314	0.1944	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.7029	277.7029	5.3200e-003	5.0900e-003	279.3532
Mobile Home Park	1033.97	0.0112	0.0953	0.0406	6.1000e-004		7.7000e-003	7.7000e-003		7.7000e-003	7.7000e-003		121.6440	121.6440	2.3300e-003	2.2300e-003	122.3669
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	10498.1	0.1132	1.0292	0.8646	6.1800e-003		0.0782	0.0782		0.0782	0.0782		1,235.0705	1,235.0705	0.0237	0.0226	1,242.4099
Single Family Housing	5871.28	0.0633	0.5411	0.2303	3.4500e-003		0.0438	0.0438		0.0438	0.0438		690.7391	690.7391	0.0132	0.0127	694.8438
Strip Mall	2180.34	0.0235	0.2138	0.1796	1.2800e-003		0.0163	0.0163		0.0163	0.0163		256.5108	256.5108	4.9200e-003	4.7000e-003	258.0351
Total		**1.4000**	**12.6008**	**9.7634**	**0.0764**		**0.9673**	**0.9673**		**0.9673**	**0.9673**		**15,272.7102**	**15,272.7102**	**0.2927**	**0.2800**	**15,363.4683**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.96973	0.0212	0.1815	0.0772	1.1600e-003		0.0147	0.0147		0.0147	0.0147		231.7324	231.7324	4.4400e-003	4.2500e-003	233.1095
Apartments Mid Rise	12.6254	0.1362	1.1635	0.4951	7.4300e-003		0.0941	0.0941		0.0941	0.0941		1,485.3449	1,485.3449	0.0285	0.0272	1,494.1715
General Office Building	5.9633	0.0643	0.5846	0.4911	3.5100e-003		0.0444	0.0444		0.0444	0.0444		701.5652	701.5652	0.0135	0.0129	705.7343
Government (Civic Center)	3.3146	0.0358	0.3250	0.2730	1.9500e-003		0.0247	0.0247		0.0247	0.0247		389.9531	389.9531	7.4700e-003	7.1500e-003	392.2704
Hospital	73.1128	0.7885	7.1679	6.0211	0.0430		0.5448	0.5448		0.5448	0.5448		8,601.5057	8,601.5057	0.1649	0.1577	8,652.6201
Industrial Park	10.888	0.1174	1.0675	0.8967	6.4000e-003		0.0811	0.0811		0.0811	0.0811		1,280.9417	1,280.9417	0.0246	0.0235	1,288.5537
Medical Office Building	2.36047	0.0255	0.2314	0.1944	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.7029	277.7029	5.3200e-003	5.0900e-003	279.3532
Mobile Home Park	1.03397	0.0112	0.0953	0.0406	6.1000e-004		7.7000e-003	7.7000e-003		7.7000e-003	7.7000e-003		121.6440	121.6440	2.3300e-003	2.2300e-003	122.3669
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	10.4981	0.1132	1.0292	0.8646	6.1800e-003		0.0782	0.0782		0.0782	0.0782		1,235.0705	1,235.0705	0.0237	0.0226	1,242.4099
Single Family Housing	5.87128	0.0633	0.5411	0.2303	3.4500e-003		0.0438	0.0438		0.0438	0.0438		690.7391	690.7391	0.0132	0.0127	694.8438
Strip Mall	2.18034	0.0235	0.2138	0.1796	1.2800e-003		0.0163	0.0163		0.0163	0.0163		256.5108	256.5108	4.9200e-003	4.7000e-003	258.0351
Total		**1.4000**	**12.6008**	**9.7634**	**0.0764**		**0.9673**	**0.9673**		**0.9673**	**0.9673**		**15,272.7102**	**15,272.7102**	**0.2927**	**0.2800**	**15,363.4683**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	183.5093	10.5686	287.9405	0.6340		37.4249	37.4249		37.4249	37.4249	4,561.6893	8,838.9363	13,400.6256	13.6742	0.3096	13,834.7465
Unmitigated	183.5093	10.5686	287.9405	0.6340		37.4249	37.4249		37.4249	37.4249	4,561.6893	8,838.9363	13,400.6256	13.6742	0.3096	13,834.7465

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.8329					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	48.8434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	127.6115	10.1044	247.6648	0.6318		37.2011	37.2011		37.2011	37.2011	4,561.6893	8,766.0000	13,327.6893	13.6038	0.3096	13,760.0505
Landscaping	1.2215	0.4642	40.2757	2.1400e-003		0.2238	0.2238		0.2238	0.2238		72.9363	72.9363	0.0704		74.6959
Total	**183.5093**	**10.5686**	**287.9405**	**0.6340**		**37.4249**	**37.4249**		**37.4249**	**37.4249**	**4,561.6893**	**8,838.9363**	**13,400.6256**	**13.6742**	**0.3096**	**13,834.7465**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.8329					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	48.8434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	127.6115	10.1044	247.6648	0.6318		37.2011	37.2011		37.2011	37.2011	4,561.6893	8,766.0000	13,327.6893	13.6038	0.3096	13,760.0505
Landscaping	1.2215	0.4642	40.2757	2.1400e-003		0.2238	0.2238		0.2238	0.2238		72.9363	72.9363	0.0704		74.6959
Total	**183.5093**	**10.5686**	**287.9405**	**0.6340**		**37.4249**	**37.4249**		**37.4249**	**37.4249**	**4,561.6893**	**8,838.9363**	**13,400.6256**	**13.6742**	**0.3096**	**13,834.7465**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Specific Plan Existing Future 2040

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	209.09	1000sqft	9.60	209,088.00	0
Government (Civic Center)	116.22	1000sqft	6.67	116,218.00	0
Hospital	412.08	1000sqft	4.73	412,078.00	0
Medical Office Building	82.76	1000sqft	3.80	82,764.00	0
Place of Worship	211.70	1000sqft	12.15	211,702.00	0
Industrial Park	381.76	1000sqft	21.91	381,760.00	0
Parking Lot	803.25	1000sqft	18.44	803,246.00	0
Apartments Low Rise	44.00	Dwelling Unit	4.20	44,000.00	126
Apartments Mid Rise	344.00	Dwelling Unit	16.40	344,000.00	984
Mobile Home Park	21.00	Dwelling Unit	1.05	25,200.00	60
Single Family Housing	78.00	Dwelling Unit	7.80	140,400.00	223
Strip Mall	485.26	1000sqft	14.80	485,259.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	53.38	**CH4 Intensity (lb/MWhr)**	0.03	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Chris Dugan and Cameron Hile

Land Use - Source: MIG Existing Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Off-road Equipment - Existing Conditions model run - no construction emissions modeled.

Grading - Existing Conditions model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018); Strip mall rates adjusted from 37.75 to 38.95 to match total TIA trip gen estimate.

Energy Use - T24 standards adjusted upwards to reflect decreased efficiency between 2013-2016 standards. See CalEEMod Appendix E5, Tables 3 and 4.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblLandUse	LandUseSquareFeet	209,090.00	209,088.00
tblLandUse	LandUseSquareFeet	116,220.00	116,218.00
tblLandUse	LandUseSquareFeet	412,080.00	412,078.00
tblLandUse	LandUseSquareFeet	82,760.00	82,764.00
tblLandUse	LandUseSquareFeet	211,700.00	211,702.00

tblLandUse	LandUseSquareFeet	803,250.00	803,246.00
tblLandUse	LandUseSquareFeet	485,260.00	485,259.00
tblLandUse	LotAcreage	4.80	9.60
tblLandUse	LotAcreage	2.67	6.67
tblLandUse	LotAcreage	9.46	4.73
tblLandUse	LotAcreage	1.90	3.80
tblLandUse	LotAcreage	4.86	12.15
tblLandUse	LotAcreage	8.76	21.91
tblLandUse	LotAcreage	2.75	4.20
tblLandUse	LotAcreage	9.05	16.40
tblLandUse	LotAcreage	2.65	1.05
tblLandUse	LotAcreage	25.32	7.80
tblLandUse	LotAcreage	11.14	14.80
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.03
tblProjectCharacteristics	CO2IntensityFactor	702.44	53.38
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	WD_TR	6.59	7.32
tblVehicleTrips	WD_TR	6.65	7.32
tblVehicleTrips	WD_TR	11.03	16.19
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	13.22	10.72
tblVehicleTrips	WD_TR	6.83	3.37
tblVehicleTrips	WD_TR	36.13	16.19
tblVehicleTrips	WD_TR	4.99	7.32
tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	38.95

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	11.7263	0.1843	8.1303	8.1700e-003		0.4930	0.4930		0.4930	0.4930	51.7287	107.6756	159.4043	0.1623	3.5100e-003	164.5067
Energy	0.2555	2.2996	1.7818	0.0139		0.1765	0.1765		0.1765	0.1765	0.0000	3,283.4133	3,283.4133	0.4727	0.0464	3,309.0451
Mobile	4.6584	32.7236	57.7114	0.3207	33.8351	0.1376	33.9727	9.0674	0.1281	9.1955	0.0000	29,957.3881	29,957.3881	1.1686	0.0000	29,986.6040
Waste						0.0000	0.0000		0.0000	0.0000	1,759.9986	0.0000	1,759.9986	104.0129	0.0000	4,360.3221
Water						0.0000	0.0000		0.0000	0.0000	90.3931	117.0387	207.4319	9.3500	0.2192	506.5102
Total	**16.6401**	**35.2076**	**67.6235**	**0.3428**	**33.8351**	**0.8071**	**34.6422**	**9.0674**	**0.7976**	**9.8650**	**1,902.1205**	**33,465.5158**	**35,367.6362**	**115.1665**	**0.2691**	**38,326.9881**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	11.7263	0.1843	8.1303	8.1700e-003		0.4930	0.4930		0.4930	0.4930	51.7287	107.6756	159.4043	0.1623	3.5100e-003	164.5067
Energy	0.2555	2.2996	1.7818	0.0139		0.1765	0.1765		0.1765	0.1765	0.0000	3,283.4133	3,283.4133	0.4727	0.0464	3,309.0451
Mobile	4.6584	32.7236	57.7114	0.3207	33.8351	0.1376	33.9727	9.0674	0.1281	9.1955	0.0000	29,957.3881	29,957.3881	1.1686	0.0000	29,986.6040
Waste						0.0000	0.0000		0.0000	0.0000	1,759.9986	0.0000	1,759.9986	104.0129	0.0000	4,360.3221
Water						0.0000	0.0000		0.0000	0.0000	90.3931	117.0387	207.4319	9.3500	0.2192	506.5102
Total	**16.6401**	**35.2076**	**67.6235**	**0.3428**	**33.8351**	**0.8071**	**34.6422**	**9.0674**	**0.7976**	**9.8650**	**1,902.1205**	**33,465.5158**	**35,367.6362**	**115.1665**	**0.2691**	**38,326.9881**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2039	12/31/2038	5	0	
2	Site Preparation	Site Preparation	10/8/2039	10/7/2039	5	0	
3	Grading	Grading	3/24/2040	3/23/2040	5	0	
4	Building Construction	Building Construction	6/1/2041	5/31/2041	5	0	
5	Paving	Paving	4/19/2053	4/18/2053	5	0	
6	Architectural Coating	Architectural Coating	2/21/2054	2/20/2054	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 18.44

Residential Indoor: 1,121,040; Residential Outdoor: 373,680; Non-Residential Indoor: 2,848,304; Non-Residential Outdoor: 949,435; Striped Parking Area: 48,195 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	1,327.00	495.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	265.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.6584	32.7236	57.7114	0.3207	33.8351	0.1376	33.9727	9.0674	0.1281	9.1955	0.0000	29,957.3881	29,957.3881	1.1686	0.0000	29,986.6040
Unmitigated	4.6584	32.7236	57.7114	0.3207	33.8351	0.1376	33.9727	9.0674	0.1281	9.1955	0.0000	29,957.3881	29,957.3881	1.1686	0.0000	29,986.6040

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	322.08	315.04	267.08	1,070,311	1,070,311
Apartments Mid Rise	2,518.08	2,198.16	2015.84	8,203,313	8,203,313
General Office Building	3,385.17	514.36	219.54	8,127,167	8,127,167
Government (Civic Center)	2,625.41	0.00	0.00	5,791,149	5,791,149
Hospital	4,417.50	4,194.97	3671.63	16,589,612	16,589,612
Industrial Park	1,286.53	950.58	278.68	4,352,943	4,352,943
Medical Office Building	1,339.88	741.53	128.28	2,804,787	2,804,787
Mobile Home Park	153.72	105.00	91.56	471,157	471,157
Parking Lot	0.00	0.00	0.00		
Place of Worship	1,471.32	2,195.33	7754.57	5,273,010	5,273,010
Single Family Housing	736.32	772.98	672.36	2,502,790	2,502,790
Strip Mall	18,900.88	20,400.33	9913.86	33,925,604	33,925,604
Total	37,156.88	32,388.29	25,013.41	89,111,843	89,111,843

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Mobile Home Park	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Apartments Mid Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Government (Civic Center)	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Hospital	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Industrial Park	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Medical Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Mobile Home Park	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Parking Lot	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Place of Worship	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Strip Mall	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	754.8449	754.8449	0.4242	0.0000	765.4506
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	754.8449	754.8449	0.4242	0.0000	765.4506
NaturalGas Mitigated	0.2555	2.2996	1.7818	0.0139		0.1765	0.1765		0.1765	0.1765	0.0000	2,528.5685	2,528.5685	0.0485	0.0464	2,543.5945
NaturalGas Unmitigated	0.2555	2.2996	1.7818	0.0139		0.1765	0.1765		0.1765	0.1765	0.0000	2,528.5685	2,528.5685	0.0485	0.0464	2,543.5945

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	718950	3.8800e-003	0.0331	0.0141	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	38.3659	38.3659	7.4000e-004	7.0000e-004	38.5939
Apartments Mid Rise	4.60828e+006	0.0249	0.2123	0.0904	1.3600e-003		0.0172	0.0172		0.0172	0.0172	0.0000	245.9155	245.9155	4.7100e-003	4.5100e-003	247.3769
General Office Building	2.17661e+006	0.0117	0.1067	0.0896	6.4000e-004		8.1100e-003	8.1100e-003		8.1100e-003	8.1100e-003	0.0000	116.1520	116.1520	2.2300e-003	2.1300e-003	116.8422
Government (Civic Center)	1.20983e+006	6.5200e-003	0.0593	0.0498	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	64.5611	64.5611	1.2400e-003	1.1800e-003	64.9448
Hospital	2.66862e+007	0.1439	1.3082	1.0988	7.8500e-003		0.0994	0.0994		0.0994	0.0994	0.0000	1,424.0757	1,424.0757	0.0273	0.0261	1,432.5383
Industrial Park	3.97412e+006	0.0214	0.1948	0.1636	1.1700e-003		0.0148	0.0148		0.0148	0.0148	0.0000	212.0743	212.0743	4.0600e-003	3.8900e-003	213.3345
Medical Office Building	861573	4.6500e-003	0.0422	0.0355	2.5000e-004		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	45.9768	45.9768	8.8000e-004	8.4000e-004	46.2501
Mobile Home Park	377400	2.0400e-003	0.0174	7.4000e-003	1.1000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003	0.0000	20.1395	20.1395	3.9000e-004	3.7000e-004	20.2592
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	3.83181e+006	0.0207	0.1878	0.1578	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.4798	204.4798	3.9200e-003	3.7500e-003	205.6949
Single Family Housing	2.14302e+006	0.0116	0.0988	0.0420	6.3000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	114.3596	114.3596	2.1900e-003	2.1000e-003	115.0392
Strip Mall	795825	4.2900e-003	0.0390	0.0328	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.4682	42.4682	8.1000e-004	7.8000e-004	42.7206
Total		**0.2555**	**2.2997**	**1.7818**	**0.0139**		**0.1765**	**0.1765**		**0.1765**	**0.1765**	**0.0000**	**2,528.5685**	**2,528.5685**	**0.0485**	**0.0464**	**2,543.5945**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	718950	3.8800e-003	0.0331	0.0141	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	38.3659	38.3659	7.4000e-004	7.0000e-004	38.5939
Apartments Mid Rise	4.60828e+006	0.0249	0.2123	0.0904	1.3600e-003		0.0172	0.0172		0.0172	0.0172	0.0000	245.9155	245.9155	4.7100e-003	4.5100e-003	247.3769
General Office Building	2.17661e+006	0.0117	0.1067	0.0896	6.4000e-004		8.1100e-003	8.1100e-003		8.1100e-003	8.1100e-003	0.0000	116.1520	116.1520	2.2300e-003	2.1300e-003	116.8422
Government (Civic Center)	1.20983e+006	6.5200e-003	0.0593	0.0498	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	64.5611	64.5611	1.2400e-003	1.1800e-003	64.9448
Hospital	2.66862e+007	0.1439	1.3082	1.0988	7.8500e-003		0.0994	0.0994		0.0994	0.0994	0.0000	1,424.0757	1,424.0757	0.0273	0.0261	1,432.5383
Industrial Park	3.97412e+006	0.0214	0.1948	0.1636	1.1700e-003		0.0148	0.0148		0.0148	0.0148	0.0000	212.0743	212.0743	4.0600e-003	3.8900e-003	213.3345
Medical Office Building	861573	4.6500e-003	0.0422	0.0355	2.5000e-004		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	45.9768	45.9768	8.8000e-004	8.4000e-004	46.2501
Mobile Home Park	377400	2.0400e-003	0.0174	7.4000e-003	1.1000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003	0.0000	20.1395	20.1395	3.9000e-004	3.7000e-004	20.2592
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	3.83181e+006	0.0207	0.1878	0.1578	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.4798	204.4798	3.9200e-003	3.7500e-003	205.6949
Single Family Housing	2.14302e+006	0.0116	0.0988	0.0420	6.3000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	114.3596	114.3596	2.1900e-003	2.1000e-003	115.0392
Strip Mall	795825	4.2900e-003	0.0390	0.0328	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.4682	42.4682	8.1000e-004	7.8000e-004	42.7206
Total		**0.2555**	**2.2997**	**1.7818**	**0.0139**		**0.1765**	**0.1765**		**0.1765**	**0.1765**	**0.0000**	**2,528.5685**	**2,528.5685**	**0.0485**	**0.0464**	**2,543.5945**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	186577	4.5176	2.5400e-003	0.0000	4.5810
Apartments Mid Rise	1.39257e+006	33.7180	0.0190	0.0000	34.1917
General Office Building	2.71605e+006	65.7631	0.0370	0.0000	66.6871
Government (Civic Center)	1.50967e+006	36.5533	0.0205	0.0000	37.0669
Hospital	9.40362e+006	227.6876	0.1280	0.0000	230.8867
Industrial Park	4.95906e+006	120.0726	0.0675	0.0000	121.7596
Medical Office Building	1.0751e+006	26.0312	0.0146	0.0000	26.3970
Mobile Home Park	110567	2.6771	1.5000e-003	0.0000	2.7147
Parking Lot	281136	6.8071	3.8300e-003	0.0000	6.9027
Place of Worship	2.34989e+006	56.8974	0.0320	0.0000	57.6968
Single Family Housing	640247	15.5021	8.7100e-003	0.0000	15.7200
Strip Mall	6.551e+006	158.6177	0.0891	0.0000	160.8463
Total		**754.8449**	**0.4242**	**0.0000**	**765.4506**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	186577	4.5176	2.5400e-003	0.0000	4.5810
Apartments Mid Rise	1.39257e+006	33.7180	0.0190	0.0000	34.1917
General Office Building	2.71605e+006	65.7631	0.0370	0.0000	66.6871
Government (Civic Center)	1.50967e+006	36.5533	0.0205	0.0000	37.0669
Hospital	9.40362e+006	227.6876	0.1280	0.0000	230.8867
Industrial Park	4.95906e+006	120.0726	0.0675	0.0000	121.7596
Medical Office Building	1.0751e+006	26.0312	0.0146	0.0000	26.3970
Mobile Home Park	110567	2.6771	1.5000e-003	0.0000	2.7147
Parking Lot	281136	6.8071	3.8300e-003	0.0000	6.9027
Place of Worship	2.34989e+006	56.8974	0.0320	0.0000	57.6968
Single Family Housing	640247	15.5021	8.7100e-003	0.0000	15.7200
Strip Mall	6.551e+006	158.6177	0.0891	0.0000	160.8463
Total		**754.8449**	**0.4242**	**0.0000**	**765.4506**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	11.7263	0.1843	8.1303	8.1700e-003		0.4930	0.4930		0.4930	0.4930	51.7287	107.6756	159.4043	0.1623	3.5100e-003	164.5067
Unmitigated	11.7263	0.1843	8.1303	8.1700e-003		0.4930	0.4930		0.4930	0.4930	51.7287	107.6756	159.4043	0.1623	3.5100e-003	164.5067

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0645					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.9139					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5951	0.1263	3.0958	7.9000e-003		0.4650	0.4650		0.4650	0.4650	51.7287	99.4048	151.1335	0.1543	3.5100e-003	156.0364
Landscaping	0.1527	0.0580	5.0345	2.7000e-004		0.0280	0.0280		0.0280	0.0280	0.0000	8.2708	8.2708	7.9800e-003	0.0000	8.4704
Total	**11.7263**	**0.1843**	**8.1303**	**8.1700e-003**		**0.4930**	**0.4930**		**0.4930**	**0.4930**	**51.7287**	**107.6756**	**159.4043**	**0.1622**	**3.5100e-003**	**164.5067**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0645					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.9139					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5951	0.1263	3.0958	7.9000e-003		0.4650	0.4650		0.4650	0.4650	51.7287	99.4048	151.1335	0.1543	3.5100e-003	156.0364
Landscaping	0.1527	0.0580	5.0345	2.7000e-004		0.0280	0.0280		0.0280	0.0280	0.0000	8.2708	8.2708	7.9800e-003	0.0000	8.4704
Total	**11.7263**	**0.1843**	**8.1303**	**8.1700e-003**		**0.4930**	**0.4930**		**0.4930**	**0.4930**	**51.7287**	**107.6756**	**159.4043**	**0.1622**	**3.5100e-003**	**164.5067**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	207.4319	9.3500	0.2192	506.5102
Unmitigated	207.4319	9.3500	0.2192	506.5102

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2.86678 / 1.80732	2.2995	0.0942	2.2100e-003	5.3117
Apartments Mid Rise	22.413 / 14.1299	17.9779	0.7364	0.0172	41.5276
General Office Building	37.1623 / 22.7769	29.6333	1.2210	0.0286	68.6781
Government (Civic Center)	23.0882 / 14.1508	18.4106	0.7586	0.0178	42.6683
Hospital	51.708 / 9.84915	35.3562	1.6956	0.0398	89.6009
Industrial Park	88.282 / 0	55.8409	2.8923	0.0679	148.3902
Medical Office Building	10.3848 / 1.97805	7.1008	0.3405	7.9900e-003	17.9950
Mobile Home Park	1.36823 / 0.862583	1.0975	0.0450	1.0500e-003	2.5351
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	6.62386 / 10.3604	6.9768	0.2186	5.1000e-003	13.9600
Single Family Housing	5.08201 / 3.20388	4.0764	0.1670	3.9100e-003	9.4162
Strip Mall	35.9444 / 22.0305	28.6621	1.1810	0.0277	66.4273
Total		**207.4319**	**9.3500**	**0.2192**	**506.5102**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2.86678 / 1.80732	2.2995	0.0942	2.2100e-003	5.3117
Apartments Mid Rise	22.413 / 14.1299	17.9779	0.7364	0.0172	41.5276
General Office Building	37.1623 / 22.7769	29.6333	1.2210	0.0286	68.6781
Government (Civic Center)	23.0882 / 14.1508	18.4106	0.7586	0.0178	42.6683
Hospital	51.708 / 9.84915	35.3562	1.6956	0.0398	89.6009
Industrial Park	88.282 / 0	55.8409	2.8923	0.0679	148.3902
Medical Office Building	10.3848 / 1.97805	7.1008	0.3405	7.9900e-003	17.9950
Mobile Home Park	1.36823 / 0.862583	1.0975	0.0450	1.0500e-003	2.5351
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	6.62386 / 10.3604	6.9768	0.2186	5.1000e-003	13.9600
Single Family Housing	5.08201 / 3.20388	4.0764	0.1670	3.9100e-003	9.4162
Strip Mall	35.9444 / 22.0305	28.6621	1.1810	0.0277	66.4273
Total		**207.4319**	**9.3500**	**0.2192**	**506.5102**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1,759.9986	104.0129	0.0000	4,360.3221
Unmitigated	1,759.9986	104.0129	0.0000	4,360.3221

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	20.24	4.1085	0.2428	0.0000	10.1787
Apartments Mid Rise	158.24	32.1213	1.8983	0.0000	79.5791
General Office Building	194.45	39.4716	2.3327	0.0000	97.7892
Government (Civic Center)	662.45	134.4714	7.9470	0.0000	333.1471
Hospital	4450.46	903.4032	53.3896	0.0000	2,238.1431
Industrial Park	473.38	96.0919	5.6789	0.0000	238.0635
Medical Office Building	893.81	181.4354	10.7225	0.0000	449.4984
Mobile Home Park	9.66	1.9609	0.1159	0.0000	4.8580
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	1206.69	244.9472	14.4760	0.0000	606.8462
Single Family Housing	91.43	18.5595	1.0968	0.0000	45.9803
Strip Mall	509.52	103.4280	6.1124	0.0000	256.2384
Total		**1,759.9986**	**104.0129**	**0.0000**	**4,360.3221**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	20.24	4.1085	0.2428	0.0000	10.1787
Apartments Mid Rise	158.24	32.1213	1.8983	0.0000	79.5791
General Office Building	194.45	39.4716	2.3327	0.0000	97.7892
Government (Civic Center)	662.45	134.4714	7.9470	0.0000	333.1471
Hospital	4450.46	903.4032	53.3896	0.0000	2,238.1431
Industrial Park	473.38	96.0919	5.6789	0.0000	238.0635
Medical Office Building	893.81	181.4354	10.7225	0.0000	449.4984
Mobile Home Park	9.66	1.9609	0.1159	0.0000	4.8580
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	1206.69	244.9472	14.4760	0.0000	606.8462
Single Family Housing	91.43	18.5595	1.0968	0.0000	45.9803
Strip Mall	509.52	103.4280	6.1124	0.0000	256.2384
Total		**1,759.9986**	**104.0129**	**0.0000**	**4,360.3221**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Potential Yearly Construction 2021

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	1.61	1000sqft	1.01	1,610.00	0
Medical Office Building	2.76	1000sqft	0.51	2,760.00	0
Place of Worship	3.40	1000sqft	2.34	3,405.00	0
Apartments Low Rise	25.50	Dwelling Unit	1.50	25,500.00	73
Single Family Housing	16.20	Dwelling Unit	1.00	29,160.00	46
Regional Shopping Center	46.57	1000sqft	1.50	46,568.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	427.1	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Covina Town Center Potential Yearly Construction 2021 - Los Angeles-South Coast County, Summer

Project Characteristics - MIG Modeler: Chris Dugan and Cameron Hile

Land Use - Source: MIG Proposed Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase -

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018). Rates reflect trip gen reduction factors applied in the TIA.

Woodstoves - Wood burning devices excluded from new development pursuant to SCAQMD Rule 445.

Energy Use - T24 standards adjusted downwards to reflect increased efficiency between 2016-2019 standards (CEC, 2017).

Construction Off-road Equipment Mitigation - Rule 403 Three Times Daily Watering

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Grading -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	67
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	67
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	3.10	2.17
tblEnergyUse	LightingElect	6.26	4.38
tblEnergyUse	T24E	257.27	128.64
tblEnergyUse	T24E	443.48	221.74
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	21.68	22.95
tblFireplaces	NumberGas	13.77	14.58
tblFireplaces	NumberWood	1.27	0.00

tblFireplaces	NumberWood	0.81	0.00
tblLandUse	LandUseSquareFeet	3,400.00	3,405.00
tblLandUse	LandUseSquareFeet	46,570.00	46,568.00
tblLandUse	LotAcreage	0.04	1.01
tblLandUse	LotAcreage	0.06	0.51
tblLandUse	LotAcreage	0.08	2.34
tblLandUse	LotAcreage	1.59	1.50
tblLandUse	LotAcreage	5.26	1.00
tblLandUse	LotAcreage	1.07	1.50
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	427.1
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	WD_TR	6.59	6.74
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	36.13	16.03
tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	42.70	37.06
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	1.27	0.00
tblWoodstoves	NumberCatalytic	0.81	0.00
tblWoodstoves	NumberNoncatalytic	1.27	0.00
tblWoodstoves	NumberNoncatalytic	0.81	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9653	40.5501	22.1692	0.0405	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	3,918.7604	3,918.7604	1.1981	0.0000	3,945.2587
2022	42.5261	16.9277	18.2363	0.0349	0.5527	0.8150	1.3676	0.1485	0.7667	0.9152	0.0000	3,370.0244	3,370.0244	0.7186	0.0000	3,386.1497
Maximum	**42.5261**	**40.5501**	**22.1692**	**0.0405**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**3,918.7604**	**3,918.7604**	**1.1981**	**0.0000**	**3,945.2587**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9653	40.5501	22.1692	0.0405	6.1631	2.0461	8.2092	3.3305	1.8824	5.2129	0.0000	3,918.7604	3,918.7604	1.1981	0.0000	3,945.2587
2022	42.5261	16.9277	18.2363	0.0349	0.5527	0.8150	1.3676	0.1485	0.7667	0.9152	0.0000	3,370.0244	3,370.0244	0.7186	0.0000	3,386.1497
Maximum	**42.5261**	**40.5501**	**22.1692**	**0.0405**	**6.1631**	**2.0461**	**8.2092**	**3.3305**	**1.8824**	**5.2129**	**0.0000**	**3,918.7604**	**3,918.7604**	**1.1981**	**0.0000**	**3,945.2587**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**64.32**	**0.00**	**55.83**	**65.67**	**0.00**	**52.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5674	0.6623	3.7145	4.1600e-003		0.0694	0.0694		0.0694	0.0694	0.0000	800.9595	800.9595	0.0212	0.0146	805.8325
Energy	0.0309	0.2669	0.1340	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.9045	336.9045	6.4600e-003	6.1800e-003	338.9066
Mobile	4.4326	20.1910	51.2675	0.1794	14.2437	0.1465	14.3901	3.8119	0.1366	3.9484		18,273.0194	18,273.0194	0.9501		18,296.7714
Total	**7.0308**	**21.1202**	**55.1159**	**0.1853**	**14.2437**	**0.2372**	**14.4809**	**3.8119**	**0.2273**	**4.0391**	**0.0000**	**19,410.8834**	**19,410.8834**	**0.9778**	**0.0208**	**19,441.5105**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5674	0.6623	3.7145	4.1600e-003		0.0694	0.0694		0.0694	0.0694	0.0000	800.9595	800.9595	0.0212	0.0146	805.8325
Energy	0.0309	0.2669	0.1340	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.9045	336.9045	6.4600e-003	6.1800e-003	338.9066
Mobile	4.4326	20.1910	51.2675	0.1794	14.2437	0.1465	14.3901	3.8119	0.1366	3.9484		18,273.0194	18,273.0194	0.9501		18,296.7714
Total	**7.0308**	**21.1202**	**55.1159**	**0.1853**	**14.2437**	**0.2372**	**14.4809**	**3.8119**	**0.2273**	**4.0391**	**0.0000**	**19,410.8834**	**19,410.8834**	**0.9778**	**0.0208**	**19,441.5105**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/11/2021	5	20	
4	Building Construction	Building Construction	3/12/2021	1/27/2022	5	230	
5	Paving	Paving	1/28/2022	2/24/2022	5	20	
6	Architectural Coating	Architectural Coating	2/25/2022	3/24/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 110,687; Residential Outdoor: 36,896; Non-Residential Indoor: 81,515; Non-Residential Outdoor: 27,172; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Covina Town Center Potential Yearly Construction 2021 - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	0		367	0.48
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Covina Town Center Potential Yearly Construction 2021 - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	42.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0643**	**0.0442**	**0.6042**	**1.7100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**170.8155**	**170.8155**	**5.0300e-003**		**170.9413**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0643**	**0.0442**	**0.6042**	**1.7100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**170.8155**	**170.8155**	**5.0300e-003**		**170.9413**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.9619	0.0000	5.9619	3.2771	0.0000	3.2771			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**5.9619**	**2.0445**	**8.0063**	**3.2771**	**1.8809**	**5.1580**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0643**	**0.0442**	**0.6042**	**1.7100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**170.8155**	**170.8155**	**5.0300e-003**		**170.9413**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1623	0.0000	2.1623	1.1113	0.0000	1.1113			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.1623**	**1.1599**	**3.3222**	**1.1113**	**1.0671**	**2.1784**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0643**	**0.0442**	**0.6042**	**1.7100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**170.8155**	**170.8155**	**5.0300e-003**		**170.9413**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0395	1.2622	0.3300	3.3400e-003	0.0832	2.5800e-003	0.0858	0.0240	2.4700e-003	0.0264		357.3448	357.3448	0.0211		357.8711
Worker	0.1800	0.1238	1.6917	4.8000e-003	0.4695	3.7900e-003	0.4733	0.1245	3.4900e-003	0.1280		478.2833	478.2833	0.0141		478.6357
Total	**0.2196**	**1.3859**	**2.0216**	**8.1400e-003**	**0.5527**	**6.3700e-003**	**0.5591**	**0.1485**	**5.9600e-003**	**0.1544**		**835.6282**	**835.6282**	**0.0351**		**836.5068**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0395	1.2622	0.3300	3.3400e-003	0.0832	2.5800e-003	0.0858	0.0240	2.4700e-003	0.0264		357.3448	357.3448	0.0211		357.8711
Worker	0.1800	0.1238	1.6917	4.8000e-003	0.4695	3.7900e-003	0.4733	0.1245	3.4900e-003	0.1280		478.2833	478.2833	0.0141		478.6357
Total	**0.2196**	**1.3859**	**2.0216**	**8.1400e-003**	**0.5527**	**6.3700e-003**	**0.5591**	**0.1485**	**5.9600e-003**	**0.1544**		**835.6282**	**835.6282**	**0.0351**		**836.5068**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0371	1.2003	0.3122	3.3100e-003	0.0832	2.2600e-003	0.0855	0.0240	2.1600e-003	0.0261		354.2317	354.2317	0.0203		354.7399
Worker	0.1686	0.1118	1.5607	4.6300e-003	0.4695	3.6700e-003	0.4731	0.1245	3.3800e-003	0.1279		461.4592	461.4592	0.0127		461.7776
Total	**0.2057**	**1.3121**	**1.8729**	**7.9400e-003**	**0.5527**	**5.9300e-003**	**0.5586**	**0.1485**	**5.5400e-003**	**0.1540**		**815.6908**	**815.6908**	**0.0331**		**816.5174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0371	1.2003	0.3122	3.3100e-003	0.0832	2.2600e-003	0.0855	0.0240	2.1600e-003	0.0261		354.2317	354.2317	0.0203		354.7399
Worker	0.1686	0.1118	1.5607	4.6300e-003	0.4695	3.6700e-003	0.4731	0.1245	3.3800e-003	0.1279		461.4592	461.4592	0.0127		461.7776
Total	**0.2057**	**1.3121**	**1.8729**	**7.9400e-003**	**0.5527**	**5.9300e-003**	**0.5586**	**0.1485**	**5.5400e-003**	**0.1540**		**815.6908**	**815.6908**	**0.0331**		**816.5174**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.2894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**42.4939**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0321	0.0213	0.2973	8.8000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		87.8970	87.8970	2.4300e-003		87.9576
Total	**0.0321**	**0.0213**	**0.2973**	**8.8000e-004**	**0.0894**	**7.0000e-004**	**0.0901**	**0.0237**	**6.4000e-004**	**0.0244**		**87.8970**	**87.8970**	**2.4300e-003**		**87.9576**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.2894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**42.4939**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0321	0.0213	0.2973	8.8000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		87.8970	87.8970	2.4300e-003		87.9576
Total	**0.0321**	**0.0213**	**0.2973**	**8.8000e-004**	**0.0894**	**7.0000e-004**	**0.0901**	**0.0237**	**6.4000e-004**	**0.0244**		**87.8970**	**87.8970**	**2.4300e-003**		**87.9576**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.4326	20.1910	51.2675	0.1794	14.2437	0.1465	14.3901	3.8119	0.1366	3.9484		18,273.0194	18,273.0194	0.9501		18,296.7714
Unmitigated	4.4326	20.1910	51.2675	0.1794	14.2437	0.1465	14.3901	3.8119	0.1366	3.9484		18,273.0194	18,273.0194	0.9501		18,296.7714

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	171.87	182.58	154.79	584,194	584,194
Government (Civic Center)	36.37	0.00	0.00	80,225	80,225
Medical Office Building	44.24	24.73	4.28	92,720	92,720
Place of Worship	23.63	35.26	124.54	84,687	84,687
Regional Shopping Center	1,725.88	2,327.10	1175.43	3,748,502	3,748,502
Single Family Housing	152.93	160.54	139.64	519,810	519,810
Total	2,154.92	2,730.21	1,598.68	5,110,138	5,110,138

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Government (Civic Center)	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Medical Office Building	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Place of Worship	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Regional Shopping Center	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Single Family Housing	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Covina Town Center Potential Yearly Construction 2021 - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0309	0.2669	0.1340	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.9045	336.9045	6.4600e-003	6.1800e-003	338.9066
NaturalGas Unmitigated	0.0309	0.2669	0.1340	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.9045	336.9045	6.4600e-003	6.1800e-003	338.9066

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1141.55	0.0123	0.1052	0.0448	6.7000e-004		8.5100e-003	8.5100e-003		8.5100e-003	8.5100e-003		134.2995	134.2995	2.5700e-003	2.4600e-003	135.0976
Government (Civic Center)	45.9181	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4021	5.4021	1.0000e-004	1.0000e-004	5.4342
Medical Office Building	78.7167	8.5000e-004	7.7200e-003	6.4800e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.2608	9.2608	1.8000e-004	1.7000e-004	9.3158
Place of Worship	168.851	1.8200e-003	0.0166	0.0139	1.0000e-004		1.2600e-003	1.2600e-003		1.2600e-003	1.2600e-003		19.8648	19.8648	3.8000e-004	3.6000e-004	19.9828
Regional Shopping Center	209.237	2.2600e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003		24.6161	24.6161	4.7000e-004	4.5000e-004	24.7624
Single Family Housing	1219.42	0.0132	0.1124	0.0478	7.2000e-004		9.0900e-003	9.0900e-003		9.0900e-003	9.0900e-003		143.4612	143.4612	2.7500e-003	2.6300e-003	144.3137
Total		**0.0309**	**0.2669**	**0.1340**	**1.6900e-003**		**0.0214**	**0.0214**		**0.0214**	**0.0214**		**336.9045**	**336.9045**	**6.4500e-003**	**6.1700e-003**	**338.9065**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.14155	0.0123	0.1052	0.0448	6.7000e-004		8.5100e-003	8.5100e-003		8.5100e-003	8.5100e-003		134.2995	134.2995	2.5700e-003	2.4600e-003	135.0976
Government (Civic Center)	0.0459181	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4021	5.4021	1.0000e-004	1.0000e-004	5.4342
Medical Office Building	0.0787167	8.5000e-004	7.7200e-003	6.4800e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.2608	9.2608	1.8000e-004	1.7000e-004	9.3158
Place of Worship	0.168851	1.8200e-003	0.0166	0.0139	1.0000e-004		1.2600e-003	1.2600e-003		1.2600e-003	1.2600e-003		19.8648	19.8648	3.8000e-004	3.6000e-004	19.9828
Regional Shopping Center	0.209237	2.2600e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003		24.6161	24.6161	4.7000e-004	4.5000e-004	24.7624
Single Family Housing	1.21942	0.0132	0.1124	0.0478	7.2000e-004		9.0900e-003	9.0900e-003		9.0900e-003	9.0900e-003		143.4612	143.4612	2.7500e-003	2.6300e-003	144.3137
Total		**0.0309**	**0.2669**	**0.1340**	**1.6900e-003**		**0.0214**	**0.0214**		**0.0214**	**0.0214**		**336.9045**	**336.9045**	**6.4500e-003**	**6.1700e-003**	**338.9065**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5674	0.6623	3.7145	4.1600e-003		0.0694	0.0694		0.0694	0.0694	0.0000	800.9595	800.9595	0.0212	0.0146	805.8325
Unmitigated	2.5674	0.6623	3.7145	4.1600e-003		0.0694	0.0694		0.0694	0.0694	0.0000	800.9595	800.9595	0.0212	0.0146	805.8325

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2317					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0729	0.6226	0.2649	3.9700e-003		0.0503	0.0503		0.0503	0.0503	0.0000	794.7529	794.7529	0.0152	0.0146	799.4758
Landscaping	0.1045	0.0398	3.4496	1.8000e-004		0.0191	0.0191		0.0191	0.0191		6.2065	6.2065	6.0100e-003		6.3567
Total	**2.5674**	**0.6623**	**3.7145**	**4.1500e-003**		**0.0694**	**0.0694**		**0.0694**	**0.0694**	**0.0000**	**800.9595**	**800.9595**	**0.0212**	**0.0146**	**805.8325**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2317					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0729	0.6226	0.2649	3.9700e-003		0.0503	0.0503		0.0503	0.0503	0.0000	794.7529	794.7529	0.0152	0.0146	799.4758
Landscaping	0.1045	0.0398	3.4496	1.8000e-004		0.0191	0.0191		0.0191	0.0191		6.2065	6.2065	6.0100e-003		6.3567
Total	**2.5674**	**0.6623**	**3.7145**	**4.1500e-003**		**0.0694**	**0.0694**		**0.0694**	**0.0694**	**0.0000**	**800.9595**	**800.9595**	**0.0212**	**0.0146**	**805.8325**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Potential Yearly Construction 2021

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	1.61	1000sqft	1.01	1,610.00	0
Medical Office Building	2.76	1000sqft	0.51	2,760.00	0
Place of Worship	3.40	1000sqft	2.34	3,405.00	0
Apartments Low Rise	25.50	Dwelling Unit	1.50	25,500.00	73
Single Family Housing	16.20	Dwelling Unit	1.00	29,160.00	46
Regional Shopping Center	46.57	1000sqft	1.50	46,568.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	427.1	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Covina Town Center Potential Yearly Construction 2021 - Los Angeles-South Coast County, Winter

Project Characteristics - MIG Modeler: Chris Dugan and Cameron Hile

Land Use - Source: MIG Proposed Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase -

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018). Rates reflect trip gen reduction factors applied in the TIA.

Woodstoves - Wood burning devices excluded from new development pursuant to SCAQMD Rule 445.

Energy Use - T24 standards adjusted downwards to reflect increased efficiency between 2016-2019 standards (CEC, 2017).

Construction Off-road Equipment Mitigation - Rule 403 Three Times Daily Watering

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Grading -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	67
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	67
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	3.10	2.17
tblEnergyUse	LightingElect	6.26	4.38
tblEnergyUse	T24E	257.27	128.64
tblEnergyUse	T24E	443.48	221.74
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	21.68	22.95
tblFireplaces	NumberGas	13.77	14.58
tblFireplaces	NumberWood	1.27	0.00

tblFireplaces	NumberWood	0.81	0.00
tblLandUse	LandUseSquareFeet	3,400.00	3,405.00
tblLandUse	LandUseSquareFeet	46,570.00	46,568.00
tblLandUse	LotAcreage	0.04	1.01
tblLandUse	LotAcreage	0.06	0.51
tblLandUse	LotAcreage	0.08	2.34
tblLandUse	LotAcreage	1.59	1.50
tblLandUse	LotAcreage	5.26	1.00
tblLandUse	LotAcreage	1.07	1.50
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	427.1
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	WD_TR	6.59	6.74
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	36.13	16.03
tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	42.70	37.06
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	1.27	0.00
tblWoodstoves	NumberCatalytic	0.81	0.00
tblWoodstoves	NumberNoncatalytic	1.27	0.00
tblWoodstoves	NumberNoncatalytic	0.81	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9740	40.5558	22.1174	0.0404	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	3,908.7826	3,908.7826	1.1977	0.0000	3,935.2733
2022	42.5298	16.9364	18.1334	0.0345	0.5527	0.8150	1.3677	0.1485	0.7668	0.9152	0.0000	3,333.3141	3,333.3141	0.7183	0.0000	3,349.4531
Maximum	**42.5298**	**40.5558**	**22.1174**	**0.0404**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**3,908.7826**	**3,908.7826**	**1.1977**	**0.0000**	**3,935.2733**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9740	40.5558	22.1174	0.0404	6.1631	2.0461	8.2092	3.3305	1.8824	5.2129	0.0000	3,908.7826	3,908.7826	1.1977	0.0000	3,935.2733
2022	42.5298	16.9364	18.1334	0.0345	0.5527	0.8150	1.3677	0.1485	0.7668	0.9152	0.0000	3,333.3141	3,333.3141	0.7183	0.0000	3,349.4531
Maximum	**42.5298**	**40.5558**	**22.1174**	**0.0404**	**6.1631**	**2.0461**	**8.2092**	**3.3305**	**1.8824**	**5.2129**	**0.0000**	**3,908.7826**	**3,908.7826**	**1.1977**	**0.0000**	**3,935.2733**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**64.32**	**0.00**	**55.83**	**65.67**	**0.00**	**52.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5674	0.6623	3.7145	4.1600e-003		0.0694	0.0694		0.0694	0.0694	0.0000	800.9595	800.9595	0.0212	0.0146	805.8325
Energy	0.0309	0.2669	0.1340	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.9045	336.9045	6.4600e-003	6.1800e-003	338.9066
Mobile	4.2988	20.5300	49.3790	0.1705	14.2437	0.1475	14.3912	3.8119	0.1375	3.9494		17,373.5415	17,373.5415	0.9547		17,397.4098
Total	**6.8970**	**21.4592**	**53.2275**	**0.1764**	**14.2437**	**0.2382**	**14.4819**	**3.8119**	**0.2283**	**4.0401**	**0.0000**	**18,511.4055**	**18,511.4055**	**0.9824**	**0.0208**	**18,542.1488**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5674	0.6623	3.7145	4.1600e-003		0.0694	0.0694		0.0694	0.0694	0.0000	800.9595	800.9595	0.0212	0.0146	805.8325
Energy	0.0309	0.2669	0.1340	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.9045	336.9045	6.4600e-003	6.1800e-003	338.9066
Mobile	4.2988	20.5300	49.3790	0.1705	14.2437	0.1475	14.3912	3.8119	0.1375	3.9494		17,373.5415	17,373.5415	0.9547		17,397.4098
Total	**6.8970**	**21.4592**	**53.2275**	**0.1764**	**14.2437**	**0.2382**	**14.4819**	**3.8119**	**0.2283**	**4.0401**	**0.0000**	**18,511.4055**	**18,511.4055**	**0.9824**	**0.0208**	**18,542.1488**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/11/2021	5	20	
4	Building Construction	Building Construction	3/12/2021	1/27/2022	5	230	
5	Paving	Paving	1/28/2022	2/24/2022	5	20	
6	Architectural Coating	Architectural Coating	2/25/2022	3/24/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 110,687; Residential Outdoor: 36,896; Non-Residential Indoor: 81,515; Non-Residential Outdoor: 27,172; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Covina Town Center Potential Yearly Construction 2021 - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	0		367	0.48
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Covina Town Center Potential Yearly Construction 2021 - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	42.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0715**	**0.0489**	**0.5524**	**1.6100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**160.8377**	**160.8377**	**4.7300e-003**		**160.9560**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0715**	**0.0489**	**0.5524**	**1.6100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**160.8377**	**160.8377**	**4.7300e-003**		**160.9560**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.9619	0.0000	5.9619	3.2771	0.0000	3.2771			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**5.9619**	**2.0445**	**8.0063**	**3.2771**	**1.8809**	**5.1580**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0715**	**0.0489**	**0.5524**	**1.6100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**160.8377**	**160.8377**	**4.7300e-003**		**160.9560**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1623	0.0000	2.1623	1.1113	0.0000	1.1113			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.1623**	**1.1599**	**3.3222**	**1.1113**	**1.0671**	**2.1784**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0715**	**0.0489**	**0.5524**	**1.6100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**160.8377**	**160.8377**	**4.7300e-003**		**160.9560**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0415	1.2596	0.3650	3.2500e-003	0.0832	2.6600e-003	0.0859	0.0240	2.5500e-003	0.0265		347.5492	347.5492	0.0224		348.1101
Worker	0.2003	0.1370	1.5467	4.5200e-003	0.4695	3.7900e-003	0.4733	0.1245	3.4900e-003	0.1280		450.3455	450.3455	0.0133		450.6768
Total	**0.2417**	**1.3965**	**1.9117**	**7.7700e-003**	**0.5527**	**6.4500e-003**	**0.5591**	**0.1485**	**6.0400e-003**	**0.1545**		**797.8946**	**797.8946**	**0.0357**		**798.7869**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0415	1.2596	0.3650	3.2500e-003	0.0832	2.6600e-003	0.0859	0.0240	2.5500e-003	0.0265		347.5492	347.5492	0.0224		348.1101
Worker	0.2003	0.1370	1.5467	4.5200e-003	0.4695	3.7900e-003	0.4733	0.1245	3.4900e-003	0.1280		450.3455	450.3455	0.0133		450.6768
Total	**0.2417**	**1.3965**	**1.9117**	**7.7700e-003**	**0.5527**	**6.4500e-003**	**0.5591**	**0.1485**	**6.0400e-003**	**0.1545**		**797.8946**	**797.8946**	**0.0357**		**798.7869**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0389	1.1970	0.3455	3.2200e-003	0.0832	2.3300e-003	0.0856	0.0240	2.2300e-003	0.0262		344.4614	344.4614	0.0217		345.0026
Worker	0.1881	0.1237	1.4245	4.3600e-003	0.4695	3.6700e-003	0.4731	0.1245	3.3800e-003	0.1279		434.5192	434.5192	0.0120		434.8183
Total	**0.2270**	**1.3207**	**1.7700**	**7.5800e-003**	**0.5527**	**6.0000e-003**	**0.5587**	**0.1485**	**5.6100e-003**	**0.1541**		**778.9805**	**778.9805**	**0.0336**		**779.8209**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0389	1.1970	0.3455	3.2200e-003	0.0832	2.3300e-003	0.0856	0.0240	2.2300e-003	0.0262		344.4614	344.4614	0.0217		345.0026
Worker	0.1881	0.1237	1.4245	4.3600e-003	0.4695	3.6700e-003	0.4731	0.1245	3.3800e-003	0.1279		434.5192	434.5192	0.0120		434.8183
Total	**0.2270**	**1.3207**	**1.7700**	**7.5800e-003**	**0.5527**	**6.0000e-003**	**0.5587**	**0.1485**	**5.6100e-003**	**0.1541**		**778.9805**	**778.9805**	**0.0336**		**779.8209**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.2894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**42.4939**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0358	0.0236	0.2713	8.3000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		82.7656	82.7656	2.2800e-003		82.8225
Total	**0.0358**	**0.0236**	**0.2713**	**8.3000e-004**	**0.0894**	**7.0000e-004**	**0.0901**	**0.0237**	**6.4000e-004**	**0.0244**		**82.7656**	**82.7656**	**2.2800e-003**		**82.8225**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.2894					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**42.4939**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0358	0.0236	0.2713	8.3000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		82.7656	82.7656	2.2800e-003		82.8225
Total	**0.0358**	**0.0236**	**0.2713**	**8.3000e-004**	**0.0894**	**7.0000e-004**	**0.0901**	**0.0237**	**6.4000e-004**	**0.0244**		**82.7656**	**82.7656**	**2.2800e-003**		**82.8225**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2988	20.5300	49.3790	0.1705	14.2437	0.1475	14.3912	3.8119	0.1375	3.9494		17,373.5415	17,373.5415	0.9547		17,397.4098
Unmitigated	4.2988	20.5300	49.3790	0.1705	14.2437	0.1475	14.3912	3.8119	0.1375	3.9494		17,373.5415	17,373.5415	0.9547		17,397.4098

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	171.87	182.58	154.79	584,194	584,194
Government (Civic Center)	36.37	0.00	0.00	80,225	80,225
Medical Office Building	44.24	24.73	4.28	92,720	92,720
Place of Worship	23.63	35.26	124.54	84,687	84,687
Regional Shopping Center	1,725.88	2,327.10	1175.43	3,748,502	3,748,502
Single Family Housing	152.93	160.54	139.64	519,810	519,810
Total	2,154.92	2,730.21	1,598.68	5,110,138	5,110,138

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Government (Civic Center)	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Medical Office Building	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Place of Worship	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Regional Shopping Center	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Single Family Housing	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Covina Town Center Potential Yearly Construction 2021 - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0309	0.2669	0.1340	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.9045	336.9045	6.4600e-003	6.1800e-003	338.9066
NaturalGas Unmitigated	0.0309	0.2669	0.1340	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.9045	336.9045	6.4600e-003	6.1800e-003	338.9066

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1141.55	0.0123	0.1052	0.0448	6.7000e-004		8.5100e-003	8.5100e-003		8.5100e-003	8.5100e-003		134.2995	134.2995	2.5700e-003	2.4600e-003	135.0976
Government (Civic Center)	45.9181	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4021	5.4021	1.0000e-004	1.0000e-004	5.4342
Medical Office Building	78.7167	8.5000e-004	7.7200e-003	6.4800e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.2608	9.2608	1.8000e-004	1.7000e-004	9.3158
Place of Worship	168.851	1.8200e-003	0.0166	0.0139	1.0000e-004		1.2600e-003	1.2600e-003		1.2600e-003	1.2600e-003		19.8648	19.8648	3.8000e-004	3.6000e-004	19.9828
Regional Shopping Center	209.237	2.2600e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003		24.6161	24.6161	4.7000e-004	4.5000e-004	24.7624
Single Family Housing	1219.42	0.0132	0.1124	0.0478	7.2000e-004		9.0900e-003	9.0900e-003		9.0900e-003	9.0900e-003		143.4612	143.4612	2.7500e-003	2.6300e-003	144.3137
Total		**0.0309**	**0.2669**	**0.1340**	**1.6900e-003**		**0.0214**	**0.0214**		**0.0214**	**0.0214**		**336.9045**	**336.9045**	**6.4500e-003**	**6.1700e-003**	**338.9065**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.14155	0.0123	0.1052	0.0448	6.7000e-004		8.5100e-003	8.5100e-003		8.5100e-003	8.5100e-003		134.2995	134.2995	2.5700e-003	2.4600e-003	135.0976
Government (Civic Center)	0.0459181	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4021	5.4021	1.0000e-004	1.0000e-004	5.4342
Medical Office Building	0.0787167	8.5000e-004	7.7200e-003	6.4800e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.2608	9.2608	1.8000e-004	1.7000e-004	9.3158
Place of Worship	0.168851	1.8200e-003	0.0166	0.0139	1.0000e-004		1.2600e-003	1.2600e-003		1.2600e-003	1.2600e-003		19.8648	19.8648	3.8000e-004	3.6000e-004	19.9828
Regional Shopping Center	0.209237	2.2600e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003		24.6161	24.6161	4.7000e-004	4.5000e-004	24.7624
Single Family Housing	1.21942	0.0132	0.1124	0.0478	7.2000e-004		9.0900e-003	9.0900e-003		9.0900e-003	9.0900e-003		143.4612	143.4612	2.7500e-003	2.6300e-003	144.3137
Total		**0.0309**	**0.2669**	**0.1340**	**1.6900e-003**		**0.0214**	**0.0214**		**0.0214**	**0.0214**		**336.9045**	**336.9045**	**6.4500e-003**	**6.1700e-003**	**338.9065**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5674	0.6623	3.7145	4.1600e-003		0.0694	0.0694		0.0694	0.0694	0.0000	800.9595	800.9595	0.0212	0.0146	805.8325
Unmitigated	2.5674	0.6623	3.7145	4.1600e-003		0.0694	0.0694		0.0694	0.0694	0.0000	800.9595	800.9595	0.0212	0.0146	805.8325

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2317					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0729	0.6226	0.2649	3.9700e-003		0.0503	0.0503		0.0503	0.0503	0.0000	794.7529	794.7529	0.0152	0.0146	799.4758
Landscaping	0.1045	0.0398	3.4496	1.8000e-004		0.0191	0.0191		0.0191	0.0191		6.2065	6.2065	6.0100e-003		6.3567
Total	**2.5674**	**0.6623**	**3.7145**	**4.1500e-003**		**0.0694**	**0.0694**		**0.0694**	**0.0694**	**0.0000**	**800.9595**	**800.9595**	**0.0212**	**0.0146**	**805.8325**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2317					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0729	0.6226	0.2649	3.9700e-003		0.0503	0.0503		0.0503	0.0503	0.0000	794.7529	794.7529	0.0152	0.0146	799.4758
Landscaping	0.1045	0.0398	3.4496	1.8000e-004		0.0191	0.0191		0.0191	0.0191		6.2065	6.2065	6.0100e-003		6.3567
Total	**2.5674**	**0.6623**	**3.7145**	**4.1500e-003**		**0.0694**	**0.0694**		**0.0694**	**0.0694**	**0.0000**	**800.9595**	**800.9595**	**0.0212**	**0.0146**	**805.8325**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Potential Yearly Construction 2021

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	1.61	1000sqft	1.01	1,610.00	0
Medical Office Building	2.76	1000sqft	0.51	2,760.00	0
Place of Worship	3.40	1000sqft	2.34	3,405.00	0
Apartments Low Rise	25.50	Dwelling Unit	1.50	25,500.00	73
Single Family Housing	16.20	Dwelling Unit	1.00	29,160.00	46
Regional Shopping Center	46.57	1000sqft	1.50	46,568.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	427.1	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - MIG Modeler: Chris Dugan and Cameron Hile

Land Use - Source: MIG Proposed Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase -

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018). Rates reflect trip gen reduction factors applied in the TIA.

Woodstoves - Wood burning devices excluded from new development pursuant to SCAQMD Rule 445.

Energy Use - T24 standards adjusted downwards to reflect increased efficiency between 2016-2019 standards (CEC, 2017).

Construction Off-road Equipment Mitigation - Rule 403 Three Times Daily Watering

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Grading -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	67
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	67
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	3.10	2.17
tblEnergyUse	LightingElect	6.26	4.38
tblEnergyUse	T24E	257.27	128.64
tblEnergyUse	T24E	443.48	221.74
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	21.68	22.95
tblFireplaces	NumberGas	13.77	14.58
tblFireplaces	NumberWood	1.27	0.00

tblFireplaces	NumberWood	0.81	0.00
tblLandUse	LandUseSquareFeet	3,400.00	3,405.00
tblLandUse	LandUseSquareFeet	46,570.00	46,568.00
tblLandUse	LotAcreage	0.04	1.01
tblLandUse	LotAcreage	0.06	0.51
tblLandUse	LotAcreage	0.08	2.34
tblLandUse	LotAcreage	1.59	1.50
tblLandUse	LotAcreage	5.26	1.00
tblLandUse	LotAcreage	1.07	1.50
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	427.1
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	WD_TR	6.59	6.74
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	36.13	16.03
tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	42.70	37.06
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	1.27	0.00
tblWoodstoves	NumberCatalytic	0.81	0.00
tblWoodstoves	NumberNoncatalytic	1.27	0.00
tblWoodstoves	NumberNoncatalytic	0.81	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2996	2.7549	2.4477	4.5900e-003	0.2173	0.1392	0.3565	0.0999	0.1302	0.2301	0.0000	402.6324	402.6324	0.0858	0.0000	404.7783
2022	0.4551	0.2872	0.3444	6.1000e-004	7.6700e-003	0.0143	0.0219	2.0600e-003	0.0133	0.0154	0.0000	53.6138	53.6138	0.0123	0.0000	53.9204
Maximum	**0.4551**	**2.7549**	**2.4477**	**4.5900e-003**	**0.2173**	**0.1392**	**0.3565**	**0.0999**	**0.1302**	**0.2301**	**0.0000**	**402.6324**	**402.6324**	**0.0858**	**0.0000**	**404.7783**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2996	2.7548	2.4477	4.5900e-003	0.1129	0.1392	0.2521	0.0440	0.1302	0.1743	0.0000	402.6320	402.6320	0.0858	0.0000	404.7779
2022	0.4551	0.2872	0.3444	6.1000e-004	7.6700e-003	0.0143	0.0219	2.0600e-003	0.0133	0.0154	0.0000	53.6138	53.6138	0.0123	0.0000	53.9204
Maximum	**0.4551**	**2.7548**	**2.4477**	**4.5900e-003**	**0.1129**	**0.1392**	**0.2521**	**0.0440**	**0.1302**	**0.1743**	**0.0000**	**402.6320**	**402.6320**	**0.0858**	**0.0000**	**404.7779**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.41**	**0.00**	**27.59**	**54.78**	**0.00**	**22.74**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	0.9912	0.9912
2	**4-1-2021**	**6-30-2021**	0.6805	0.6805
3	**7-1-2021**	**9-30-2021**	0.6880	0.6880
4	**10-1-2021**	**12-31-2021**	0.6891	0.6891
5	**1-1-2022**	**3-31-2022**	0.7450	0.7450
		Highest	0.9912	0.9912

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4502	0.0128	0.4345	7.0000e-005		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	9.7162	9.7162	8.5000e-004	1.7000e-004	9.7867
Energy	5.6400e-003	0.0487	0.0245	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	222.7360	222.7360	0.0140	2.5900e-003	223.8559
Mobile	0.5744	2.8790	6.9013	0.0240	1.9395	0.0203	1.9598	0.5199	0.0190	0.5389	0.0000	2,218.5004	2,218.5004	0.1190	0.0000	2,221.4745
Waste						0.0000	0.0000		0.0000	0.0000	27.9843	0.0000	27.9843	1.6538	0.0000	69.3300
Water						0.0000	0.0000		0.0000	0.0000	2.2014	26.6633	28.8647	0.2282	5.5900e-003	36.2343
Total	**1.0302**	**2.9405**	**7.3602**	**0.0244**	**1.9395**	**0.0272**	**1.9667**	**0.5199**	**0.0259**	**0.5458**	**30.1858**	**2,477.6158**	**2,507.8016**	**2.0158**	**8.3500e-003**	**2,560.6814**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4502	0.0128	0.4345	7.0000e-005		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	9.7162	9.7162	8.5000e-004	1.7000e-004	9.7867
Energy	5.6400e-003	0.0487	0.0245	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	222.7360	222.7360	0.0140	2.5900e-003	223.8559
Mobile	0.5744	2.8790	6.9013	0.0240	1.9395	0.0203	1.9598	0.5199	0.0190	0.5389	0.0000	2,218.5004	2,218.5004	0.1190	0.0000	2,221.4745
Waste						0.0000	0.0000		0.0000	0.0000	27.9843	0.0000	27.9843	1.6538	0.0000	69.3300
Water						0.0000	0.0000		0.0000	0.0000	2.2014	26.6633	28.8647	0.2282	5.5900e-003	36.2343
Total	**1.0302**	**2.9405**	**7.3602**	**0.0244**	**1.9395**	**0.0272**	**1.9667**	**0.5199**	**0.0259**	**0.5458**	**30.1858**	**2,477.6158**	**2,507.8016**	**2.0158**	**8.3500e-003**	**2,560.6814**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/11/2021	5	20	
4	Building Construction	Building Construction	3/12/2021	1/27/2022	5	230	
5	Paving	Paving	1/28/2022	2/24/2022	5	20	
6	Architectural Coating	Architectural Coating	2/25/2022	3/24/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 110,687; Residential Outdoor: 36,896; Non-Residential Indoor: 81,515; Non-Residential Outdoor: 27,172; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	0		367	0.48
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	42.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**6.5000e-004**	**5.0000e-004**	**5.6700e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4834**	**1.4834**	**4.0000e-005**	**0.0000**	**1.4845**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**6.5000e-004**	**5.0000e-004**	**5.6700e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4834**	**1.4834**	**4.0000e-005**	**0.0000**	**1.4845**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	3.0000e-004	3.4000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8900	0.8900	3.0000e-005	0.0000	0.8907
Total	**3.9000e-004**	**3.0000e-004**	**3.4000e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8900**	**0.8900**	**3.0000e-005**	**0.0000**	**0.8907**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0298	0.0000	0.0298	0.0164	0.0000	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0298**	**0.0102**	**0.0400**	**0.0164**	**9.4000e-003**	**0.0258**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	3.0000e-004	3.4000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8900	0.8900	3.0000e-005	0.0000	0.8907
Total	**3.9000e-004**	**3.0000e-004**	**3.4000e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8900**	**0.8900**	**3.0000e-005**	**0.0000**	**0.8907**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0655**	**0.0116**	**0.0771**	**0.0337**	**0.0107**	**0.0443**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2644**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**6.5000e-004**	**5.0000e-004**	**5.6700e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4834**	**1.4834**	**4.0000e-005**	**0.0000**	**1.4845**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0216	0.0000	0.0216	0.0111	0.0000	0.0111	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0216**	**0.0116**	**0.0332**	**0.0111**	**0.0107**	**0.0218**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2643**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.0000e-004	5.6700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4834	1.4834	4.0000e-005	0.0000	1.4845
Total	**6.5000e-004**	**5.0000e-004**	**5.6700e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4834**	**1.4834**	**4.0000e-005**	**0.0000**	**1.4845**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2006	1.8391	1.7487	2.8400e-003		0.1011	0.1011		0.0951	0.0951	0.0000	244.3773	244.3773	0.0590	0.0000	245.8513
Total	**0.2006**	**1.8391**	**1.7487**	**2.8400e-003**		**0.1011**	**0.1011**		**0.0951**	**0.0951**	**0.0000**	**244.3773**	**244.3773**	**0.0590**	**0.0000**	**245.8513**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2600e-003	0.1354	0.0367	3.5000e-004	8.6400e-003	2.8000e-004	8.9200e-003	2.4900e-003	2.6000e-004	2.7600e-003	0.0000	33.8070	33.8070	2.0700e-003	0.0000	33.8589
Worker	0.0191	0.0148	0.1676	4.8000e-004	0.0486	4.0000e-004	0.0490	0.0129	3.7000e-004	0.0133	0.0000	43.8189	43.8189	1.2900e-003	0.0000	43.8512
Total	**0.0233**	**0.1502**	**0.2043**	**8.3000e-004**	**0.0572**	**6.8000e-004**	**0.0579**	**0.0154**	**6.3000e-004**	**0.0160**	**0.0000**	**77.6259**	**77.6259**	**3.3600e-003**	**0.0000**	**77.7100**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2006	1.8391	1.7487	2.8400e-003		0.1011	0.1011		0.0951	0.0951	0.0000	244.3770	244.3770	0.0590	0.0000	245.8510
Total	**0.2006**	**1.8391**	**1.7487**	**2.8400e-003**		**0.1011**	**0.1011**		**0.0951**	**0.0951**	**0.0000**	**244.3770**	**244.3770**	**0.0590**	**0.0000**	**245.8510**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2600e-003	0.1354	0.0367	3.5000e-004	8.6400e-003	2.8000e-004	8.9200e-003	2.4900e-003	2.6000e-004	2.7600e-003	0.0000	33.8070	33.8070	2.0700e-003	0.0000	33.8589
Worker	0.0191	0.0148	0.1676	4.8000e-004	0.0486	4.0000e-004	0.0490	0.0129	3.7000e-004	0.0133	0.0000	43.8189	43.8189	1.2900e-003	0.0000	43.8512
Total	**0.0233**	**0.1502**	**0.2043**	**8.3000e-004**	**0.0572**	**6.8000e-004**	**0.0579**	**0.0154**	**6.3000e-004**	**0.0160**	**0.0000**	**77.6259**	**77.6259**	**3.3600e-003**	**0.0000**	**77.7100**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0162	0.1484	0.1555	2.6000e-004		7.6900e-003	7.6900e-003		7.2300e-003	7.2300e-003	0.0000	22.0139	22.0139	5.2700e-003	0.0000	22.1458
Total	**0.0162**	**0.1484**	**0.1555**	**2.6000e-004**		**7.6900e-003**	**7.6900e-003**		**7.2300e-003**	**7.2300e-003**	**0.0000**	**22.0139**	**22.0139**	**5.2700e-003**	**0.0000**	**22.1458**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-004	0.0116	3.1300e-003	3.0000e-005	7.8000e-004	2.0000e-005	8.0000e-004	2.2000e-004	2.0000e-005	2.5000e-004	0.0000	3.0175	3.0175	1.8000e-004	0.0000	3.0220
Worker	1.6100e-003	1.2100e-003	0.0139	4.0000e-005	4.3700e-003	3.0000e-005	4.4100e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.8071	3.8071	1.0000e-004	0.0000	3.8097
Total	**1.9700e-003**	**0.0128**	**0.0170**	**7.0000e-005**	**5.1500e-003**	**5.0000e-005**	**5.2100e-003**	**1.3800e-003**	**5.0000e-005**	**1.4400e-003**	**0.0000**	**6.8246**	**6.8246**	**2.8000e-004**	**0.0000**	**6.8317**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0162	0.1484	0.1555	2.6000e-004		7.6900e-003	7.6900e-003		7.2300e-003	7.2300e-003	0.0000	22.0139	22.0139	5.2700e-003	0.0000	22.1457
Total	**0.0162**	**0.1484**	**0.1555**	**2.6000e-004**		**7.6900e-003**	**7.6900e-003**		**7.2300e-003**	**7.2300e-003**	**0.0000**	**22.0139**	**22.0139**	**5.2700e-003**	**0.0000**	**22.1457**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-004	0.0116	3.1300e-003	3.0000e-005	7.8000e-004	2.0000e-005	8.0000e-004	2.2000e-004	2.0000e-005	2.5000e-004	0.0000	3.0175	3.0175	1.8000e-004	0.0000	3.0220
Worker	1.6100e-003	1.2100e-003	0.0139	4.0000e-005	4.3700e-003	3.0000e-005	4.4100e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.8071	3.8071	1.0000e-004	0.0000	3.8097
Total	**1.9700e-003**	**0.0128**	**0.0170**	**7.0000e-005**	**5.1500e-003**	**5.0000e-005**	**5.2100e-003**	**1.3800e-003**	**5.0000e-005**	**1.4400e-003**	**0.0000**	**6.8246**	**6.8246**	**2.8000e-004**	**0.0000**	**6.8317**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0110**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	4.5000e-004	5.2300e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4312	1.4312	4.0000e-005	0.0000	1.4322
Total	**6.1000e-004**	**4.5000e-004**	**5.2300e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4312**	**1.4312**	**4.0000e-005**	**0.0000**	**1.4322**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0110**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	4.5000e-004	5.2300e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4312	1.4312	4.0000e-005	0.0000	1.4322
Total	**6.1000e-004**	**4.5000e-004**	**5.2300e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4312**	**1.4312**	**4.0000e-005**	**0.0000**	**1.4322**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4229					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.4249**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.4000e-004	2.7900e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7633	0.7633	2.0000e-005	0.0000	0.7639
Total	**3.2000e-004**	**2.4000e-004**	**2.7900e-003**	**1.0000e-005**	**8.8000e-004**	**1.0000e-005**	**8.8000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**0.7633**	**0.7633**	**2.0000e-005**	**0.0000**	**0.7639**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4229					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.4249**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.4000e-004	2.7900e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7633	0.7633	2.0000e-005	0.0000	0.7639
Total	**3.2000e-004**	**2.4000e-004**	**2.7900e-003**	**1.0000e-005**	**8.8000e-004**	**1.0000e-005**	**8.8000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**0.7633**	**0.7633**	**2.0000e-005**	**0.0000**	**0.7639**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5744	2.8790	6.9013	0.0240	1.9395	0.0203	1.9598	0.5199	0.0190	0.5389	0.0000	2,218.5004	2,218.5004	0.1190	0.0000	2,221.4745
Unmitigated	0.5744	2.8790	6.9013	0.0240	1.9395	0.0203	1.9598	0.5199	0.0190	0.5389	0.0000	2,218.5004	2,218.5004	0.1190	0.0000	2,221.4745

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	171.87	182.58	154.79	584,194	584,194
Government (Civic Center)	36.37	0.00	0.00	80,225	80,225
Medical Office Building	44.24	24.73	4.28	92,720	92,720
Place of Worship	23.63	35.26	124.54	84,687	84,687
Regional Shopping Center	1,725.88	2,327.10	1175.43	3,748,502	3,748,502
Single Family Housing	152.93	160.54	139.64	519,810	519,810
Total	2,154.92	2,730.21	1,598.68	5,110,138	5,110,138

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Government (Civic Center)	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Medical Office Building	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Place of Worship	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Regional Shopping Center	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Single Family Housing	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Covina Town Center Potential Yearly Construction 2021 - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	166.9577	166.9577	0.0129	1.5600e-003	167.7462
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	166.9577	166.9577	0.0129	1.5600e-003	167.7462
NaturalGas Mitigated	5.6400e-003	0.0487	0.0245	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	55.7783	55.7783	1.0700e-003	1.0200e-003	56.1098
NaturalGas Unmitigated	5.6400e-003	0.0487	0.0245	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	55.7783	55.7783	1.0700e-003	1.0200e-003	56.1098

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	416664	2.2500e-003	0.0192	8.1700e-003	1.2000e-004		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	22.2348	22.2348	4.3000e-004	4.1000e-004	22.3669
Government (Civic Center)	16760.1	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8944	0.8944	2.0000e-005	2.0000e-005	0.8997
Medical Office Building	28731.6	1.5000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5332	1.5332	3.0000e-005	3.0000e-005	1.5423
Place of Worship	61630.5	3.3000e-004	3.0200e-003	2.5400e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.2888	3.2888	6.0000e-005	6.0000e-005	3.3084
Regional Shopping Center	76371.5	4.1000e-004	3.7400e-003	3.1400e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	4.0755	4.0755	8.0000e-005	7.0000e-005	4.0997
Single Family Housing	445088	2.4000e-003	0.0205	8.7300e-003	1.3000e-004		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	23.7516	23.7516	4.6000e-004	4.4000e-004	23.8928
Total		**5.6300e-003**	**0.0487**	**0.0245**	**3.0000e-004**		**3.8900e-003**	**3.8900e-003**		**3.8900e-003**	**3.8900e-003**	**0.0000**	**55.7783**	**55.7783**	**1.0800e-003**	**1.0300e-003**	**56.1098**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	416664	2.2500e-003	0.0192	8.1700e-003	1.2000e-004		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	22.2348	22.2348	4.3000e-004	4.1000e-004	22.3669
Government (Civic Center)	16760.1	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8944	0.8944	2.0000e-005	2.0000e-005	0.8997
Medical Office Building	28731.6	1.5000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5332	1.5332	3.0000e-005	3.0000e-005	1.5423
Place of Worship	61630.5	3.3000e-004	3.0200e-003	2.5400e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.2888	3.2888	6.0000e-005	6.0000e-005	3.3084
Regional Shopping Center	76371.5	4.1000e-004	3.7400e-003	3.1400e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	4.0755	4.0755	8.0000e-005	7.0000e-005	4.0997
Single Family Housing	445088	2.4000e-003	0.0205	8.7300e-003	1.3000e-004		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	23.7516	23.7516	4.6000e-004	4.4000e-004	23.8928
Total		**5.6300e-003**	**0.0487**	**0.0245**	**3.0000e-004**		**3.8900e-003**	**3.8900e-003**		**3.8900e-003**	**3.8900e-003**	**0.0000**	**55.7783**	**55.7783**	**1.0800e-003**	**1.0300e-003**	**56.1098**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	104850	20.3125	1.5700e-003	1.9000e-004	20.4084
Government (Civic Center)	19094.6	3.6992	2.9000e-004	3.0000e-005	3.7167
Medical Office Building	32733.6	6.3415	4.9000e-004	6.0000e-005	6.3714
Place of Worship	34628.8	6.7086	5.2000e-004	6.0000e-005	6.7403
Regional Shopping Center	541120	104.8308	8.1000e-003	9.8000e-004	105.3259
Single Family Housing	129382	25.0651	1.9400e-003	2.3000e-004	25.1835
Total		**166.9577**	**0.0129**	**1.5500e-003**	**167.7462**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	104850	20.3125	1.5700e-003	1.9000e-004	20.4084
Government (Civic Center)	19094.6	3.6992	2.9000e-004	3.0000e-005	3.7167
Medical Office Building	32733.6	6.3415	4.9000e-004	6.0000e-005	6.3714
Place of Worship	34628.8	6.7086	5.2000e-004	6.0000e-005	6.7403
Regional Shopping Center	541120	104.8308	8.1000e-003	9.8000e-004	105.3259
Single Family Housing	129382	25.0651	1.9400e-003	2.3000e-004	25.1835
Total		**166.9577**	**0.0129**	**1.5500e-003**	**167.7462**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4502	0.0128	0.4345	7.0000e-005		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	9.7162	9.7162	8.5000e-004	1.7000e-004	9.7867
Unmitigated	0.4502	0.0128	0.4345	7.0000e-005		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	9.7162	9.7162	8.5000e-004	1.7000e-004	9.7867

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0423					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3939					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.1000e-004	7.7800e-003	3.3100e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	9.0124	9.0124	1.7000e-004	1.7000e-004	9.0659
Landscaping	0.0131	4.9700e-003	0.4312	2.0000e-005		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	0.7038	0.7038	6.8000e-004	0.0000	0.7208
Total	**0.4502**	**0.0128**	**0.4345**	**7.0000e-005**		**3.0100e-003**	**3.0100e-003**		**3.0100e-003**	**3.0100e-003**	**0.0000**	**9.7162**	**9.7162**	**8.5000e-004**	**1.7000e-004**	**9.7867**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0423					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3939					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.1000e-004	7.7800e-003	3.3100e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	9.0124	9.0124	1.7000e-004	1.7000e-004	9.0659
Landscaping	0.0131	4.9700e-003	0.4312	2.0000e-005		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	0.7038	0.7038	6.8000e-004	0.0000	0.7208
Total	**0.4502**	**0.0128**	**0.4345**	**7.0000e-005**		**3.0100e-003**	**3.0100e-003**		**3.0100e-003**	**3.0100e-003**	**0.0000**	**9.7162**	**9.7162**	**8.5000e-004**	**1.7000e-004**	**9.7867**

7.0 Water Detail

7.1 Mitigation Measures Water

Covina Town Center Potential Yearly Construction 2021 - Los Angeles-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	28.8647	0.2282	5.5900e-003	36.2343
Unmitigated	28.8647	0.2282	5.5900e-003	36.2343

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.66143 / 1.04742	6.9725	0.0546	1.3400e-003	8.7373
Government (Civic Center)	0.319842 / 0.196032	1.3302	0.0105	2.6000e-004	1.6699
Medical Office Building	0.346326 / 0.0659669	1.1255	0.0114	2.8000e-004	1.4918
Place of Worship	0.106382 / 0.166393	0.6602	3.5100e-003	9.0000e-005	0.7743
Regional Shopping Center	3.44956 / 2.11424	14.3466	0.1134	2.7800e-003	18.0102
Single Family Housing	1.0555 / 0.665421	4.4296	0.0347	8.5000e-004	5.5508
Total		**28.8647**	**0.2282**	**5.6000e-003**	**36.2343**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.66143 / 1.04742	6.9725	0.0546	1.3400e-003	8.7373
Government (Civic Center)	0.319842 / 0.196032	1.3302	0.0105	2.6000e-004	1.6699
Medical Office Building	0.346326 / 0.0659669	1.1255	0.0114	2.8000e-004	1.4918
Place of Worship	0.106382 / 0.166393	0.6602	3.5100e-003	9.0000e-005	0.7743
Regional Shopping Center	3.44956 / 2.11424	14.3466	0.1134	2.7800e-003	18.0102
Single Family Housing	1.0555 / 0.665421	4.4296	0.0347	8.5000e-004	5.5508
Total		**28.8647**	**0.2282**	**5.6000e-003**	**36.2343**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	27.9843	1.6538	0.0000	69.3300
Unmitigated	27.9843	1.6538	0.0000	69.3300

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.73	2.3811	0.1407	0.0000	5.8990
Government (Civic Center)	9.18	1.8635	0.1101	0.0000	4.6166
Medical Office Building	29.81	6.0512	0.3576	0.0000	14.9915
Place of Worship	19.38	3.9340	0.2325	0.0000	9.7462
Regional Shopping Center	48.9	9.9263	0.5866	0.0000	24.5919
Single Family Housing	18.86	3.8284	0.2263	0.0000	9.4847
Total		**27.9843**	**1.6538**	**0.0000**	**69.3300**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.73	2.3811	0.1407	0.0000	5.8990
Government (Civic Center)	9.18	1.8635	0.1101	0.0000	4.6166
Medical Office Building	29.81	6.0512	0.3576	0.0000	14.9915
Place of Worship	19.38	3.9340	0.2325	0.0000	9.7462
Regional Shopping Center	48.9	9.9263	0.5866	0.0000	24.5919
Single Family Housing	18.86	3.8284	0.2263	0.0000	9.4847
Total		**27.9843**	**1.6538**	**0.0000**	**69.3300**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Buildout Operational 2040

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	178.77	1000sqft	6.97	178,769.00	0
Government (Civic Center)	132.31	1000sqft	7.17	132,315.00	0
Hospital	406.13	1000sqft	4.66	406,127.00	0
Medical Office Building	110.36	1000sqft	4.05	110,360.00	0
Place of Worship	245.75	1000sqft	13.32	245,755.00	0
General Light Industry	252.94	1000sqft	13.61	252,937.00	0
Parking Lot	743.12	1000sqft	17.06	743,115.00	0
Apartments Low Rise	299.00	Dwelling Unit	2.61	299,000.00	857
Apartments Mid Rise	207.00	Dwelling Unit	8.73	207,000.00	593
Single Family Housing	240.00	Dwelling Unit	15.46	432,000.00	687
Strip Mall	950.94	1000sqft	25.80	950,940.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	53.58	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Chris Dugan and Cameron Hile

Land Use - Source: MIG Proposed Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Grading - Future Operational model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018). Rates reflect trip gen reduction factors applied in the TIA; strip mall weekday rate adjusted from 37.06 to 34.02 to match TIA total trip gen estimate.

Woodstoves - Wood burning devices excluded from new development pursuant to SCAQMD Rule 445.00

Energy Use - T24 standards adjusted downwards to reflect increased efficiency between 2016-2019 standards (CEC, 2017).

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblEnergyUse	LightingElect	3.10	2.17
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	5.31	3.72

tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	0.35	0.25
tblEnergyUse	LightingElect	3.10	2.20
tblEnergyUse	LightingElect	6.26	4.38
tblEnergyUse	T24E	257.27	128.64
tblEnergyUse	T24E	252.63	126.32
tblEnergyUse	T24E	443.48	221.74
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	254.15	269.10
tblFireplaces	NumberGas	175.95	186.30
tblFireplaces	NumberGas	204.00	216.00
tblFireplaces	NumberWood	14.95	0.00
tblFireplaces	NumberWood	10.35	0.00
tblFireplaces	NumberWood	12.00	0.00
tblLandUse	LandUseSquareFeet	178,770.00	178,769.00
tblLandUse	LandUseSquareFeet	132,310.00	132,315.00
tblLandUse	LandUseSquareFeet	406,130.00	406,127.00
tblLandUse	LandUseSquareFeet	245,750.00	245,755.00
tblLandUse	LandUseSquareFeet	252,940.00	252,937.00
tblLandUse	LandUseSquareFeet	743,120.00	743,115.00
tblLandUse	LotAcreage	4.10	6.97
tblLandUse	LotAcreage	3.04	7.17
tblLandUse	LotAcreage	9.32	4.66
tblLandUse	LotAcreage	2.53	4.05
tblLandUse	LotAcreage	5.64	13.32

tblLandUse	LotAcreage	5.81	13.61
tblLandUse	LotAcreage	18.69	2.61
tblLandUse	LotAcreage	5.45	8.73
tblLandUse	LotAcreage	77.92	15.46
tblLandUse	LotAcreage	21.83	25.80
tblLandUse	Population	855.00	857.00
tblLandUse	Population	592.00	593.00
tblLandUse	Population	686.00	687.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	53.58
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	WD_TR	6.59	6.74
tblVehicleTrips	WD_TR	6.65	6.74
tblVehicleTrips	WD_TR	6.97	3.35
tblVehicleTrips	WD_TR	11.03	16.03
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	13.22	10.72
tblVehicleTrips	WD_TR	36.13	16.03
tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	34.02
tblWoodstoves	NumberCatalytic	14.95	0.00
tblWoodstoves	NumberCatalytic	10.35	0.00
tblWoodstoves	NumberCatalytic	12.00	0.00
tblWoodstoves	NumberNoncatalytic	14.95	0.00
tblWoodstoves	NumberNoncatalytic	10.35	0.00
tblWoodstoves	NumberNoncatalytic	12.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	7.7000e-004	0.0000	0.0000	7.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	6.6000e-004	0.0000	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0889	0.0000	0.0000	0.0831	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0889**	**0.0000**	**0.0000**	**0.0831**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	7.7000e-004	0.0000	0.0000	7.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	6.6000e-004	0.0000	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0889	0.0000	0.0000	0.0831	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0889**	**0.0000**	**0.0000**	**0.0831**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	74.5364	11.8474	66.3213	0.0744		1.2429	1.2429		1.2429	1.2429	0.0000	14,329.3634	14,329.3634	0.3797	0.2607	14,416.5328
Energy	1.6406	14.6847	10.8437	0.0895		1.1335	1.1335		1.1335	1.1335		17,897.3033	17,897.3033	0.3430	0.3281	18,003.6580
Mobile	50.4039	334.4909	592.6397	3.2777	338.5591	1.3643	339.9234	90.5830	1.2695	91.8525		337,489.9984	337,489.9984	12.8036		337,810.0893
Total	**126.5809**	**361.0230**	**669.8046**	**3.4415**	**338.5591**	**3.7406**	**342.2998**	**90.5830**	**3.6459**	**94.2289**	**0.0000**	**369,716.6650**	**369,716.6650**	**13.5264**	**0.5888**	**370,230.2800**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	74.5364	11.8474	66.3213	0.0744		1.2429	1.2429		1.2429	1.2429	0.0000	14,329.3634	14,329.3634	0.3797	0.2607	14,416.5328
Energy	1.6406	14.6847	10.8437	0.0895		1.1335	1.1335		1.1335	1.1335		17,897.3033	17,897.3033	0.3430	0.3281	18,003.6580
Mobile	50.4039	334.4909	592.6397	3.2777	338.5591	1.3643	339.9234	90.5830	1.2695	91.8525		337,489.9984	337,489.9984	12.8036		337,810.0893
Total	**126.5809**	**361.0230**	**669.8046**	**3.4415**	**338.5591**	**3.7406**	**342.2998**	**90.5830**	**3.6459**	**94.2289**	**0.0000**	**369,716.6650**	**369,716.6650**	**13.5264**	**0.5888**	**370,230.2800**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2039	12/31/2038	5	0	
2	Site Preparation	Site Preparation	10/8/2039	10/7/2039	5	0	
3	Grading	Grading	3/24/2040	3/23/2040	5	0	
4	Building Construction	Building Construction	6/1/2041	5/31/2041	5	0	
5	Paving	Paving	4/19/2053	4/18/2053	5	0	
6	Architectural Coating	Architectural Coating	2/21/2054	2/20/2054	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 17.06

Residential Indoor: 1,899,450; Residential Outdoor: 633,150; Non-Residential Indoor: 3,415,805; Non-Residential Outdoor: 1,138,602; Striped Parking Area: 44,587 (Architectural Coating – sqft)

OffRoad Equipment

Covina Town Center Buildout Operational 2040 - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	1,541.00	575.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	308.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Implement Trip Reduction Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	50.4039	334.4909	592.6397	3.2777	338.5591	1.3643	339.9234	90.5830	1.2695	91.8525		337,489.9984	337,489.9984	12.8036		337,810.0893
Unmitigated	50.4039	334.4909	592.6397	3.2777	338.5591	1.3643	339.9234	90.5830	1.2695	91.8525		337,489.9984	337,489.9984	12.8036		337,810.0893

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,015.26	2,140.84	1814.93	6,849,959	6,849,959
Apartments Mid Rise	1,395.18	1,322.73	1213.02	4,643,250	4,643,250
General Light Industry	847.35	333.88	172.00	3,000,237	3,000,237
General Office Building	2,865.68	439.77	187.71	6,882,835	6,882,835
Government (Civic Center)	2,988.88	0.00	0.00	6,592,900	6,592,900
Hospital	4,353.71	4,134.40	3618.62	16,350,076	16,350,076
Medical Office Building	1,769.07	988.83	171.06	3,707,453	3,707,453
Parking Lot	0.00	0.00	0.00		
Place of Worship	1,707.96	2,548.43	9001.82	6,121,126	6,121,126
Single Family Housing	2,265.60	2,378.40	2068.80	7,700,894	7,700,894
Strip Mall	32,350.98	39,977.52	19427.70	60,111,169	60,111,169
Total	52,559.68	54,264.80	37,675.66	121,959,899	121,959,899

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Apartments Mid Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Light Industry	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Government (Civic Center)	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Hospital	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Medical Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Parking Lot	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Place of Worship	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Strip Mall	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.6406	14.6847	10.8437	0.0895		1.1335	1.1335		1.1335	1.1335		17,897.3033	17,897.3033	0.3430	0.3281	18,003.6580
NaturalGas Unmitigated	1.6406	14.6847	10.8437	0.0895		1.1335	1.1335		1.1335	1.1335		17,897.3033	17,897.3033	0.3430	0.3281	18,003.6580

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	13385.2	0.1444	1.2335	0.5249	7.8700e-003		0.0997	0.0997		0.0997	0.0997		1,574.7272	1,574.7272	0.0302	0.0289	1,584.0851
Apartments Mid Rise	7597.28	0.0819	0.7001	0.2979	4.4700e-003		0.0566	0.0566		0.0566	0.0566		893.7976	893.7976	0.0171	0.0164	899.1090
General Light Industry	12542.9	0.1353	1.2297	1.0329	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,475.6357	1,475.6357	0.0283	0.0271	1,484.4047
General Office Building	5098.59	0.0550	0.4999	0.4199	3.0000e-003		0.0380	0.0380		0.0380	0.0380		599.8341	599.8341	0.0115	0.0110	603.3986
Government (Civic Center)	3773.7	0.0407	0.3700	0.3108	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.9643	443.9643	8.5100e-003	8.1400e-003	446.6025
Hospital	72056.9	0.7771	7.0644	5.9341	0.0424		0.5369	0.5369		0.5369	0.5369		8,477.2875	8,477.2875	0.1625	0.1554	8,527.6638
Medical Office Building	3147.53	0.0339	0.3086	0.2592	1.8500e-003		0.0235	0.0235		0.0235	0.0235		370.2974	370.2974	7.1000e-003	6.7900e-003	372.4979
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	12186.8	0.1314	1.1948	1.0036	7.1700e-003		0.0908	0.0908		0.0908	0.0908		1,433.7359	1,433.7359	0.0275	0.0263	1,442.2558
Single Family Housing	18065.5	0.1948	1.6649	0.7085	0.0106		0.1346	0.1346		0.1346	0.1346		2,125.3510	2,125.3510	0.0407	0.0390	2,137.9809
Strip Mall	4272.72	0.0461	0.4189	0.3519	2.5100e-003		0.0318	0.0318		0.0318	0.0318		502.6726	502.6726	9.6300e-003	9.2200e-003	505.6597
Total		**1.6406**	**14.6847**	**10.8437**	**0.0895**		**1.1335**	**1.1335**		**1.1335**	**1.1335**		**17,897.3033**	**17,897.3033**	**0.3430**	**0.3281**	**18,003.6580**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	13.3852	0.1444	1.2335	0.5249	7.8700e-003		0.0997	0.0997		0.0997	0.0997		1,574.7272	1,574.7272	0.0302	0.0289	1,584.0851
Apartments Mid Rise	7.59728	0.0819	0.7001	0.2979	4.4700e-003		0.0566	0.0566		0.0566	0.0566		893.7976	893.7976	0.0171	0.0164	899.1090
General Light Industry	12.5429	0.1353	1.2297	1.0329	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,475.6357	1,475.6357	0.0283	0.0271	1,484.4047
General Office Building	5.09859	0.0550	0.4999	0.4199	3.0000e-003		0.0380	0.0380		0.0380	0.0380		599.8341	599.8341	0.0115	0.0110	603.3986
Government (Civic Center)	3.7737	0.0407	0.3700	0.3108	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.9643	443.9643	8.5100e-003	8.1400e-003	446.6025
Hospital	72.0569	0.7771	7.0644	5.9341	0.0424		0.5369	0.5369		0.5369	0.5369		8,477.2875	8,477.2875	0.1625	0.1554	8,527.6638
Medical Office Building	3.14753	0.0339	0.3086	0.2592	1.8500e-003		0.0235	0.0235		0.0235	0.0235		370.2974	370.2974	7.1000e-003	6.7900e-003	372.4979
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	12.1868	0.1314	1.1948	1.0036	7.1700e-003		0.0908	0.0908		0.0908	0.0908		1,433.7359	1,433.7359	0.0275	0.0263	1,442.2558
Single Family Housing	18.0655	0.1948	1.6649	0.7085	0.0106		0.1346	0.1346		0.1346	0.1346		2,125.3510	2,125.3510	0.0407	0.0390	2,137.9809
Strip Mall	4.27272	0.0461	0.4189	0.3519	2.5100e-003		0.0318	0.0318		0.0318	0.0318		502.6726	502.6726	9.6300e-003	9.2200e-003	505.6597
Total		**1.6406**	**14.6847**	**10.8437**	**0.0895**		**1.1335**	**1.1335**		**1.1335**	**1.1335**		**17,897.3033**	**17,897.3033**	**0.3430**	**0.3281**	**18,003.6580**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	74.5364	11.8474	66.3213	0.0744		1.2429	1.2429		1.2429	1.2429	0.0000	14,329.3634	14,329.3634	0.3797	0.2607	14,416.5328
Unmitigated	74.5364	11.8474	66.3213	0.0744		1.2429	1.2429		1.2429	1.2429	0.0000	14,329.3634	14,329.3634	0.3797	0.2607	14,416.5328

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.4481					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	63.9242					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3033	11.1373	4.7393	0.0711		0.9005	0.9005		0.9005	0.9005	0.0000	14,217.8824	14,217.8824	0.2725	0.2607	14,302.3721
Landscaping	1.8607	0.7100	61.5820	3.2700e-003		0.3424	0.3424		0.3424	0.3424		111.4810	111.4810	0.1072		114.1607
Total	**74.5364**	**11.8474**	**66.3213**	**0.0744**		**1.2429**	**1.2429**		**1.2429**	**1.2429**	**0.0000**	**14,329.3634**	**14,329.3634**	**0.3797**	**0.2607**	**14,416.5328**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.4481					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	63.9242					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3033	11.1373	4.7393	0.0711		0.9005	0.9005		0.9005	0.9005	0.0000	14,217.8824	14,217.8824	0.2725	0.2607	14,302.3721
Landscaping	1.8607	0.7100	61.5820	3.2700e-003		0.3424	0.3424		0.3424	0.3424		111.4810	111.4810	0.1072		114.1607
Total	**74.5364**	**11.8474**	**66.3213**	**0.0744**		**1.2429**	**1.2429**		**1.2429**	**1.2429**	**0.0000**	**14,329.3634**	**14,329.3634**	**0.3797**	**0.2607**	**14,416.5328**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Buildout Operational 2040

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	178.77	1000sqft	6.97	178,769.00	0
Government (Civic Center)	132.31	1000sqft	7.17	132,315.00	0
Hospital	406.13	1000sqft	4.66	406,127.00	0
Medical Office Building	110.36	1000sqft	4.05	110,360.00	0
Place of Worship	245.75	1000sqft	13.32	245,755.00	0
General Light Industry	252.94	1000sqft	13.61	252,937.00	0
Parking Lot	743.12	1000sqft	17.06	743,115.00	0
Apartments Low Rise	299.00	Dwelling Unit	2.61	299,000.00	857
Apartments Mid Rise	207.00	Dwelling Unit	8.73	207,000.00	593
Single Family Housing	240.00	Dwelling Unit	15.46	432,000.00	687
Strip Mall	950.94	1000sqft	25.80	950,940.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	53.58	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Chris Dugan and Cameron Hile

Land Use - Source: MIG Proposed Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Grading - Future Operational model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018). Rates reflect trip gen reduction factors applied in the TIA; strip mall weekday rate adjusted from 37.06 to 34.02 to match TIA total trip gen estimate.

Woodstoves - Wood burning devices excluded from new development pursuant to SCAQMD Rule 445.00

Energy Use - T24 standards adjusted downwards to reflect increased efficiency between 2016-2019 standards (CEC, 2017).

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblEnergyUse	LightingElect	3.10	2.17
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	5.31	3.72

tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	0.35	0.25
tblEnergyUse	LightingElect	3.10	2.20
tblEnergyUse	LightingElect	6.26	4.38
tblEnergyUse	T24E	257.27	128.64
tblEnergyUse	T24E	252.63	126.32
tblEnergyUse	T24E	443.48	221.74
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	254.15	269.10
tblFireplaces	NumberGas	175.95	186.30
tblFireplaces	NumberGas	204.00	216.00
tblFireplaces	NumberWood	14.95	0.00
tblFireplaces	NumberWood	10.35	0.00
tblFireplaces	NumberWood	12.00	0.00
tblLandUse	LandUseSquareFeet	178,770.00	178,769.00
tblLandUse	LandUseSquareFeet	132,310.00	132,315.00
tblLandUse	LandUseSquareFeet	406,130.00	406,127.00
tblLandUse	LandUseSquareFeet	245,750.00	245,755.00
tblLandUse	LandUseSquareFeet	252,940.00	252,937.00
tblLandUse	LandUseSquareFeet	743,120.00	743,115.00
tblLandUse	LotAcreage	4.10	6.97
tblLandUse	LotAcreage	3.04	7.17
tblLandUse	LotAcreage	9.32	4.66
tblLandUse	LotAcreage	2.53	4.05
tblLandUse	LotAcreage	5.64	13.32

tblLandUse	LotAcreage	5.81	13.61
tblLandUse	LotAcreage	18.69	2.61
tblLandUse	LotAcreage	5.45	8.73
tblLandUse	LotAcreage	77.92	15.46
tblLandUse	LotAcreage	21.83	25.80
tblLandUse	Population	855.00	857.00
tblLandUse	Population	592.00	593.00
tblLandUse	Population	686.00	687.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	53.58
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	WD_TR	6.59	6.74
tblVehicleTrips	WD_TR	6.65	6.74
tblVehicleTrips	WD_TR	6.97	3.35
tblVehicleTrips	WD_TR	11.03	16.03
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	13.22	10.72
tblVehicleTrips	WD_TR	36.13	16.03
tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	34.02
tblWoodstoves	NumberCatalytic	14.95	0.00
tblWoodstoves	NumberCatalytic	10.35	0.00
tblWoodstoves	NumberCatalytic	12.00	0.00
tblWoodstoves	NumberNoncatalytic	14.95	0.00
tblWoodstoves	NumberNoncatalytic	10.35	0.00
tblWoodstoves	NumberNoncatalytic	12.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	7.7000e-004	0.0000	0.0000	7.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	6.6000e-004	0.0000	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0894	0.0000	0.0000	0.0836	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0894**	**0.0000**	**0.0000**	**0.0836**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	7.7000e-004	0.0000	0.0000	7.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	6.6000e-004	0.0000	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0894	0.0000	0.0000	0.0836	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0894**	**0.0000**	**0.0000**	**0.0836**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	74.5364	11.8474	66.3213	0.0744		1.2429	1.2429		1.2429	1.2429	0.0000	14,329.3634	14,329.3634	0.3797	0.2607	14,416.5328
Energy	1.6406	14.6847	10.8437	0.0895		1.1335	1.1335		1.1335	1.1335		17,897.3033	17,897.3033	0.3430	0.3281	18,003.6580
Mobile	49.0472	335.1741	571.4908	3.1235	338.5591	1.3684	339.9275	90.5830	1.2734	91.8564		321,753.5180	321,753.5180	13.0381		322,079.4712
Total	**125.2242**	**361.7062**	**648.6558**	**3.2874**	**338.5591**	**3.7447**	**342.3038**	**90.5830**	**3.6498**	**94.2328**	**0.0000**	**353,980.1847**	**353,980.1847**	**13.7609**	**0.5888**	**354,499.6620**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	74.5364	11.8474	66.3213	0.0744		1.2429	1.2429		1.2429	1.2429	0.0000	14,329.3634	14,329.3634	0.3797	0.2607	14,416.5328
Energy	1.6406	14.6847	10.8437	0.0895		1.1335	1.1335		1.1335	1.1335		17,897.3033	17,897.3033	0.3430	0.3281	18,003.6580
Mobile	49.0472	335.1741	571.4908	3.1235	338.5591	1.3684	339.9275	90.5830	1.2734	91.8564		321,753.5180	321,753.5180	13.0381		322,079.4712
Total	**125.2242**	**361.7062**	**648.6558**	**3.2874**	**338.5591**	**3.7447**	**342.3038**	**90.5830**	**3.6498**	**94.2328**	**0.0000**	**353,980.1847**	**353,980.1847**	**13.7609**	**0.5888**	**354,499.6620**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2039	12/31/2038	5	0	
2	Site Preparation	Site Preparation	10/8/2039	10/7/2039	5	0	
3	Grading	Grading	3/24/2040	3/23/2040	5	0	
4	Building Construction	Building Construction	6/1/2041	5/31/2041	5	0	
5	Paving	Paving	4/19/2053	4/18/2053	5	0	
6	Architectural Coating	Architectural Coating	2/21/2054	2/20/2054	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 17.06

Residential Indoor: 1,899,450; Residential Outdoor: 633,150; Non-Residential Indoor: 3,415,805; Non-Residential Outdoor: 1,138,602; Striped Parking Area: 44,587 (Architectural Coating – sqft)

OffRoad Equipment

Covina Town Center Buildout Operational 2040 - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	1,541.00	575.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	308.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	49.0472	335.1741	571.4908	3.1235	338.5591	1.3684	339.9275	90.5830	1.2734	91.8564		321,753.5180	321,753.5180	13.0381		322,079.4712
Unmitigated	49.0472	335.1741	571.4908	3.1235	338.5591	1.3684	339.9275	90.5830	1.2734	91.8564		321,753.5180	321,753.5180	13.0381		322,079.4712

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,015.26	2,140.84	1814.93	6,849,959	6,849,959
Apartments Mid Rise	1,395.18	1,322.73	1213.02	4,643,250	4,643,250
General Light Industry	847.35	333.88	172.00	3,000,237	3,000,237
General Office Building	2,865.68	439.77	187.71	6,882,835	6,882,835
Government (Civic Center)	2,988.88	0.00	0.00	6,592,900	6,592,900
Hospital	4,353.71	4,134.40	3618.62	16,350,076	16,350,076
Medical Office Building	1,769.07	988.83	171.06	3,707,453	3,707,453
Parking Lot	0.00	0.00	0.00		
Place of Worship	1,707.96	2,548.43	9001.82	6,121,126	6,121,126
Single Family Housing	2,265.60	2,378.40	2068.80	7,700,894	7,700,894
Strip Mall	32,350.98	39,977.52	19427.70	60,111,169	60,111,169
Total	52,559.68	54,264.80	37,675.66	121,959,899	121,959,899

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Apartments Mid Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Light Industry	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Government (Civic Center)	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Hospital	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Medical Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Parking Lot	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Place of Worship	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Strip Mall	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.6406	14.6847	10.8437	0.0895		1.1335	1.1335		1.1335	1.1335		17,897.3033	17,897.3033	0.3430	0.3281	18,003.6580
NaturalGas Unmitigated	1.6406	14.6847	10.8437	0.0895		1.1335	1.1335		1.1335	1.1335		17,897.3033	17,897.3033	0.3430	0.3281	18,003.6580

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	13385.2	0.1444	1.2335	0.5249	7.8700e-003		0.0997	0.0997		0.0997	0.0997		1,574.7272	1,574.7272	0.0302	0.0289	1,584.0851
Apartments Mid Rise	7597.28	0.0819	0.7001	0.2979	4.4700e-003		0.0566	0.0566		0.0566	0.0566		893.7976	893.7976	0.0171	0.0164	899.1090
General Light Industry	12542.9	0.1353	1.2297	1.0329	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,475.6357	1,475.6357	0.0283	0.0271	1,484.4047
General Office Building	5098.59	0.0550	0.4999	0.4199	3.0000e-003		0.0380	0.0380		0.0380	0.0380		599.8341	599.8341	0.0115	0.0110	603.3986
Government (Civic Center)	3773.7	0.0407	0.3700	0.3108	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.9643	443.9643	8.5100e-003	8.1400e-003	446.6025
Hospital	72056.9	0.7771	7.0644	5.9341	0.0424		0.5369	0.5369		0.5369	0.5369		8,477.2875	8,477.2875	0.1625	0.1554	8,527.6638
Medical Office Building	3147.53	0.0339	0.3086	0.2592	1.8500e-003		0.0235	0.0235		0.0235	0.0235		370.2974	370.2974	7.1000e-003	6.7900e-003	372.4979
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	12186.8	0.1314	1.1948	1.0036	7.1700e-003		0.0908	0.0908		0.0908	0.0908		1,433.7359	1,433.7359	0.0275	0.0263	1,442.2558
Single Family Housing	18065.5	0.1948	1.6649	0.7085	0.0106		0.1346	0.1346		0.1346	0.1346		2,125.3510	2,125.3510	0.0407	0.0390	2,137.9809
Strip Mall	4272.72	0.0461	0.4189	0.3519	2.5100e-003		0.0318	0.0318		0.0318	0.0318		502.6726	502.6726	9.6300e-003	9.2200e-003	505.6597
Total		**1.6406**	**14.6847**	**10.8437**	**0.0895**		**1.1335**	**1.1335**		**1.1335**	**1.1335**		**17,897.3033**	**17,897.3033**	**0.3430**	**0.3281**	**18,003.6580**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	13.3852	0.1444	1.2335	0.5249	7.8700e-003		0.0997	0.0997		0.0997	0.0997		1,574.7272	1,574.7272	0.0302	0.0289	1,584.0851
Apartments Mid Rise	7.59728	0.0819	0.7001	0.2979	4.4700e-003		0.0566	0.0566		0.0566	0.0566		893.7976	893.7976	0.0171	0.0164	899.1090
General Light Industry	12.5429	0.1353	1.2297	1.0329	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,475.6357	1,475.6357	0.0283	0.0271	1,484.4047
General Office Building	5.09859	0.0550	0.4999	0.4199	3.0000e-003		0.0380	0.0380		0.0380	0.0380		599.8341	599.8341	0.0115	0.0110	603.3986
Government (Civic Center)	3.7737	0.0407	0.3700	0.3108	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.9643	443.9643	8.5100e-003	8.1400e-003	446.6025
Hospital	72.0569	0.7771	7.0644	5.9341	0.0424		0.5369	0.5369		0.5369	0.5369		8,477.2875	8,477.2875	0.1625	0.1554	8,527.6638
Medical Office Building	3.14753	0.0339	0.3086	0.2592	1.8500e-003		0.0235	0.0235		0.0235	0.0235		370.2974	370.2974	7.1000e-003	6.7900e-003	372.4979
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	12.1868	0.1314	1.1948	1.0036	7.1700e-003		0.0908	0.0908		0.0908	0.0908		1,433.7359	1,433.7359	0.0275	0.0263	1,442.2558
Single Family Housing	18.0655	0.1948	1.6649	0.7085	0.0106		0.1346	0.1346		0.1346	0.1346		2,125.3510	2,125.3510	0.0407	0.0390	2,137.9809
Strip Mall	4.27272	0.0461	0.4189	0.3519	2.5100e-003		0.0318	0.0318		0.0318	0.0318		502.6726	502.6726	9.6300e-003	9.2200e-003	505.6597
Total		**1.6406**	**14.6847**	**10.8437**	**0.0895**		**1.1335**	**1.1335**		**1.1335**	**1.1335**		**17,897.3033**	**17,897.3033**	**0.3430**	**0.3281**	**18,003.6580**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	74.5364	11.8474	66.3213	0.0744		1.2429	1.2429		1.2429	1.2429	0.0000	14,329.3634	14,329.3634	0.3797	0.2607	14,416.5328
Unmitigated	74.5364	11.8474	66.3213	0.0744		1.2429	1.2429		1.2429	1.2429	0.0000	14,329.3634	14,329.3634	0.3797	0.2607	14,416.5328

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.4481					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	63.9242					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3033	11.1373	4.7393	0.0711		0.9005	0.9005		0.9005	0.9005	0.0000	14,217.8824	14,217.8824	0.2725	0.2607	14,302.3721
Landscaping	1.8607	0.7100	61.5820	3.2700e-003		0.3424	0.3424		0.3424	0.3424		111.4810	111.4810	0.1072		114.1607
Total	**74.5364**	**11.8474**	**66.3213**	**0.0744**		**1.2429**	**1.2429**		**1.2429**	**1.2429**	**0.0000**	**14,329.3634**	**14,329.3634**	**0.3797**	**0.2607**	**14,416.5328**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.4481					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	63.9242					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3033	11.1373	4.7393	0.0711		0.9005	0.9005		0.9005	0.9005	0.0000	14,217.8824	14,217.8824	0.2725	0.2607	14,302.3721
Landscaping	1.8607	0.7100	61.5820	3.2700e-003		0.3424	0.3424		0.3424	0.3424		111.4810	111.4810	0.1072		114.1607
Total	**74.5364**	**11.8474**	**66.3213**	**0.0744**		**1.2429**	**1.2429**		**1.2429**	**1.2429**	**0.0000**	**14,329.3634**	**14,329.3634**	**0.3797**	**0.2607**	**14,416.5328**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Covina Town Center Buildout Operational 2040

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	178.77	1000sqft	6.97	178,769.00	0
Government (Civic Center)	132.31	1000sqft	7.17	132,315.00	0
Hospital	406.13	1000sqft	4.66	406,127.00	0
Medical Office Building	110.36	1000sqft	4.05	110,360.00	0
Place of Worship	245.75	1000sqft	13.32	245,755.00	0
General Light Industry	252.94	1000sqft	13.61	252,937.00	0
Parking Lot	743.12	1000sqft	17.06	743,115.00	0
Apartments Low Rise	299.00	Dwelling Unit	2.61	299,000.00	857
Apartments Mid Rise	207.00	Dwelling Unit	8.73	207,000.00	593
Single Family Housing	240.00	Dwelling Unit	15.46	432,000.00	687
Strip Mall	950.94	1000sqft	25.80	950,940.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	53.58	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Chris Dugan and Cameron Hile

Land Use - Source: MIG Proposed Land Use Buildout Table (2018); inputs do not include City Park, Utility, Vacant Building, and Railroad ROW uses.

Construction Phase - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Off-road Equipment - Future Operational model run - no construction emissions modeled.

Grading - Future Operational model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates provided by TIA preparer Nelson Nygaard (2018). Rates reflect trip gen reduction factors applied in the TIA; strip mall weekday rate adjusted from 37.06 to 34.02 to match TIA total trip gen estimate.

Woodstoves - Wood burning devices excluded from new development pursuant to SCAQMD Rule 445.00

Energy Use - T24 standards adjusted downwards to reflect increased efficiency between 2016-2019 standards (CEC, 2017).

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	0.00
tblConstructionPhase	NumDays	120.00	0.00
tblConstructionPhase	NumDays	310.00	0.00
tblConstructionPhase	NumDays	3,100.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblEnergyUse	LightingElect	3.10	2.17
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	5.31	3.72

tblEnergyUse	LightingElect	3.77	2.64
tblEnergyUse	LightingElect	0.35	0.25
tblEnergyUse	LightingElect	3.10	2.20
tblEnergyUse	LightingElect	6.26	4.38
tblEnergyUse	T24E	257.27	128.64
tblEnergyUse	T24E	252.63	126.32
tblEnergyUse	T24E	443.48	221.74
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	254.15	269.10
tblFireplaces	NumberGas	175.95	186.30
tblFireplaces	NumberGas	204.00	216.00
tblFireplaces	NumberWood	14.95	0.00
tblFireplaces	NumberWood	10.35	0.00
tblFireplaces	NumberWood	12.00	0.00
tblLandUse	LandUseSquareFeet	178,770.00	178,769.00
tblLandUse	LandUseSquareFeet	132,310.00	132,315.00
tblLandUse	LandUseSquareFeet	406,130.00	406,127.00
tblLandUse	LandUseSquareFeet	245,750.00	245,755.00
tblLandUse	LandUseSquareFeet	252,940.00	252,937.00
tblLandUse	LandUseSquareFeet	743,120.00	743,115.00
tblLandUse	LotAcreage	4.10	6.97
tblLandUse	LotAcreage	3.04	7.17
tblLandUse	LotAcreage	9.32	4.66
tblLandUse	LotAcreage	2.53	4.05
tblLandUse	LotAcreage	5.64	13.32

tblLandUse	LotAcreage	5.81	13.61
tblLandUse	LotAcreage	18.69	2.61
tblLandUse	LotAcreage	5.45	8.73
tblLandUse	LotAcreage	77.92	15.46
tblLandUse	LotAcreage	21.83	25.80
tblLandUse	Population	855.00	857.00
tblLandUse	Population	592.00	593.00
tblLandUse	Population	686.00	687.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	53.58
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblVehicleTrips	WD_TR	6.59	6.74
tblVehicleTrips	WD_TR	6.65	6.74
tblVehicleTrips	WD_TR	6.97	3.35
tblVehicleTrips	WD_TR	11.03	16.03
tblVehicleTrips	WD_TR	27.92	22.59
tblVehicleTrips	WD_TR	13.22	10.72
tblVehicleTrips	WD_TR	36.13	16.03
tblVehicleTrips	WD_TR	9.11	6.95
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	34.02
tblWoodstoves	NumberCatalytic	14.95	0.00
tblWoodstoves	NumberCatalytic	10.35	0.00
tblWoodstoves	NumberCatalytic	12.00	0.00
tblWoodstoves	NumberNoncatalytic	14.95	0.00
tblWoodstoves	NumberNoncatalytic	10.35	0.00
tblWoodstoves	NumberNoncatalytic	12.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	13.2743	0.2280	7.7570	1.3000e-003		0.0541	0.0541		0.0541	0.0541	0.0000	173.8698	173.8698	0.0152	2.9600e-003	175.1318
Energy	0.2994	2.6800	1.9790	0.0163		0.2069	0.2069		0.2069	0.2069	0.0000	3,786.8216	3,786.8216	0.5641	0.1158	3,835.4386
Mobile	6.5860	46.7020	79.9561	0.4414	46.3072	0.1897	46.4970	12.4098	0.1766	12.5864	0.0000	41,240.9078	41,240.9078	1.6211	0.0000	41,281.4361
Waste						0.0000	0.0000		0.0000	0.0000	1,974.2637	0.0000	1,974.2637	116.6756	0.0000	4,891.1548
Water						0.0000	0.0000		0.0000	0.0000	97.7436	133.6170	231.3606	10.1215	0.2470	558.0107
Total	**20.1597**	**49.6100**	**89.6920**	**0.4590**	**46.3072**	**0.4506**	**46.7579**	**12.4098**	**0.4375**	**12.8473**	**2,072.0073**	**45,335.2162**	**47,407.2235**	**128.9976**	**0.3658**	**50,741.1720**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	13.2743	0.2280	7.7570	1.3000e-003		0.0541	0.0541		0.0541	0.0541	0.0000	173.8698	173.8698	0.0152	2.9600e-003	175.1318
Energy	0.2994	2.6800	1.9790	0.0163		0.2069	0.2069		0.2069	0.2069	0.0000	3,786.8216	3,786.8216	0.5641	0.1158	3,835.4386
Mobile	6.5860	46.7020	79.9561	0.4414	46.3072	0.1897	46.4970	12.4098	0.1766	12.5864	0.0000	41,240.9078	41,240.9078	1.6211	0.0000	41,281.4361
Waste						0.0000	0.0000		0.0000	0.0000	1,974.2637	0.0000	1,974.2637	116.6756	0.0000	4,891.1548
Water						0.0000	0.0000		0.0000	0.0000	97.7436	133.6170	231.3606	10.1215	0.2470	558.0107
Total	**20.1597**	**49.6100**	**89.6920**	**0.4590**	**46.3072**	**0.4506**	**46.7579**	**12.4098**	**0.4375**	**12.8473**	**2,072.0073**	**45,335.2162**	**47,407.2235**	**128.9976**	**0.3658**	**50,741.1720**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2039	12/31/2038	5	0	
2	Site Preparation	Site Preparation	10/8/2039	10/7/2039	5	0	
3	Grading	Grading	3/24/2040	3/23/2040	5	0	
4	Building Construction	Building Construction	6/1/2041	5/31/2041	5	0	
5	Paving	Paving	4/19/2053	4/18/2053	5	0	
6	Architectural Coating	Architectural Coating	2/21/2054	2/20/2054	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 17.06

Residential Indoor: 1,899,450; Residential Outdoor: 633,150; Non-Residential Indoor: 3,415,805; Non-Residential Outdoor: 1,138,602; Striped Parking Area: 44,587 (Architectural Coating – sqft)

OffRoad Equipment

Covina Town Center Buildout Operational 2040 - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	1,541.00	575.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	308.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2039

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2040

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2041

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2053

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2054

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Implement Trip Reduction Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.5860	46.7020	79.9561	0.4414	46.3072	0.1897	46.4970	12.4098	0.1766	12.5864	0.0000	41,240.9078	41,240.9078	1.6211	0.0000	41,281.4361
Unmitigated	6.5860	46.7020	79.9561	0.4414	46.3072	0.1897	46.4970	12.4098	0.1766	12.5864	0.0000	41,240.9078	41,240.9078	1.6211	0.0000	41,281.4361

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,015.26	2,140.84	1814.93	6,849,959	6,849,959
Apartments Mid Rise	1,395.18	1,322.73	1213.02	4,643,250	4,643,250
General Light Industry	847.35	333.88	172.00	3,000,237	3,000,237
General Office Building	2,865.68	439.77	187.71	6,882,835	6,882,835
Government (Civic Center)	2,988.88	0.00	0.00	6,592,900	6,592,900
Hospital	4,353.71	4,134.40	3618.62	16,350,076	16,350,076
Medical Office Building	1,769.07	988.83	171.06	3,707,453	3,707,453
Parking Lot	0.00	0.00	0.00		
Place of Worship	1,707.96	2,548.43	9001.82	6,121,126	6,121,126
Single Family Housing	2,265.60	2,378.40	2068.80	7,700,894	7,700,894
Strip Mall	32,350.98	39,977.52	19427.70	60,111,169	60,111,169
Total	52,559.68	54,264.80	37,675.66	121,959,899	121,959,899

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Government (Civic Center)	16.60	8.40	6.90	75.00	20.00	5.00	50	34	16
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Apartments Mid Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Light Industry	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
General Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Government (Civic Center)	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Hospital	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Medical Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Parking Lot	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Place of Worship	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Single Family Housing	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Strip Mall	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	823.7224	823.7224	0.5073	0.0615	854.7311
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	823.7224	823.7224	0.5073	0.0615	854.7311
NaturalGas Mitigated	0.2994	2.6800	1.9790	0.0163		0.2069	0.2069		0.2069	0.2069	0.0000	2,963.0993	2,963.0993	0.0568	0.0543	2,980.7075
NaturalGas Unmitigated	0.2994	2.6800	1.9790	0.0163		0.2069	0.2069		0.2069	0.2069	0.0000	2,963.0993	2,963.0993	0.0568	0.0543	2,980.7075

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	4.88559e+006	0.0263	0.2251	0.0958	1.4400e-003		0.0182	0.0182		0.0182	0.0182	0.0000	260.7138	260.7138	5.0000e-003	4.7800e-003	262.2630
Apartments Mid Rise	2.77301e+006	0.0150	0.1278	0.0544	8.2000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	147.9782	147.9782	2.8400e-003	2.7100e-003	148.8576
General Light Industry	4.57816e+006	0.0247	0.2244	0.1885	1.3500e-003		0.0171	0.0171		0.0171	0.0171	0.0000	244.3080	244.3080	4.6800e-003	4.4800e-003	245.7598
General Office Building	1.86099e+006	0.0100	0.0912	0.0766	5.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003	0.0000	99.3093	99.3093	1.9000e-003	1.8200e-003	99.8994
Government (Civic Center)	1.3774e+006	7.4300e-003	0.0675	0.0567	4.1000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.5033	73.5033	1.4100e-003	1.3500e-003	73.9401
Hospital	2.63008e+007	0.1418	1.2893	1.0830	7.7400e-003		0.0980	0.0980		0.0980	0.0980	0.0000	1,403.5100	1,403.5100	0.0269	0.0257	1,411.8504
Medical Office Building	1.14885e+006	6.1900e-003	0.0563	0.0473	3.4000e-004		4.2800e-003	4.2800e-003		4.2800e-003	4.2800e-003	0.0000	61.3069	61.3069	1.1800e-003	1.1200e-003	61.6712
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	4.44817e+006	0.0240	0.2181	0.1832	1.3100e-003		0.0166	0.0166		0.0166	0.0166	0.0000	237.3711	237.3711	4.5500e-003	4.3500e-003	238.7816
Single Family Housing	6.5939e+006	0.0356	0.3038	0.1293	1.9400e-003		0.0246	0.0246		0.0246	0.0246	0.0000	351.8757	351.8757	6.7400e-003	6.4500e-003	353.9667
Strip Mall	1.55954e+006	8.4100e-003	0.0765	0.0642	4.6000e-004		5.8100e-003	5.8100e-003		5.8100e-003	5.8100e-003	0.0000	83.2231	83.2231	1.6000e-003	1.5300e-003	83.7176
Total		**0.2994**	**2.6800**	**1.9790**	**0.0164**		**0.2069**	**0.2069**		**0.2069**	**0.2069**	**0.0000**	**2,963.0993**	**2,963.0993**	**0.0568**	**0.0543**	**2,980.7075**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	4.88559e+006	0.0263	0.2251	0.0958	1.4400e-003		0.0182	0.0182		0.0182	0.0182	0.0000	260.7138	260.7138	5.0000e-003	4.7800e-003	262.2630
Apartments Mid Rise	2.77301e+006	0.0150	0.1278	0.0544	8.2000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	147.9782	147.9782	2.8400e-003	2.7100e-003	148.8576
General Light Industry	4.57816e+006	0.0247	0.2244	0.1885	1.3500e-003		0.0171	0.0171		0.0171	0.0171	0.0000	244.3080	244.3080	4.6800e-003	4.4800e-003	245.7598
General Office Building	1.86099e+006	0.0100	0.0912	0.0766	5.5000e-004		6.9300e-003	6.9300e-003		6.9300e-003	6.9300e-003	0.0000	99.3093	99.3093	1.9000e-003	1.8200e-003	99.8994
Government (Civic Center)	1.3774e+006	7.4300e-003	0.0675	0.0567	4.1000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.5033	73.5033	1.4100e-003	1.3500e-003	73.9401
Hospital	2.63008e+007	0.1418	1.2893	1.0830	7.7400e-003		0.0980	0.0980		0.0980	0.0980	0.0000	1,403.5100	1,403.5100	0.0269	0.0257	1,411.8504
Medical Office Building	1.14885e+006	6.1900e-003	0.0563	0.0473	3.4000e-004		4.2800e-003	4.2800e-003		4.2800e-003	4.2800e-003	0.0000	61.3069	61.3069	1.1800e-003	1.1200e-003	61.6712
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	4.44817e+006	0.0240	0.2181	0.1832	1.3100e-003		0.0166	0.0166		0.0166	0.0166	0.0000	237.3711	237.3711	4.5500e-003	4.3500e-003	238.7816
Single Family Housing	6.5939e+006	0.0356	0.3038	0.1293	1.9400e-003		0.0246	0.0246		0.0246	0.0246	0.0000	351.8757	351.8757	6.7400e-003	6.4500e-003	353.9667
Strip Mall	1.55954e+006	8.4100e-003	0.0765	0.0642	4.6000e-004		5.8100e-003	5.8100e-003		5.8100e-003	5.8100e-003	0.0000	83.2231	83.2231	1.6000e-003	1.5300e-003	83.7176
Total		**0.2994**	**2.6800**	**1.9790**	**0.0164**		**0.2069**	**0.2069**		**0.2069**	**0.2069**	**0.0000**	**2,963.0993**	**2,963.0993**	**0.0568**	**0.0543**	**2,980.7075**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.22942e+006	29.8791	0.0184	2.2300e-003	31.0039
Apartments Mid Rise	811825	19.7302	0.0122	1.4700e-003	20.4729
General Light Industry	2.57237e+006	62.5175	0.0385	4.6700e-003	64.8710
General Office Building	2.1202e+006	51.5282	0.0317	3.8500e-003	53.4680
Government (Civic Center)	1.56926e+006	38.1384	0.0235	2.8500e-003	39.5741
Hospital	8.62208e+006	209.5465	0.1291	0.0156	217.4348
Medical Office Building	1.30887e+006	31.8101	0.0196	2.3700e-003	33.0076
Parking Lot	185779	4.5151	2.7800e-003	3.4000e-004	4.6850
Place of Worship	2.5067e+006	60.9216	0.0375	4.5500e-003	63.2149
Single Family Housing	1.91677e+006	46.5842	0.0287	3.4800e-003	48.3379
Strip Mall	1.10499e+007	268.5516	0.1654	0.0201	278.6611
Total		**823.7224**	**0.5073**	**0.0615**	**854.7311**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.22942e+006	29.8791	0.0184	2.2300e-003	31.0039
Apartments Mid Rise	811825	19.7302	0.0122	1.4700e-003	20.4729
General Light Industry	2.57237e+006	62.5175	0.0385	4.6700e-003	64.8710
General Office Building	2.1202e+006	51.5282	0.0317	3.8500e-003	53.4680
Government (Civic Center)	1.56926e+006	38.1384	0.0235	2.8500e-003	39.5741
Hospital	8.62208e+006	209.5465	0.1291	0.0156	217.4348
Medical Office Building	1.30887e+006	31.8101	0.0196	2.3700e-003	33.0076
Parking Lot	185779	4.5151	2.7800e-003	3.4000e-004	4.6850
Place of Worship	2.5067e+006	60.9216	0.0375	4.5500e-003	63.2149
Single Family Housing	1.91677e+006	46.5842	0.0287	3.4800e-003	48.3379
Strip Mall	1.10499e+007	268.5516	0.1654	0.0201	278.6611
Total		**823.7224**	**0.5073**	**0.0615**	**854.7311**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	13.2743	0.2280	7.7570	1.3000e-003		0.0541	0.0541		0.0541	0.0541	0.0000	173.8698	173.8698	0.0152	2.9600e-003	175.1318
Unmitigated	13.2743	0.2280	7.7570	1.3000e-003		0.0541	0.0541		0.0541	0.0541	0.0000	173.8698	173.8698	0.0152	2.9600e-003	175.1318

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.3593					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	11.6662					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0163	0.1392	0.0592	8.9000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	161.2281	161.2281	3.0900e-003	2.9600e-003	162.1862
Landscaping	0.2326	0.0888	7.6978	4.1000e-004		0.0428	0.0428		0.0428	0.0428	0.0000	12.6417	12.6417	0.0122	0.0000	12.9456
Total	**13.2743**	**0.2280**	**7.7570**	**1.3000e-003**		**0.0541**	**0.0541**		**0.0541**	**0.0541**	**0.0000**	**173.8698**	**173.8698**	**0.0152**	**2.9600e-003**	**175.1318**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.3593					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	11.6662					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0163	0.1392	0.0592	8.9000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	161.2281	161.2281	3.0900e-003	2.9600e-003	162.1862
Landscaping	0.2326	0.0888	7.6978	4.1000e-004		0.0428	0.0428		0.0428	0.0428	0.0000	12.6417	12.6417	0.0122	0.0000	12.9456
Total	**13.2743**	**0.2280**	**7.7570**	**1.3000e-003**		**0.0541**	**0.0541**		**0.0541**	**0.0541**	**0.0000**	**173.8698**	**173.8698**	**0.0152**	**2.9600e-003**	**175.1318**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	231.3606	10.1215	0.2470	558.0107
Unmitigated	231.3606	10.1215	0.2470	558.0107

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	19.4811 / 12.2815	15.6615	0.6406	0.0157	36.3548
Apartments Mid Rise	13.4869 / 8.5026	10.8426	0.4435	0.0109	25.1687
General Light Industry	58.4924 / 0	37.0672	1.9174	0.0464	98.8246
General Office Building	31.7735 / 19.4741	25.3934	1.0448	0.0256	59.1384
Government (Civic Center)	26.2847 / 16.11	21.0067	0.8643	0.0212	48.9223
Hospital	50.9614 / 9.70694	34.9157	1.6721	0.0406	88.8205
Medical Office Building	13.848 / 2.63772	9.4878	0.4544	0.0110	24.1357
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	7.68925 / 12.0268	8.1201	0.2541	6.3400e-003	16.3608
Single Family Housing	15.637 / 9.85809	12.5711	0.5142	0.0126	29.1811
Strip Mall	70.4385 / 43.172	56.2945	2.3162	0.0567	131.1037
Total		**231.3606**	**10.1215**	**0.2470**	**558.0107**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	19.4811 / 12.2815	15.6615	0.6406	0.0157	36.3548
Apartments Mid Rise	13.4869 / 8.5026	10.8426	0.4435	0.0109	25.1687
General Light Industry	58.4924 / 0	37.0672	1.9174	0.0464	98.8246
General Office Building	31.7735 / 19.4741	25.3934	1.0448	0.0256	59.1384
Government (Civic Center)	26.2847 / 16.11	21.0067	0.8643	0.0212	48.9223
Hospital	50.9614 / 9.70694	34.9157	1.6721	0.0406	88.8205
Medical Office Building	13.848 / 2.63772	9.4878	0.4544	0.0110	24.1357
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	7.68925 / 12.0268	8.1201	0.2541	6.3400e-003	16.3608
Single Family Housing	15.637 / 9.85809	12.5711	0.5142	0.0126	29.1811
Strip Mall	70.4385 / 43.172	56.2945	2.3162	0.0567	131.1037
Total		**231.3606**	**10.1215**	**0.2470**	**558.0107**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1,974.2637	116.6756	0.0000	4,891.1548
Unmitigated	1,974.2637	116.6756	0.0000	4,891.1548

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	137.54	27.9194	1.6500	0.0000	69.1691
Apartments Mid Rise	95.22	19.3288	1.1423	0.0000	47.8863
General Light Industry	313.65	63.6681	3.7627	0.0000	157.7351
General Office Building	166.26	33.7493	1.9945	0.0000	83.6124
Government (Civic Center)	754.17	153.0897	9.0473	0.0000	379.2732
Hospital	4386.2	890.3590	52.6187	0.0000	2,205.8266
Medical Office Building	1191.89	241.9429	14.2984	0.0000	599.4033
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	1400.78	284.3457	16.8044	0.0000	704.4544
Single Family Housing	281.67	57.1765	3.3790	0.0000	141.6523
Strip Mall	998.49	202.6845	11.9783	0.0000	502.1421
Total		**1,974.2637**	**116.6757**	**0.0000**	**4,891.1548**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	137.54	27.9194	1.6500	0.0000	69.1691
Apartments Mid Rise	95.22	19.3288	1.1423	0.0000	47.8863
General Light Industry	313.65	63.6681	3.7627	0.0000	157.7351
General Office Building	166.26	33.7493	1.9945	0.0000	83.6124
Government (Civic Center)	754.17	153.0897	9.0473	0.0000	379.2732
Hospital	4386.2	890.3590	52.6187	0.0000	2,205.8266
Medical Office Building	1191.89	241.9429	14.2984	0.0000	599.4033
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	1400.78	284.3457	16.8044	0.0000	704.4544
Single Family Housing	281.67	57.1765	3.3790	0.0000	141.6523
Strip Mall	998.49	202.6845	11.9783	0.0000	502.1421
Total		**1,974.2637**	**116.6757**	**0.0000**	**4,891.1548**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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Covina Town Center Specific Plan Transportation Impact Analysis Report

Final - September 2018

NELSON
NYGAARD

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1 EXECUTIVE SUMMARY

This report presents the results of the Transportation Impact Analysis (TIA) conducted for the Covina Town Center Specific Plan

PROJECT DESCRIPTION AND ANALYSIS PARAMETERS

The purpose of this analysis is to identify the potential transportation impacts of the project. This Transportation Impact Analysis (TIA) Report has been prepared according to the County of Los Angeles guidelines. Transportation data for project analysis was provided based on data collected by the City of Covina and provided to Nelson\Nygaard.

The analysis primarily looks at land use changes between the existing condition and the proposed specific plan and how the incremental change impacts adjacent streets and select intersections. The land use data was provided by MIG, the land use and planning consultant leading the project team.

KEY FINDINGS

Key Findings

The traffic impact analysis has the following key findings:

1. Trip generation from the proposed specific plan is not significantly increased over current conditions, even with annual growth.
2. All six of the intersections studied will continue to operate at a good level of service and the project has no required traffic impact mitigations.
3. Reducing Second Avenue from a five-vehicle lane cross section to a three-vehicle lane cross section will improve bicycle and pedestrian safety and accessibility while not significantly impacting traffic conditions.
4. The Citrus Avenue / Badillo Street intersection can be improved for bicycle and pedestrian safety through minor curb/sidewalk and bike facility modifications that do not negatively impact vehicle traffic flow conditions.

2 INTRODUCTION

STUDY PURPOSE

The purpose of this Transportation Impact Analysis (TIA) Report is to provide an evaluation of the proposed Covina Town Center Specific Plan (herein referred to as the "project") and to examine the extent to which the project would affect the surrounding circulation network. The scope of work for this transportation study includes an analysis of potential traffic and circulation impacts under the Existing and Project buildout conditions.

For purposes of assessing transportation impacts, vehicle trips were estimated based on trip generation rates and vehicle distribution data from the Institute of Transportation Engineers Trip Generation Manual, 10th Edition.

ANALYSIS SCENARIOS

The following scenarios were analyzed to determine the extent to which the project may affect the surrounding transportation environment during the weekday morning (AM) and evening (PM) peak periods:

- ***Existing Conditions*** – This scenario represents current roadway/traffic conditions and existing roadway network.

- ***Future (2040)*** – Year 2040 conditions with the addition of traffic generated by the project. The year 2040 conditions assumed a 1% annual increase in existing traffic volumes. Although current regional and national vehicle miles traveled data shows a flattened trend, the City requested a conservative annual increase that will account for future unknowns.

- ***Future (2040) Plus Project Buildout*** – Year 2040 conditions with the addition of traffic generated by the project.

3 EXISTING TRANSPORTATION CONDITIONS

The existing transportation-related context of the project is described below, beginning with a description of the street network that serves the project site and surroundings. Existing transit service, bicycle and pedestrian facilities in the vicinity of the proposed project are also described. Intersection and freeway levels of service are then defined and current conditions for roadways and intersections in the project vicinity are summarized.

ROADWAY NETWORK

The project site consists of the City of Covina Town Center Specific Plan area in the County of Los Angeles. The project site is located within an existing built suburban to low density urbanized area (see Figure 1). In the project vicinity, transportation resources consist of local-serving streets, regional access roadways, bus transit systems, and a regional rail service (Metrolink). A full description of regional and local roadways in the context of the project vicinity is provided below. None of the roadways or intersections in the study area are on the Los Angeles County Congestion Management Plan network.

Regional Roadways

The project area sits generally between State Highway 210 and State Highway 10. These east-west highways connect this eastern part of the San Gabriel Valley with other parts of the region and are a weekday morning and afternoon destination for access regional jobs. Between the two freeways, Arrow Highway and Badillo Street run east-west and connect the local communities. North-south oriented regional roadways include Grand Avenue to the east and Azusa Avenue to the west. Both of these major roadways connect Interstate 210 with Interstate 10 and pass through the West Covina and Covina communities. Citrus Avenue, which runs through the project area, also connects to both highway 210 and highway 10 and will be used by those associated with the project.

Local Roadways

Citrus Avenue is generally one lane in each direction through the project area. Although it serves as a regional roadway in the greater valley area, it also functions as a local roadway for the project site. 2nd Avenue serves as important local street in the Specific Plan area serving both local businesses and government buildings such as the library.

Existing Traffic Conditions

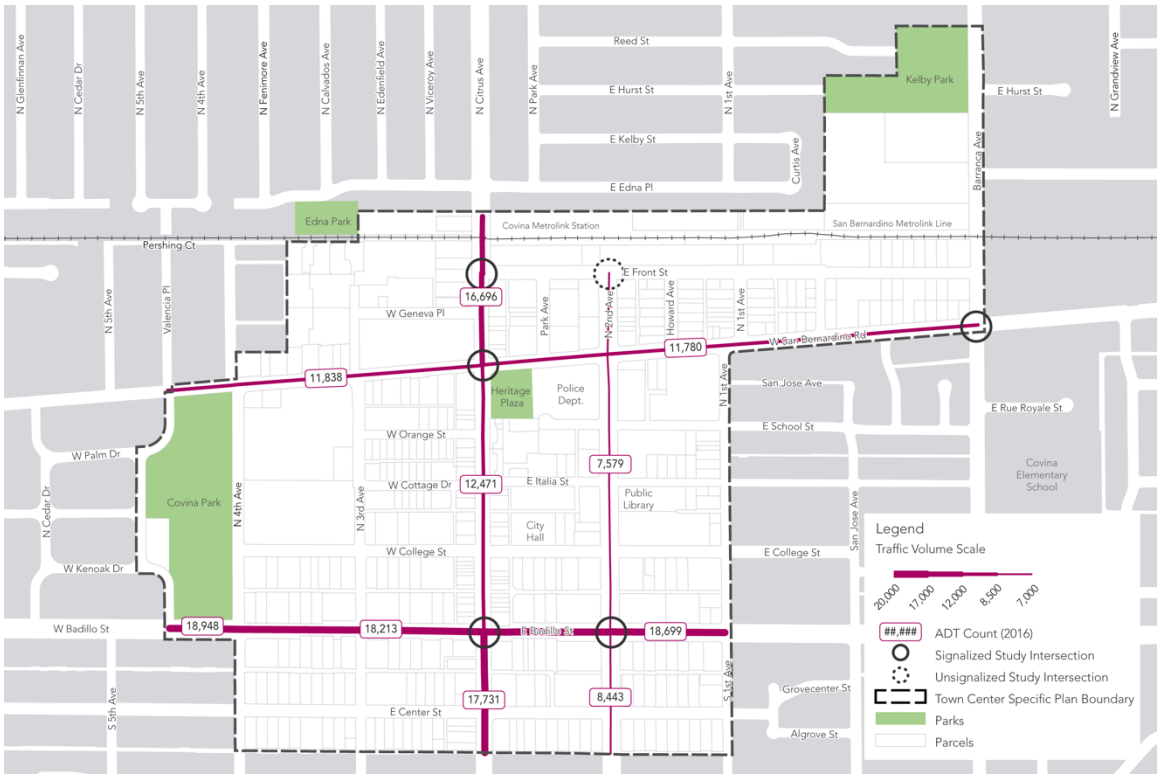
The existing traffic turning movement counts were conducted by the City of Covina for morning and afternoon peak periods for purposes of evaluating the traffic impacts of this traffic study. The counts were taken at the following intersections:

1. Citrus Avenue & Front Street
2. Citrus Avenue & San Bernardino Road
3. Citrus Avenue & Badillo Street

4. Badillo Street & 2nd Avenue
5. San Bernardino Road & Barranca Avenue
6. Second Avenue & Front Street

In addition, 2016 average daily traffic counts were provided by the City of Covina as shown on Figure 1. Intersection traffic volume data is shown in Appendix A.

Figure 1: Network and Study Intersections



Intersection Level of Service Analysis Methodology

The operation of a local roadway network is commonly measured and described using a grading system called Level of Service (LOS). The LOS grading system qualitatively characterizes traffic conditions associated with varying levels of vehicle traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in long delays). This LOS grading system applies to both roadway segments and intersections.

The analysis looks at five signalized intersections and one unsignalized intersection with traffic conditions evaluated using the Intersection Capacity Utilization (ICU) methodology and the PTV Vistro software program. The ICU methodology uses a ratio of intersection volumes to intersection capacity by movement. The existing levels of service are shown on Table 1.

Table 1: Intersection Level of Service Definitions

LOS	Flow Type	Operational Characteristics	Volume / Capacity Ratio
A	Stable Flow	Free-flow conditions with negligible to minimal delays. Excellent progression with most vehicles arriving during the green phase and not having to stop at all. Nearly all drivers find freedom of operation.	0.00 – 0.60
B	Stable Flow	Good progression with slight delays. Short cycle-lengths typical. Relatively more vehicles stop than under LOS A. Vehicle platoons are formed. Drivers begin to feel somewhat restricted within groups of vehicles.	0.61 – 0.70
C	Stable Flow	Relatively higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, although many still pass through without stopping. Most drivers feel somewhat restricted.	0.71 – 0.80
D	Approaching Unstable Flow	Somewhat congested conditions. Longer but tolerable delays may result from unfavorable progression, long cycle lengths, and/or high volume-to-capacity ratios. Many vehicles are stopped. Individual cycle failures may be noticeable. Drivers feel restricted during short periods due to temporary back-ups.	0.81 - 0.90
E	Unstable Flow	Congested conditions. Significant delays result from poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures occur frequently. There are typically long queues of vehicles waiting upstream of the intersection. Driver maneuverability is very restricted.	0.91 – 1.00
F	Forced Flow	Jammed or grid-lock type operating conditions. Generally considered to be unacceptable for most drivers. Zero or very poor progression, with over-saturation or high volume-to-capacity ratios. Several individual cycle failures occur. Queue spillovers from other locations restrict or prevent movement.	> 1.00

Existing Intersection Levels of Service

The existing level of service for the six studied intersection is shown on Table 2 as follows:

Table 2 Existing Intersection Levels of Service

#	Intersection	Control Type[1]	Target LOS	AM Peak Hour		PM Peak Hour	
				V/C	LOS	V/C	LOS
1	Citrus Avenue & Front Street	Signal	C	0.20	A	0.27	A
2	Citrus Avenue & San Bernardino Road	Signal	C	0.57	A	0.60	A
3	Citrus Avenue & Badillo Street	Signal	C	0.63	B	0.59	A
4	Badillo Street & 2nd Avenue	Signal	C	0.45	A	0.46	A
5	San Bernardino Road & Barranca Avenue	Signal	C	0.51	A	0.48	A
6	Second Avenue & Front Street	Unsignalized	C	0.10	A	0.14	A

4 PROJECT TRAVEL DEMAND

"Travel demand" refers to the new trips generated by the planned development.

TRIP GENERATION

Trip generation for the project was calculated based on the existing and proposed land uses provided by MIG as shown in the Specific Plan. The project travel demand estimation was based on the methodologies and procedures obtained in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. The raw trip generation for proposed land use changes were reduced using the California Air Pollution Control Officers Association (CAPCOA) expected reduction factors based on parking and transportation demand management (TDM) recommendations contained in the Specific Plan. To be conservative, the values used for the reduction were assumed to be on the low end of the scale due to the general suburban and car-oriented nature of the region in and around the project site. The following reduction values were used:

- Mixed Use Districts/Projects – Transit Oriented Development = 1% to 10% (depended on proximity to transit and zoning of mixed use components)
- Unbundled Parking for new residential development = 1% (for multi-family only)
- Future Rideshare and Carshare Services = 0.5% (for residential and commercial only)

The net trip generation is shown on Table 3

Table 3: Net Trip Generation

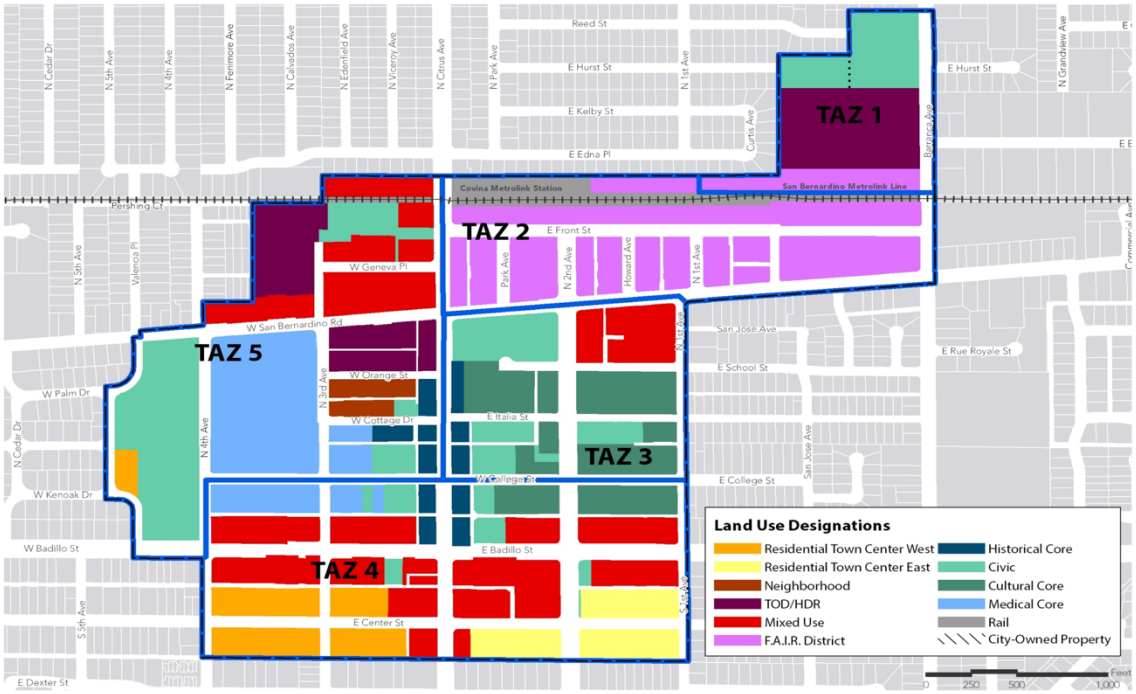
Net Project Trip Generation					
Traffic Analysis Zone (TAZ)	Daily	AM		PM	
		IN[1]	Out[1]	IN[1]	Out[1]
1	2,747	46	68	130	110
2	5,770	25	56	303	272
3	911	(86)	(25)	105	81
4	(395)	(52)	54	10	(64)
5	6,360	223	95	293	361
	13,394	**156**	**247**	**841**	**760**

Notes:
1. Inbound/Outbound trip distribution based on ITE Trip Generation, 10th Edition.

TRIP DISTRIBUTION AND ASSIGNMENT

Project-generated vehicle trip distribution and assignment were based on existing travel patterns, roadway access and classification in proximity to the project site. Primarily, traffic from the project site was oriented toward the regional roadway network and the freeways but distributed based on the traffic analysis nodes and their proximity to the regional network. A figure showing the traffic analysis zones (TAZ) is shown on Figure 2 below.

Figure 2: Traffic Analysis Zones



Base Map Features

— — — Plan Area

+++++++ San Bernardino Metrolink Line

Traffic Analysis Zones

TAZ # - Zone Number

Source: MIG and City of Covina, 2018.

4 PROJECT TRAVEL DEMAND

"Travel demand" refers to the new trips generated by the planned development.

TRIP GENERATION

Trip generation for the project was calculated based on the existing and proposed land uses provided by MIG as shown in the Specific Plan. The project travel demand estimation was based on the methodologies and procedures obtained in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. The raw trip generation for proposed land use changes were reduced using the California Air Pollution Control Officers Association (CAPCOA) expected reduction factors based on parking and transportation demand management (TDM) recommendations contained in the Specific Plan. To be conservative, the values used for the reduction were assumed to be on the low end of the scale due to the general suburban and car-oriented nature of the region in and around the project site. The following reduction values were used:

- Mixed Use Districts/Projects – Transit Oriented Development = 1% to 10% (depended on proximity to transit and zoning of mixed use components)
- Unbundled Parking for new residential development = 1% (for multi-family only)
- Future Rideshare and Carshare Services = 0.5% (for residential and commercial only)

The net trip generation is shown on Table 3

Table 3: Net Trip Generation

Net Project Trip Generation					
Traffic Analysis Zone (TAZ)	Daily	AM		PM	
		IN[1]	Out[1]	IN[1]	Out[1]
1	2,747	46	68	130	110
2	5,770	25	56	303	272
3	911	(86)	(25)	105	81
4	(395)	(52)	54	10	(64)
5	6,360	223	95	293	361
	15,394	**156**	**247**	**841**	**760**

Notes:
1. Inbound/Outbound trip distribution based on ITE Trip Generation, 10th Edition.

TRIP DISTRIBUTION AND ASSIGNMENT

Project-generated vehicle trip distribution and assignment were based on existing travel patterns, roadway access and classification in proximity to the project site. Primarily, traffic from the project site was oriented toward the regional roadway network and the freeways but distributed based on the traffic analysis nodes and their proximity to the regional network. A figure showing the traffic analysis zones (TAZ) is shown on Figure 2 below.

Table 5 Future Conditions with Project: Intersection Level of Service

#	Intersection	Control Type[1]	Target LOS	AM Peak Hour			PM Peak Hour		
				V/C	LOS	V/C Change	V/C	LOS	V/C Change
1	Citrus Avenue & Front Street	Signal	C	0.26	A	0.01	0.34	A	0.01
2	Citrus Avenue & San Bernardino Road	Signal	C	0.71	C	0.01	0.74	C	0.01
3	Citrus Avenue & Badillo Street	Signal	C	0.78	C	0.01	0.74	C	0.01
4	Badillo Street & 2nd Avenue	Signal	C	0.56	A	0.01	0.58	A	0.01
5	San Bernardino Road & Barranca Avenue	Signal	C	0.63	B	0.01	0.60	A	0.01
6	2nd Avenue & Front Street	Unsignalized	C	0.12	A	0.01	0.18	A	0.01

In all cases, the project will not significantly impact any of the study intersections. In addition, the low level of traffic at 2nd Avenue & Front Street does not indicate a need to improve the intersection from an existing multi-way stop condition to a traffic signal.

BICYCLE NETWORK

The existing bicycle network is defined in the 2011 City Bicycle Master Plan. The Specific Plan is recommending one change to this network; the addition of a cycle track (Class IV) protected bike facility on 2nd Street from Badillo Street to San Bernardino Road. The installation of this facility will require the reduction in traffic lanes along 2nd Avenue from five lanes. The new configuration will have one through lane in each direction with a center two-way left turn lane (See Figures 3, 4, and 5). The reduction in traffic lanes will not significantly impact traffic conditions as show in Table 5. For this level of service analysis, it was assumed that traffic will all use the through lanes (to be conservative) and the hourly capacity of a through lane is 1,600 vehicles per hour (matches County of LA Guidelines and the 2010 Highway Capacity Manual).

Table 5: 2nd Street Narrowing

2nd Street	Traffic Volume	Target LOS	5 lanes		3 lanes	
			V/C	LOS	V/C	LOS
AM Peak	471	C	0.08	A	0.16	A
PM Peak	683	C	0.11	A	0.22	A

As you can see by the results, the V/C ratio is essentially cut in half because the street has half the throughput capacity. The very low traffic volumes along this street, with the inclusion of a two-way left turn lane will ensure that the traffic will continue to operate at a good level of service while providing safe left turn access to adjacent properties and at the intersections.

Figure 3: Proposed Bike Facilities

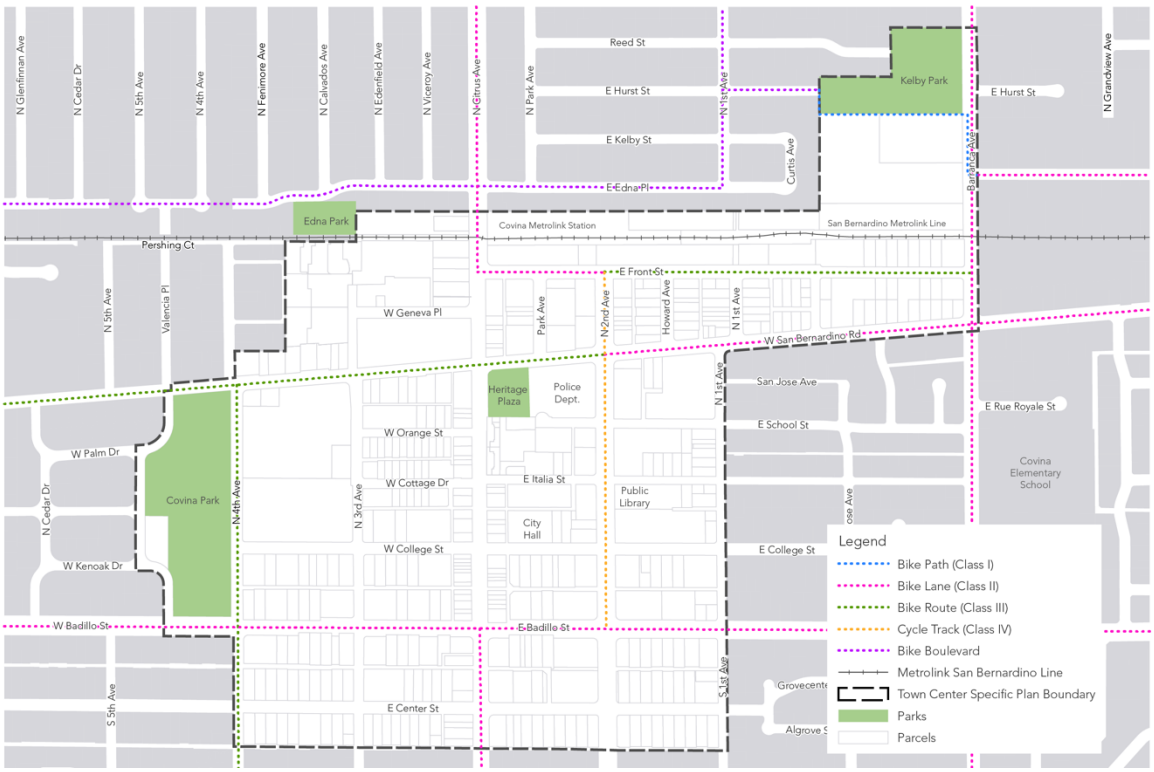


Figure 4: 2nd Street Cycle Track Bike Facility (Class IV) - Sample Cross-Section

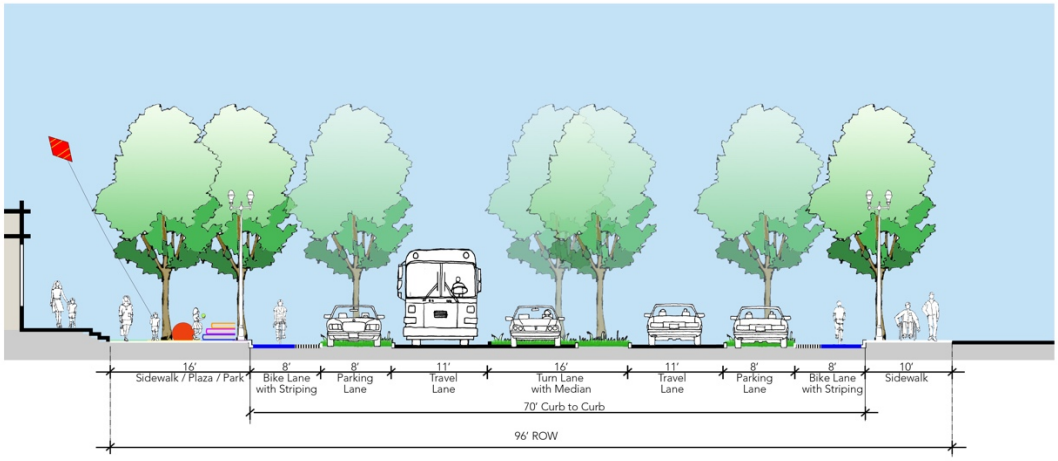


Figure 5: 2nd Street Cycle Track Bike Facility (Class IV) – Plan View

PEDESTRIAN NETWORK

Pedestrian facilities generally include sidewalks, crosswalks, curb ramps, pedestrian signals, and streetscape/landscape amenities. Within the Specific Plan area there are several existing pedestrian facilities that are currently adequate. See existing pedestrian facilities on Figure 6.

Figure 6: Existing Pedestrian Facilities

Based on review of the network and field observations, two areas are recommended for improvement; sidewalk along Front Street and the intersection of Citrus Ave and Badillo Street.

Sidewalk along Front Street

The sidewalk network is fairly complete except for some missing sections of sidewalk along Front Street between Howard Avenue and Barranca Avenue, with a short section along Curtis Avenue. The City should consider addressing the missing section of sidewalk through three methods:

1. Require new development along Front Street and Citrus Avenue to build missing sidewalk links.
2. Include the placement of sidewalk in these areas as a part of the City's annual sidewalk maintenance program.
3. Apply for a grant to install the missing sidewalk links.

Citrus Avenue and Badillo Street Intersection

The intersection of Citrus Avenue and Badillo Street is not very pedestrian or bicycle friendly. Crossing the street can be intimidating due to the crossing distances. These long distances also negatively affect the traffic signal operations because green time has to be taken away from Badillo Street to serve pedestrians using the long crossing across Citrus Avenue. In addition, there is not a clearly defined path of travel for bicycles along Badillo Street. This is partly due to the

inconsistent curb lines and vehicle lane widths. In order to address these concerns, the following improvements are proposed (see Figure 7):

- Narrow travel lanes to 11-feet (through) and 10-feet (left turns)
- Extend the existing curb lines along Badillo Street so that they align and provide better guidance and shorten the pedestrian crossing distance. This will also allow for shorter traffic signal crossing times, which will improve operations along Badillo Street.
- Add a shared bike/right turn lane westbound on Badillo Street
- Add a westbound bike box on Badillo Street at Citrus Avenue for bikes to wait out of the right turn pocket and allow right turn traffic to make right turns (see Figure 8 for example of the shared lane and bike box).
- Add green marked bike lane to the eastbound approach to the intersection to delineate where bikes can queue.

The proposed improvements will not take any vehicle travel lanes and will not negatively impact the intersection level of service. In fact, as mentioned above, the recommended changes will likely improve traffic operations because additional green time will be available for Badillo Street once the pedestrian crossings distances (and corresponding flashing "don't walk" times) are reduced.

Figure 7: Proposed Pedestrian and Bike Improvements at Citrus Avenue & Badillo Street

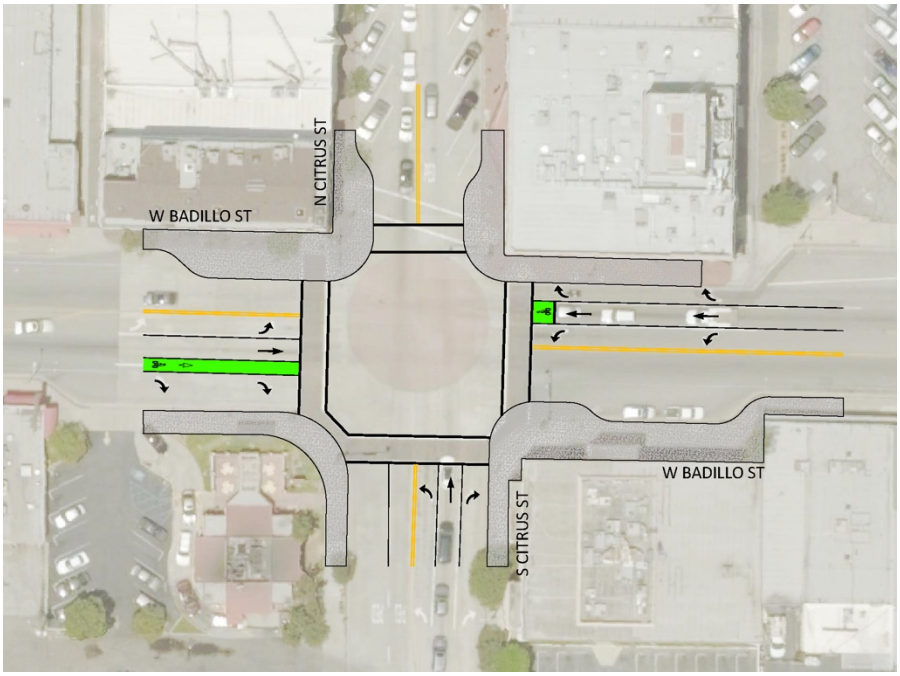


Figure 8: Shared Right Turn/Bike Lane with Bike Box Example

FUTURE TRAFFIC IMPACT CRITERIA

Background

The California Environmental Quality Act (CEQA) defines how public agencies in California evaluate the environmental impacts of projects and plans. Historically, automobile level of service (LOS), the measurement of roadway-segment or intersection delay, has been the primary analysis used to determine transportation impacts. The LOS methodology looks at the performance of individual intersections and grading the performance of the intersection based on a narrow morning or afternoon peak period of delay to car drivers, but not the physical impact on the environment. Additionally, mitigations or changes made to improve LOS such as widening a road, have been shown to increase VMT over the long term and degrade the performance and experience of other modes of travel (transit, biking, and walking).

With the passage of Senate Bill 743 (SB 743) in 2013, the state of California will be removing LOS as the CEQA environmental traffic impact criterion and replace it with alternative measures such as vehicle miles traveled (VMT). Once final guidelines are adopted, local agencies will have a mandatory transition deadline of January 2020.

There are various methods of calculating VMT, lead agencies (the jurisdictions and agencies that manage CEQA analyses, including the City of Covina) have discretion in defining the precise methodology they will use to analyze transportation impacts and mitigation measures. Agencies can use screening thresholds to quickly determine whether a project is likely to have a significant transportation impact, triggering more detailed analysis. As is the case for any project, if the lead

agency identifies a significant transportation impact, the agency must work with the project sponsor to identify feasible mitigation measures to avoid or substantially reduce the impact. The lead agency can select a limited set of preferred mitigation measures and alternatives appropriate to the local context. Mitigations that might best reduce vehicle miles traveled include implementing transportation demand management strategies; improving pedestrian, bicycle, and/or transit access; increasing density; and increasing the mix of uses. Also, because VMT is a largely regional impact, regional programs, including contributions to regional in-lieu fee programs, may be an appropriate form of mitigation,.

The City of Covina currently requires traffic impact studies to be completed in compliance with the County of Los Angeles guidelines. These guidelines use a standard volume to capacity (V/C) ratio method to determine the intersection level of service. For instance, if the V/C ratio is greater than 1.0, the intersection is considered overcapacity. The City of Covina's threshold for identifying an impact is 0.8. If this ratio is exceeded by traffic from a development, that development is required to fix the intersection in order for their project to be approved. The County of Los Angeles is currently preparing updated guidelines to meet the new CEQA requirements.

Recommendations

There are several paths forward for the City of Covina:

1. Adopt the OPR recommended guidelines to replace the City's existing criteria. While this may be the easiest path to take, the community may lose the ability to get transportation system improvements they want from new development.
2. Wait for the County of Los Angeles to adopt new criterial meeting the requirements of SB 743 and adopt those for the City as has been previously done. However, similar to option 1, the LA County criterial may not meet the City's needs and goals.
3. Create a City of Covina-specific set of guidelines that meet community needs and goals.

A more detailed review and set of recommendations are included in Appendix C.

APPENDICIES

Appendix A: Existing Traffic Volumes

Appendix B: Level of Service Calculations

Appendix C: Traffic Impact Levels of Service

APPENDIX A

Existing Traffic Volumes

Counts Unlimited, Inc

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Covina
Badillo Street
B/ 4th Avenue - 2nd Avenue
24 Hour Directional Volume Count

CVA008
Site Code: 007-16004

Start Time	26-Jan-16 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		12	120			6	109				
12:15		12	114			6	128				
12:30		11	118			5	132				
12:45		5	113	40	465	6	113	23	482	63	947
01:00		9	99			6	136				
01:15		7	113			8	115				
01:30		2	113			3	120				
01:45		8	135	26	460	2	115	19	486	45	946
02:00		5	137			3	136				
02:15		7	131			4	128				
02:30		5	156			4	137				
02:45		2	185	19	609	2	163	13	564	32	1173
03:00		3	213			3	123				
03:15		5	169			2	144				
03:30		7	200			4	141				
03:45		4	221	19	803	8	137	17	545	36	1348
04:00		5	185			7	156				
04:15		6	202			3	145				
04:30		11	211			15	**159**				
04:45		14	**206**	36	804	11	**139**	36	599	72	1403
05:00		17	**212**			24	**161**				
05:15		23	**226**			43	**173**				
05:30		30	**218**			96	141				
05:45		35	206	105	862	134	148	297	623	402	1485
06:00		37	211			182	143				
06:15		38	195			222	162				
06:30		55	164			**279**	142				
06:45		74	191	204	761	**267**	125	950	572	1154	1333
07:00		61	139			**279**	128				
07:15		89	139			**286**	80				
07:30		114	99			241	84				
07:45		**172**	115	436	492	246	79	1052	371	1488	863
08:00		**127**	79			233	89				
08:15		**162**	65			201	70				
08:30		**118**	60			210	80				
08:45		123	50	530	254	153	75	797	314	1327	568
09:00		94	57			140	54				
09:15		113	34			142	56				
09:30		112	50			138	55				
09:45		97	45	416	186	124	40	544	205	960	391
10:00		104	27			138	41				
10:15		94	28			124	32				
10:30		97	27			133	29				
10:45		109	23	404	105	138	16	533	118	937	223
11:00		96	18			117	19				
11:15		105	10			104	15				
11:30		119	12			117	19				
11:45		118	16	438	56	116	16	454	69	892	125
Total		2673	5857	2673	5857	4735	4948	4735	4948	7408	10805
Combined Total		8530		8530		9683		9683		18213	
AM Peak	-	07:45	-	-	-	06:30	-	-	-	-	-
Vol.	-	579	-	-	-	1111	-	-	-	-	-
P.H.F.		0.842				0.971					
PM Peak	-	-	04:45	-	-	-	04:30	-	-	-	-
Vol.	-	-	862	-	-	-	632	-	-	-	-
P.H.F.			0.954				0.913				
Percentage		31.3%	68.7%			48.9%	51.1%				
ADT/AADT		ADT 18,213		AADT 18,213							

Counts Unlimited, Inc

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email: counts@countsunlimited.com

City of Covina
Badillo Street
B/ 2nd Avenue - Barranca Avenue
24 Hour Directional Volume Count

CVA009
Site Code: 007-16004

Start Time	26-Jan-16 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		6	143			8	125				
12:15		6	111			4	155				
12:30		6	119			7	133				
12:45		11	128	29	501	4	115	23	528	52	1029
01:00		8	119			8	146				
01:15		3	129			4	123				
01:30		2	122			1	112				
01:45		4	119	17	489	1	116	14	497	31	986
02:00		5	125			1	126				
02:15		1	135			5	127				
02:30		4	138			0	153				
02:45		2	157	12	555	5	154	11	560	23	1115
03:00		1	202			1	120				
03:15		3	195			2	162				
03:30		6	182			3	138				
03:45		2	185	12	764	3	145	9	565	21	1329
04:00		5	185			6	144				
04:15		5	210			7	148				
04:30		14	206			20	151				
04:45		12	**224**	36	825	18	149	51	592	87	1417
05:00		12	**203**			35	**162**				
05:15		23	**225**			50	**167**				
05:30		19	**221**			117	**146**				
05:45		33	191	87	840	150	**166**	352	641	439	1481
06:00		28	186			191	148				
06:15		53	202			257	165				
06:30		49	155			**300**	159				
06:45		46	156	176	699	**335**	147	1083	619	1259	1318
07:00		71	127			**327**	134				
07:15		97	133			**361**	75				
07:30		**144**	124			270	91				
07:45		**151**	87	463	471	300	76	1258	376	1721	847
08:00		**123**	93			247	68				
08:15		**122**	63			250	67				
08:30		104	63			215	70				
08:45		95	118	444	337	207	52	919	257	1363	594
09:00		100	65			180	54				
09:15		91	49			156	42				
09:30		92	38			167	52				
09:45		98	57	381	209	140	42	643	190	1024	399
10:00		90	36			144	40				
10:15		81	43			128	23				
10:30		92	25			120	28				
10:45		88	29	351	133	134	14	526	105	877	238
11:00		112	10			128	14				
11:15		104	15			126	14				
11:30		98	15			119	17				
11:45		135	11	449	51	124	7	497	52	946	103
Total		2457	5874	2457	5874	5386	4982	5386	4982	7843	10856
Combined Total		8331		8331		10368		10368		18699	
AM Peak	-	07:30	-	-	-	06:30	-	-	-	-	-
Vol.	-	540	-	-	-	1323	-	-	-	-	-
P.H.F.		0.894				0.916					
PM Peak	-	-	04:45	-	-	-	05:00	-	-	-	-
Vol.	-	-	873	-	-	-	641	-	-	-	-
P.H.F.			0.970				0.960				
Percentage		29.5%	70.5%			51.9%	48.1%				
ADT/AADT		ADT 18,699		AADT 18,699							

Counts Unlimited, Inc

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email: counts@countsunlimited.com

City of Covina
Badillo Street
B/ Barranca Avenue - Grand Avenue
24 Hour Directional Volume Count

CVA010
Site Code: 007-16004

Start	28-Jan-16	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		9	118			10	110				
12:15		7	115			6	132				
12:30		6	100			7	117				
12:45		8	113	30	446	6	108	29	467	59	913
01:00		4	99			5	121				
01:15		6	109			6	123				
01:30		9	123			4	140				
01:45		2	121	21	452	2	128	17	512	38	964
02:00		3	128			4	130				
02:15		5	125			0	128				
02:30		3	149			3	143				
02:45		2	197	13	599	5	171	12	572	25	1171
03:00		2	204			1	141				
03:15		3	172			1	143				
03:30		3	160			3	129				
03:45		7	180	15	716	10	173	15	586	30	1302
04:00		3	174			3	133				
04:15		9	163			9	154				
04:30		16	216			17	154				
04:45		10	192	38	745	14	152	43	593	81	1338
05:00		16	**209**			34	**155**				
05:15		16	**177**			59	**148**				
05:30		24	**223**			93	**163**				
05:45		33	**198**	89	807	149	**184**	335	650	424	1457
06:00		40	184			181	141				
06:15		38	196			245	141				
06:30		37	161			239	138				
06:45		66	179	181	720	**296**	105	961	525	1142	1245
07:00		66	110			**278**	132				
07:15		75	132			**297**	94				
07:30		**120**	112			**240**	101				
07:45		**148**	106	409	460	264	79	1079	406	1488	866
08:00		**101**	96			208	72				
08:15		**100**	82			214	84				
08:30		89	71			199	74				
08:45		91	65	381	314	192	64	813	294	1194	608
09:00		76	78			154	61				
09:15		95	54			137	60				
09:30		90	51			129	43				
09:45		78	45	339	228	130	56	550	220	889	448
10:00		81	30			130	37				
10:15		80	33			133	32				
10:30		80	37			111	16				
10:45		81	21	322	121	131	21	505	106	827	227
11:00		81	21			133	24				
11:15		85	13			118	17				
11:30		102	22			114	16				
11:45		94	18	362	74	119	18	484	75	846	149
Total		2200	5682	2200	5682	4843	5006	4843	5006	7043	10688
Combined Total		7882		7882		9849		9849		17731	
AM Peak	-	07:30	-	-	-	06:45	-	-	-	-	-
Vol.	-	469	-	-	-	1111	-	-	-	-	-
P.H.F.		0.792				0.935					
PM Peak	-	-	05:00	-	-	-	05:00	-	-	-	-
Vol.	-	-	807	-	-	-	650	-	-	-	-
P.H.F.			0.905				0.883				
Percentage		27.9%	72.1%			49.2%	50.8%				
ADT/AADT		ADT 17,731		AADT 17,731							

Counts Unlimited, Inc

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Covina
Barranca Avenue
B/ Puente Street - San Bernardino Road
24 Hour Directional Volume Count

CVA015
Site Code: 007-16004

Start Time	20-Jan-16 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		15	170			14	138				
12:15		10	134			7	159				
12:30		14	185			11	167				
12:45		13	200	52	689	11	158	43	622	95	1311
01:00		9	152			3	157				
01:15		9	173			10	151				
01:30		7	146			6	139				
01:45		6	163	31	634	5	143	24	590	55	1224
02:00		8	136			6	165				
02:15		7	135			8	161				
02:30		7	146			8	181				
02:45		5	207	27	624	3	159	25	666	52	1290
03:00		8	172			7	146				
03:15		6	138			7	175				
03:30		5	166			4	163				
03:45		7	161	26	637	15	132	33	616	59	1253
04:00		6	172			8	168				
04:15		14	149			18	168				
04:30		15	**195**			22	188				
04:45		11	**188**	46	704	38	211	86	735	132	1439
05:00		27	**192**			55	190				
05:15		39	**178**			50	**183**				
05:30		45	171			64	**210**				
05:45		57	147	168	688	47	**192**	216	775	384	1463
06:00		56	179			62	**221**				
06:15		54	133			49	161				
06:30		95	138			96	169				
06:45		104	129	309	579	106	114	313	665	622	1244
07:00		104	122			114	125				
07:15		139	105			**165**	85				
07:30		**235**	116			**218**	110				
07:45		**244**	124	722	467	**164**	93	661	413	1383	880
08:00		**167**	112			**156**	66				
08:15		**156**	92			157	84				
08:30		141	114			154	70				
08:45		144	83	608	401	132	64	599	284	1207	685
09:00		126	75			123	41				
09:15		122	64			92	57				
09:30		112	73			113	57				
09:45		95	75	455	287	113	62	441	217	896	504
10:00		120	66			114	48				
10:15		121	54			102	35				
10:30		122	51			114	44				
10:45		143	51	506	222	127	21	457	148	963	370
11:00		153	41			125	25				
11:15		151	29			119	17				
11:30		128	27			147	4				
11:45		143	25	575	122	141	15	532	61	1107	183
Total		3525	6054	3525	6054	3430	5792	3430	5792	6955	11846
Combined Total		9579		9579		9222		9222		18801	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	802	-	-	-	703	-	-	-	-	-
P.H.F.		0.822				0.806					
PM Peak	-	-	04:30	-	-	-	05:15	-	-	-	-
Vol.	-	-	753	-	-	-	806	-	-	-	-
P.H.F.			0.965				0.912				
Percentage		36.8%	63.2%			37.2%	62.8%				
ADT/AADT		ADT 18,801		AADT 18,801							

Counts Unlimited, Inc

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City of Covina
Barranca Avenue
B/ San Bernardino Road - Covina Boulevard
24 Hour Directional Volume Count

CVA016
Site Code: 007-16004

Start Time	20-Jan-16 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		14	170			13	158				
12:15		9	161			8	184				
12:30		18	199			9	162				
12:45		17	203	58	733	11	161	41	665	99	1398
01:00		7	204			8	185				
01:15		11	197			10	149				
01:30		6	171			5	162				
01:45		4	207	28	779	5	153	28	649	56	1428
02:00		9	168			5	183				
02:15		6	167			8	180				
02:30		6	153			8	217				
02:45		5	230	26	718	5	190	26	770	52	1488
03:00		9	185			5	167				
03:15		5	169			7	194				
03:30		5	194			7	212				
03:45		9	201	28	749	11	152	30	725	58	1474
04:00		8	207			9	184				
04:15		9	200			27	188				
04:30		14	**217**			25	209				
04:45		17	**231**	48	855	36	202	97	783	145	1638
05:00		30	**228**			55	209				
05:15		34	**219**			48	179				
05:30		44	216			75	**200**				
05:45		49	157	157	820	73	**241**	251	829	408	1649
06:00		57	178			74	**262**				
06:15		61	168			70	**188**				
06:30		84	143			106	184				
06:45		100	153	302	642	133	121	383	755	685	1397
07:00		90	149			152	108				
07:15		126	118			203	88				
07:30		**226**	99			**278**	89				
07:45		**238**	135	680	501	**225**	102	858	387	1538	888
08:00		**181**	109			**203**	61				
08:15		**167**	113			**215**	85				
08:30		112	128			179	58				
08:45		145	101	605	451	170	55	767	259	1372	710
09:00		138	85			166	54				
09:15		133	68			119	54				
09:30		129	66			152	43				
09:45		116	75	516	294	130	61	567	212	1083	506
10:00		135	66			121	43				
10:15		134	54			125	36				
10:30		132	49			139	37				
10:45		167	45	568	214	138	25	523	141	1091	355
11:00		154	42			139	23				
11:15		153	34			136	16				
11:30		136	29			167	11				
11:45		171	25	614	130	162	14	604	64	1218	194
Total		3630	6886	3630	6886	4175	6239	4175	6239	7805	13125
Combined Total		10516		10516		10414		10414		20930	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	812	-	-	-	921	-	-	-	-	-
P.H.F.		0.853				0.828					
PM Peak	-	-	04:30	-	-	-	05:30	-	-	-	-
Vol.	-	-	895	-	-	-	891	-	-	-	-
P.H.F.			0.969				0.850				
Percentage		34.5%	65.5%			40.1%	59.9%				
ADT/AADT		ADT 20,930		AADT 20,930							

Counts Unlimited, Inc

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City of Covina
Citrus Avenue
B/ Puente Street - Badillo Street
24 Hour Directional Volume Count

CVA022
Site Code: 007-16004

Start Time	28-Jan-16 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		22	147			28	**168**				
12:15		30	**142**			30	**148**				
12:30		20	**151**			21	**166**				
12:45		15	**156**	87	596	12	**174**	91	656	178	1252
01:00		8	**163**			18	141				
01:15		7	121			15	146				
01:30		12	171			28	153				
01:45		14	147	41	602	18	137	79	577	120	1179
02:00		9	156			7	164				
02:15		8	112			7	129				
02:30		6	135			7	163				
02:45		12	140	35	543	9	168	30	624	65	1167
03:00		4	158			4	138				
03:15		5	150			2	152				
03:30		3	153			10	148				
03:45		8	139	20	600	12	152	28	590	48	1190
04:00		5	149			17	144				
04:15		9	143			17	174				
04:30		12	147			26	150				
04:45		13	133	39	572	30	155	90	623	129	1195
05:00		23	168			39	128				
05:15		25	144			36	162				
05:30		37	142			52	147				
05:45		28	129	113	583	45	140	172	577	285	1160
06:00		44	124			47	155				
06:15		54	126			50	150				
06:30		69	136			64	154				
06:45		89	123	256	509	72	131	233	590	489	1099
07:00		94	141			105	111				
07:15		100	149			98	152				
07:30		121	130			141	119				
07:45		141	123	456	543	130	106	474	488	930	1031
08:00		140	100			115	130				
08:15		129	101			107	96				
08:30		123	88			100	81				
08:45		101	78	493	367	126	82	448	389	941	756
09:00		144	105			110	95				
09:15		112	85			112	79				
09:30		110	72			113	66				
09:45		137	59	503	321	120	88	455	328	958	649
10:00		**153**	81			143	79				
10:15		**121**	58			128	64				
10:30		**130**	38			122	52				
10:45		**149**	42	553	219	123	40	516	235	1069	454
11:00		128	41			**167**	28				
11:15		137	24			**160**	36				
11:30		138	30			**138**	29				
11:45		141	21	544	116	**141**	28	606	121	1150	237
Total		3140	5571	3140	5571	3222	5798	3222	5798	6362	11369
Combined Total		8711		8711		9020		9020		17731	
AM Peak	-	10:00	-	-	-	11:00	-	-	-	-	-
Vol.	-	553	-	-	-	606	-	-	-	-	-
P.H.F.		0.904				0.907					
PM Peak	-	-	00:15	-	-	-	12:00	-	-	-	-
Vol.	-	-	612	-	-	-	656	-	-	-	-
P.H.F.			0.939				0.943				
Percentage		36.0%	64.0%			35.7%	64.3%				
ADT/AADT		ADT 17,731		AADT 17,731							

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City of Covina
Citrus Avenue
B/ Badillo Street - San Bernardino Road
24 Hour Directional Volume Count

CVA023
Site Code: 007-16004

Start Time	28-Jan-16 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		23	106			12	**120**				
12:15		25	104			12	**106**				
12:30		18	96			18	**127**				
12:45		16	86	82	392	7	**122**	49	475	131	867
01:00		7	119			6	100				
01:15		6	90			8	115				
01:30		14	120			8	88				
01:45		14	100	41	429	9	105	31	408	72	837
02:00		13	107			5	119				
02:15		11	85			5	100				
02:30		4	76			4	103				
02:45		9	105	37	373	4	119	18	441	55	814
03:00		2	115			2	101				
03:15		2	101			2	117				
03:30		1	107			11	109				
03:45		5	107	10	430	11	110	26	437	36	867
04:00		1	92			15	93				
04:15		4	89			11	121				
04:30		10	107			24	97				
04:45		7	**102**	22	390	20	115	70	426	92	816
05:00		15	**129**			27	95				
05:15		15	**109**			32	97				
05:30		24	**114**			43	102				
05:45		19	99	73	451	28	108	130	402	203	853
06:00		33	96			30	122				
06:15		29	87			38	102				
06:30		45	81			57	103				
06:45		59	90	166	354	54	119	179	446	345	800
07:00		57	87			85	87				
07:15		46	97			90	116				
07:30		78	90			101	94				
07:45		97	94	278	368	82	100	358	397	636	765
08:00		86	83			95	64				
08:15		83	73			71	68				
08:30		81	63			83	63				
08:45		52	74	302	293	101	70	350	265	652	558
09:00		71	82			85	62				
09:15		69	69			86	33				
09:30		77	58			97	37				
09:45		77	62	294	271	84	50	352	182	646	453
10:00		79	62			84	53				
10:15		79	41			100	33				
10:30		87	30			101	37				
10:45		94	35	339	168	**89**	29	374	152	713	320
11:00		**83**	25			**108**	26				
11:15		**72**	27			**97**	26				
11:30		**98**	23			**110**	17				
11:45		**104**	21	357	96	82	21	397	90	754	186
Total		2001	4015	2001	4015	2334	4121	2334	4121	4335	8136
Combined Total		6016		6016		6455		6455		12471	
AM Peak	-	11:00	-	-	-	10:45	-	-	-	-	-
Vol.	-	357	-	-	-	404	-	-	-	-	-
P.H.F.		0.858				0.918					
PM Peak	-	-	04:45	-	-	-	12:00	-	-	-	-
Vol.	-	-	454	-	-	-	475	-	-	-	-
P.H.F.			0.880				0.935				
Percentage		33.3%	66.7%			36.2%	63.8%				
ADT/AADT		ADT 12,471		AADT 12,471							

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City of Covina
Citrus Avenue
B/ San Bernardino Road - Covina Avenue
24 Hour Directional Volume Count

CVA024
Site Code: 007-16004

Start	28-Jan-16	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		17	145			13	148				
12:15		27	131			12	125				
12:30		18	122			17	**157**				
12:45		16	106	78	504	9	**147**	51	577	129	1081
01:00		6	132			6	**129**				
01:15		7	122			11	**153**				
01:30		12	127			10	112				
01:45		15	123	40	504	9	138	36	532	76	1036
02:00		11	160			7	142				
02:15		12	117			11	140				
02:30		5	126			5	137				
02:45		8	158	36	561	5	130	28	549	64	1110
03:00		6	162			3	139				
03:15		3	124			4	139				
03:30		3	172			12	146				
03:45		3	155	15	613	11	132	30	556	45	1169
04:00		4	161			12	132				
04:15		6	142			17	162				
04:30		11	189			38	122				
04:45		8	172	29	664	25	152	92	568	121	1232
05:00		21	187			47	140				
05:15		19	**212**			49	113				
05:30		34	**210**			63	139				
05:45		34	**162**	108	771	54	150	213	542	321	1313
06:00		43	**218**			74	153				
06:15		52	129			39	126				
06:30		42	153			102	125				
06:45		58	125	195	625	125	150	340	554	535	1179
07:00		89	124			120	132				
07:15		75	122			**123**	138				
07:30		92	117			**152**	116				
07:45		116	134	372	497	**140**	106	535	492	907	989
08:00		101	110			**121**	87				
08:15		93	98			114	87				
08:30		79	77			141	76				
08:45		75	84	348	369	145	78	521	328	869	697
09:00		87	101			119	73				
09:15		83	83			112	54				
09:30		114	78			115	54				
09:45		93	67	377	329	112	57	458	238	835	567
10:00		113	65			103	54				
10:15		93	52			118	32				
10:30		99	35			119	41				
10:45		**118**	38	423	190	131	35	471	162	894	352
11:00		**122**	32			138	24				
11:15		**104**	30			120	36				
11:30		**126**	24			134	18				
11:45		88	29	440	115	123	27	515	105	955	220
Total		2461	5742	2461	5742	3290	5203	3290	5203	5751	10945
Combined Total		8203		8203		8493		8493		16696	
AM Peak	-	10:45	-	-	-	07:15	-	-	-	-	-
Vol.	-	470	-	-	-	536	-	-	-	-	-
P.H.F.		0.933				0.882					
PM Peak	-	-	05:15	-	-	-	00:30	-	-	-	-
Vol.	-	-	802	-	-	-	586	-	-	-	-
P.H.F.			0.920				0.933				
Percentage		30.0%	70.0%			38.7%	61.3%				
ADT/AADT		ADT 16,696		AADT 16,696							

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City of Covina
San Bernardino Road
B/ Hollenbeck Avenue - Citrus Avenue
24 Hour Directional Volume Count

CVA068
Site Code: 007-16004

Start	28-Jan-16	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		6	110			4	93				
12:15		0	105			1	89				
12:30		2	104			3	74				
12:45		2	107	10	426	4	97	12	353	22	779
01:00		3	108			4	77				
01:15		1	98			4	66				
01:30		1	108			2	87				
01:45		0	123	5	437	7	77	17	307	22	744
02:00		2	118			7	91				
02:15		3	122			0	82				
02:30		1	128			0	92				
02:45		2	173	8	541	2	97	9	362	17	903
03:00		1	135			3	92				
03:15		2	172			2	84				
03:30		1	148			6	87				
03:45		8	146	12	601	0	98	11	361	23	962
04:00		1	149			7	76				
04:15		4	154			12	93				
04:30		6	**153**			13	70				
04:45		7	**166**	18	622	9	**98**	41	337	59	959
05:00		9	**170**			16	**91**				
05:15		15	**165**			32	**108**				
05:30		18	151			33	**92**				
05:45		18	120	60	606	46	92	127	383	187	989
06:00		20	127			70	73				
06:15		38	96			110	69				
06:30		37	103			**138**	53				
06:45		50	99	145	425	**150**	54	468	249	613	674
07:00		66	79			**151**	52				
07:15		79	75			**168**	42				
07:30		116	70			129	45				
07:45		85	61	346	285	131	36	579	175	925	460
08:00		85	47			127	28				
08:15		63	46			107	37				
08:30		75	43			91	45				
08:45		82	53	305	189	90	33	415	143	720	332
09:00		98	37			77	28				
09:15		76	27			63	19				
09:30		82	29			77	23				
09:45		86	25	342	118	58	20	275	90	617	208
10:00		78	22			78	14				
10:15		81	13			79	11				
10:30		85	19			58	22				
10:45		69	23	313	77	80	10	295	57	608	134
11:00		**95**	8			73	11				
11:15		**108**	14			106	6				
11:30		**131**	10			81	5				
11:45		**111**	10	445	42	105	7	365	29	810	71
Total		2009	4369	2009	4369	2614	2846	2614	2846	4623	7215
Combined Total		6378		6378		5460		5460		11838	
AM Peak	-	11:00	-	-	-	06:30	-	-	-	-	-
Vol.	-	445	-	-	-	607	-	-	-	-	-
P.H.F.		0.849				0.903					
PM Peak	-	-	04:30	-	-	-	04:45	-	-	-	-
Vol.	-	-	654	-	-	-	389	-	-	-	-
P.H.F.			0.962				0.900				
Percentage		31.5%	68.5%			47.9%	52.1%				
ADT/AADT		ADT 11,838		AADT 11,838							

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City of Covina
San Bernardino Road
B/ Citrus Avenue - Barranca Avenue
24 Hour Directional Volume Count

CVA069
Site Code: 007-16004

Start	28-Jan-16	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	113			2	96				
12:15		5	116			4	91				
12:30		4	129			2	90				
12:45		3	110	16	468	0	79	8	356	24	824
01:00		2	105			4	78				
01:15		2	113			4	102				
01:30		4	94			5	82				
01:45		2	116	10	428	0	86	13	348	23	776
02:00		3	112			8	89				
02:15		3	131			3	90				
02:30		2	128			1	101				
02:45		2	125	10	496	3	105	15	385	25	881
03:00		3	153			0	101				
03:15		1	131			2	87				
03:30		2	140			0	90				
03:45		0	142	6	566	2	93	4	371	10	937
04:00		2	149			1	86				
04:15		3	141			6	95				
04:30		1	162			9	**126**				
04:45		10	136	16	588	12	**82**	28	389	44	977
05:00		9	**174**			15	**110**				
05:15		6	**157**			16	**102**				
05:30		16	**170**			31	96				
05:45		13	**149**	44	650	41	100	103	408	147	1058
06:00		24	151			47	70				
06:15		20	113			60	80				
06:30		35	103			98	73				
06:45		36	93	115	460	123	52	328	275	443	735
07:00		40	91			**139**	43				
07:15		59	92			**148**	55				
07:30		74	61			**158**	44				
07:45		105	64	278	308	**124**	39	569	181	847	489
08:00		76	54			127	34				
08:15		86	59			115	30				
08:30		61	41			100	41				
08:45		88	40	311	194	97	27	439	132	750	326
09:00		85	47			89	21				
09:15		73	37			71	18				
09:30		69	25			92	16				
09:45		89	21	316	130	79	13	331	68	647	198
10:00		86	38			76	25				
10:15		64	26			85	15				
10:30		72	15			82	10				
10:45		74	13	296	92	80	14	323	64	619	156
11:00		**81**	16			82	8				
11:15		**101**	12			72	5				
11:30		**106**	11			108	6				
11:45		**128**	8	416	47	97	3	359	22	775	69
Total		1834	4427	1834	4427	2520	2999	2520	2999	4354	7426
Combined Total		6261		6261		5519		5519		11780	
AM Peak	-	11:00	-	-	-	07:00	-	-	-	-	-
Vol.	-	416	-	-	-	569	-	-	-	-	-
P.H.F.		0.813				0.900					
PM Peak	-	-	05:00	-	-	-	04:30	-	-	-	-
Vol.	-	-	650	-	-	-	420	-	-	-	-
P.H.F.			0.934				0.833				
Percentage		29.3%	70.7%			45.7%	54.3%				
ADT/AADT		ADT 11,780		AADT 11,780							

Counts Unlimited, Inc

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Covina
San Bernardino Road
B/ Barranca Avenue - Grand Avenue
24 Hour Directional Volume Count

CVA070
Site Code: 007-16004

Start	28-Jan-16	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	98			4	74				
12:15		6	92			4	75				
12:30		4	77			3	79				
12:45		2	105	14	372	1	83	12	311	26	683
01:00		3	101			6	77				
01:15		2	95			3	77				
01:30		1	84			5	70				
01:45		2	62	8	342	0	84	14	308	22	650
02:00		4	102			3	71				
02:15		2	100			3	76				
02:30		1	98			0	77				
02:45		1	104	8	404	1	77	7	301	15	705
03:00		3	123			0	71				
03:15		3	106			1	67				
03:30		2	119			1	74				
03:45		0	115	8	463	2	78	4	290	12	753
04:00		2	110			1	66				
04:15		4	102			4	69				
04:30		1	**134**			6	**105**				
04:45		11	**115**	18	461	8	**68**	19	308	37	769
05:00		10	**139**			9	**82**				
05:15		6	**135**			10	**84**				
05:30		11	129			21	62				
05:45		12	115	39	518	36	89	76	317	115	835
06:00		12	98			35	59				
06:15		24	101			40	66				
06:30		28	75			73	61				
06:45		35	89	99	363	**92**	47	240	233	339	596
07:00		34	74			**113**	41				
07:15		46	73			**99**	47				
07:30		57	53			**101**	53				
07:45		86	52	223	252	90	31	403	172	626	424
08:00		64	51			108	34				
08:15		74	50			77	25				
08:30		53	33			90	43				
08:45		54	40	245	174	74	23	349	125	594	299
09:00		72	33			78	22				
09:15		70	27			56	20				
09:30		59	29			63	15				
09:45		51	19	252	108	67	16	264	73	516	181
10:00		85	29			56	18				
10:15		53	23			58	15				
10:30		59	13			75	7				
10:45		75	13	272	78	65	11	254	51	526	129
11:00		**64**	19			63	6				
11:15		**80**	12			55	7				
11:30		**75**	13			71	5				
11:45		**102**	11	321	55	75	4	264	22	585	77
Total		1507	3590	1507	3590	1906	2511	1906	2511	3413	6101
Combined Total		5097		5097		4417		4417		9514	
AM Peak	-	11:00	-	-	-	06:45	-	-	-	-	-
Vol.	-	321	-	-	-	405	-	-	-	-	-
P.H.F.		0.787				0.896					
PM Peak	-	-	04:30	-	-	-	04:30	-	-	-	-
Vol.	-	-	523	-	-	-	339	-	-	-	-
P.H.F.			0.941				0.807				
Percentage		29.6%	70.4%			43.2%	56.8%				
ADT/AADT		ADT 9,514		AADT 9,514							

Counts Unlimited, Inc

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Covina
Second Avenue
B/ Rowland Avenue - Badillo Street
24 Hour Directional Volume Count

CVA071
Site Code: 007-16004

Start	20-Jan-16	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Wed	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		6	78			6	92				
12:15		2	84			5	79				
12:30		5	90			3	80				
12:45		1	72	14	324	1	83	15	334	29	658
01:00		6	73			4	87				
01:15		0	72			1	71				
01:30		3	69			2	85				
01:45		3	57	12	271	2	76	9	319	21	590
02:00		3	68			2	87				
02:15		0	68			5	65				
02:30		1	71			0	84				
02:45		0	75	4	282	2	82	9	318	13	600
03:00		1	81			3	74				
03:15		4	73			1	76				
03:30		4	80			2	80				
03:45		1	75	10	309	1	79	7	309	17	618
04:00		3	84			3	86				
04:15		5	74			2	76				
04:30		6	94			3	**93**				
04:45		9	80	23	332	5	**93**	13	348	36	680
05:00		11	89			3	**127**				
05:15		16	79			7	**103**				
05:30		13	**78**			17	75				
05:45		14	**78**	54	324	19	74	46	379	100	703
06:00		15	**94**			23	104				
06:15		23	**96**			39	55				
06:30		22	61			52	95				
06:45		42	73	102	324	52	74	166	328	268	652
07:00		44	66			58	64				
07:15		59	44			**88**	47				
07:30		**61**	35			**102**	36				
07:45		**78**	37	242	182	**100**	48	348	195	590	377
08:00		**75**	59			**65**	50				
08:15		**70**	38			65	37				
08:30		45	32			65	34				
08:45		64	28	254	157	79	35	274	156	528	313
09:00		48	32			51	33				
09:15		34	20			56	29				
09:30		43	24			58	17				
09:45		45	19	170	95	60	16	225	95	395	190
10:00		38	13			59	24				
10:15		41	14			49	11				
10:30		51	7			51	13				
10:45		73	9	203	43	67	7	226	55	429	98
11:00		67	6			66	8				
11:15		73	5			64	2				
11:30		55	1			63	4				
11:45		62	4	257	16	55	3	248	17	505	33
Total		1345	2659	1345	2659	1586	2853	1586	2853	2931	5512
Combined Total		4004		4004		4439		4439		8443	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	284	-	-	-	355	-	-	-	-	-
P.H.F.		0.910				0.870					
PM Peak	-	-	05:30	-	-	-	04:30	-	-	-	-
Vol.	-	-	346	-	-	-	416	-	-	-	-
P.H.F.			0.901				0.819				
Percentage		33.6%	66.4%			35.7%	64.3%				
ADT/AADT		ADT 8,443		AADT 8,443							

Counts Unlimited, Inc

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Corona, CA 92878
Phone: 951-268-6268
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City of Covina
Second Avenue
B/ Badillo Street - Front Street
24 Hour Directional Volume Count

CVA072
Site Code: 007-16004

Start Time	20-Jan-16 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		3	66			4	60				
12:15		4	76			1	70				
12:30		2	94			4	71				
12:45		1	81	10	317	0	70	9	271	19	588
01:00		6	66			2	81				
01:15		0	84			0	69				
01:30		3	77			2	82				
01:45		3	64	12	291	7	70	11	302	23	593
02:00		2	67			1	76				
02:15		1	55			3	60				
02:30		0	76			0	77				
02:45		0	74	3	272	2	73	6	286	9	558
03:00		2	64			4	63				
03:15		4	87			0	66				
03:30		2	65			2	64				
03:45		2	77	10	293	1	76	7	269	17	562
04:00		1	77			1	77				
04:15		2	**83**			2	73				
04:30		4	**102**			3	**80**				
04:45		8	**79**	15	341	3	**83**	9	313	24	654
05:00		7	**82**			3	**101**				
05:15		17	81			7	**82**				
05:30		9	85			7	69				
05:45		19	83	52	331	11	61	28	313	80	644
06:00		24	83			10	97				
06:15		33	78			17	49				
06:30		31	57			20	73				
06:45		44	65	132	283	31	47	78	266	210	549
07:00		63	51			35	70				
07:15		39	35			50	44				
07:30		64	39			**69**	36				
07:45		73	36	239	161	**59**	46	213	196	452	357
08:00		58	34			**46**	41				
08:15		58	30			**59**	27				
08:30		47	20			54	40				
08:45		61	31	224	115	61	26	220	134	444	249
09:00		51	24			56	17				
09:15		59	22			51	29				
09:30		56	11			51	12				
09:45		42	19	208	76	50	16	208	74	416	150
10:00		53	12			52	15				
10:15		39	6			50	12				
10:30		**67**	7			56	13				
10:45		**66**	5	225	30	47	3	205	43	430	73
11:00		**61**	4			45	5				
11:15		**60**	2			69	3				
11:30		49	2			49	3				
11:45		66	2	236	10	54	4	217	15	453	25
Total		1366	2520	1366	2520	1211	2482	1211	2482	2577	5002
Combined Total		3886		3886		3693		3693		7579	
AM Peak	-	10:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	254	-	-	-	233	-	-	-	-	-
P.H.F.		0.870				0.844					
PM Peak	-	-	04:15	-	-	-	04:30	-	-	-	-
Vol.	-	-	346	-	-	-	346	-	-	-	-
P.H.F.			0.848				0.856				
Percentage		35.2%	64.8%			32.8%	67.2%				
ADT/AADT		ADT 7,579		AADT 7,579							

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: CITRUS AVENUE
E-W Direction: FRONT STREET

File Name : H1805003
Site Code : 00000000
Start Date : 5/9/2018
Page No : 1

Groups Printed- Turning Movements

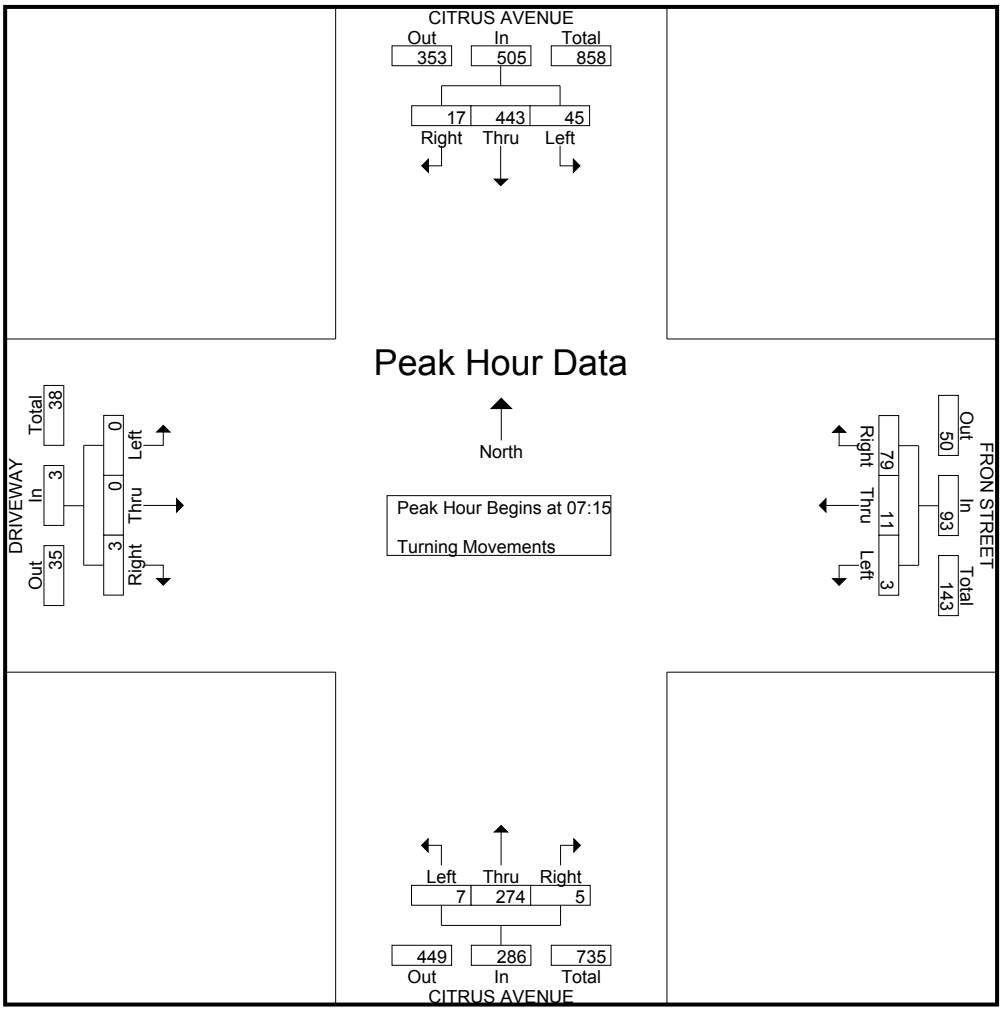
	CITRUS AVENUE Southbound			FRON STREET Westbound			CITRUS AVENUE Northbound			DRIVEWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	16	53	8	18	10	0	0	35	3	1	0	0	144
07:15	2	99	9	11	1	1	0	56	0	1	0	0	180
07:30	9	108	13	25	5	0	1	52	4	0	0	0	217
07:45	5	104	11	25	4	0	2	79	3	1	0	0	234
Total	32	364	41	79	20	1	3	222	10	3	0	0	775
08:00	1	132	12	18	1	2	2	87	0	1	0	0	256
08:15	3	77	17	18	0	1	1	58	0	0	0	0	175
08:30	2	92	12	14	4	0	0	80	1	0	0	1	206
08:45	8	106	7	14	0	2	0	82	2	1	0	1	223
Total	14	407	48	64	5	5	3	307	3	2	0	2	860
*** BREAK ***													
16:00	2	93	6	26	1	0	6	101	2	1	1	1	240
16:15	1	116	14	25	1	4	1	107	2	9	4	8	292
16:30	1	121	16	33	0	3	1	94	4	2	8	8	291
16:45	3	109	11	30	1	4	3	114	0	1	1	1	278
Total	7	439	47	114	3	11	11	416	8	13	14	18	1101
17:00	0	115	12	34	1	2	2	128	2	8	2	9	315
17:15	1	95	15	28	0	2	2	112	1	3	5	8	272
17:30	0	114	11	26	0	3	2	92	1	9	6	6	270
17:45	5	118	8	23	0	3	3	100	1	1	2	6	270
Total	6	442	46	111	1	10	9	432	5	21	15	29	1127
Grand Total	59	1652	182	368	29	27	26	1377	26	39	29	49	3863
Apprch %	3.1	87.3	9.6	86.8	6.8	6.4	1.8	96.4	1.8	33.3	24.8	41.9	
Total %	1.5	42.8	4.7	9.5	0.8	0.7	0.7	35.6	0.7	1	0.8	1.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: CITRUS AVENUE
E-W Direction: FRONT STREET

File Name : H1805003
Site Code : 00000000
Start Date : 5/9/2018
Page No : 2

	CITRUS AVENUE Southbound				FRON STREET Westbound				CITRUS AVENUE Northbound				DRIVEWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	2	99	9	110	11	1	1	13	0	56	0	56	**1**	0	0	**1**	180
07:30	**9**	108	**13**	130	**25**	**5**	0	**30**	1	52	**4**	57	0	0	0	0	217
07:45	5	104	11	120	25	4	0	29	**2**	79	3	84	1	0	0	1	234
08:00	1	**132**	12	**145**	18	1	**2**	21	2	**87**	0	**89**	1	0	0	1	**256**
Total Volume	17	443	45	505	79	11	3	93	5	274	7	286	3	0	0	3	887
% App. Total	3.4	87.7	8.9		84.9	11.8	3.2		1.7	95.8	2.4		100	0	0		
PHF	.472	.839	.865	.871	.790	.550	.375	.775	.625	.787	.438	.803	.750	.000	.000	.750	.866

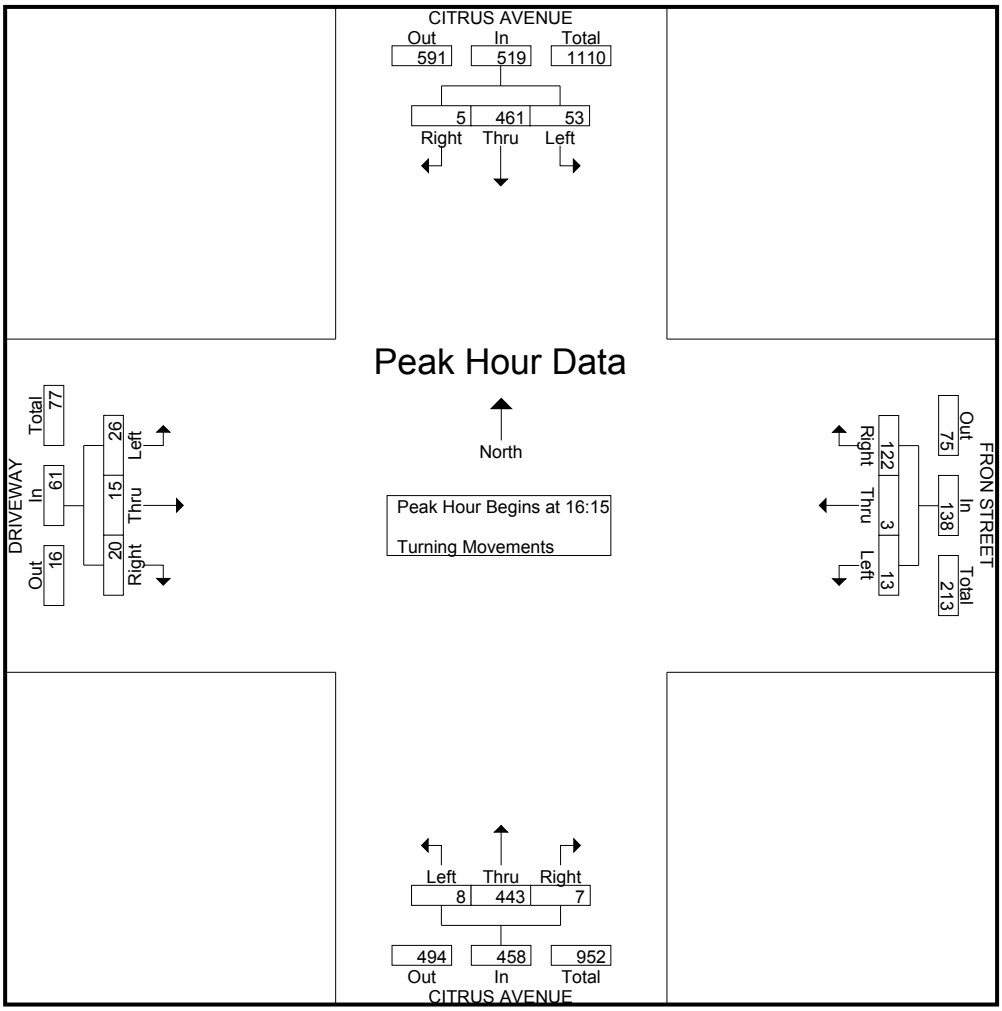


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: CITRUS AVENUE
E-W Direction: FRONT STREET

File Name : H1805003
Site Code : 00000000
Start Date : 5/9/2018
Page No : 3

	CITRUS AVENUE Southbound				FRON STREET Westbound				CITRUS AVENUE Northbound				DRIVEWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	1	116	14	131	25	**1**	**4**	30	1	107	2	110	**9**	4	8	**21**	292
16:30	1	**121**	**16**	**138**	33	0	3	36	1	94	**4**	99	2	**8**	8	18	291
16:45	**3**	109	11	123	30	1	4	35	**3**	114	0	117	1	1	1	3	278
17:00	0	115	12	127	**34**	1	2	**37**	2	**128**	2	**132**	8	2	**9**	19	**315**
Total Volume	5	461	53	519	122	3	13	138	7	443	8	458	20	15	26	61	1176
% App. Total	1	88.8	10.2		88.4	2.2	9.4		1.5	96.7	1.7		32.8	24.6	42.6		
PHF	.417	.952	.828	.940	.897	.750	.813	.932	.583	.865	.500	.867	.556	.469	.722	.726	.933



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: CITRUS AVENUE
E-W Direction: SAN BERNARDINO ROAD

File Name : H1805004
Site Code : 00000000
Start Date : 5/9/2018
Page No : 1

Groups Printed- Turning Movements

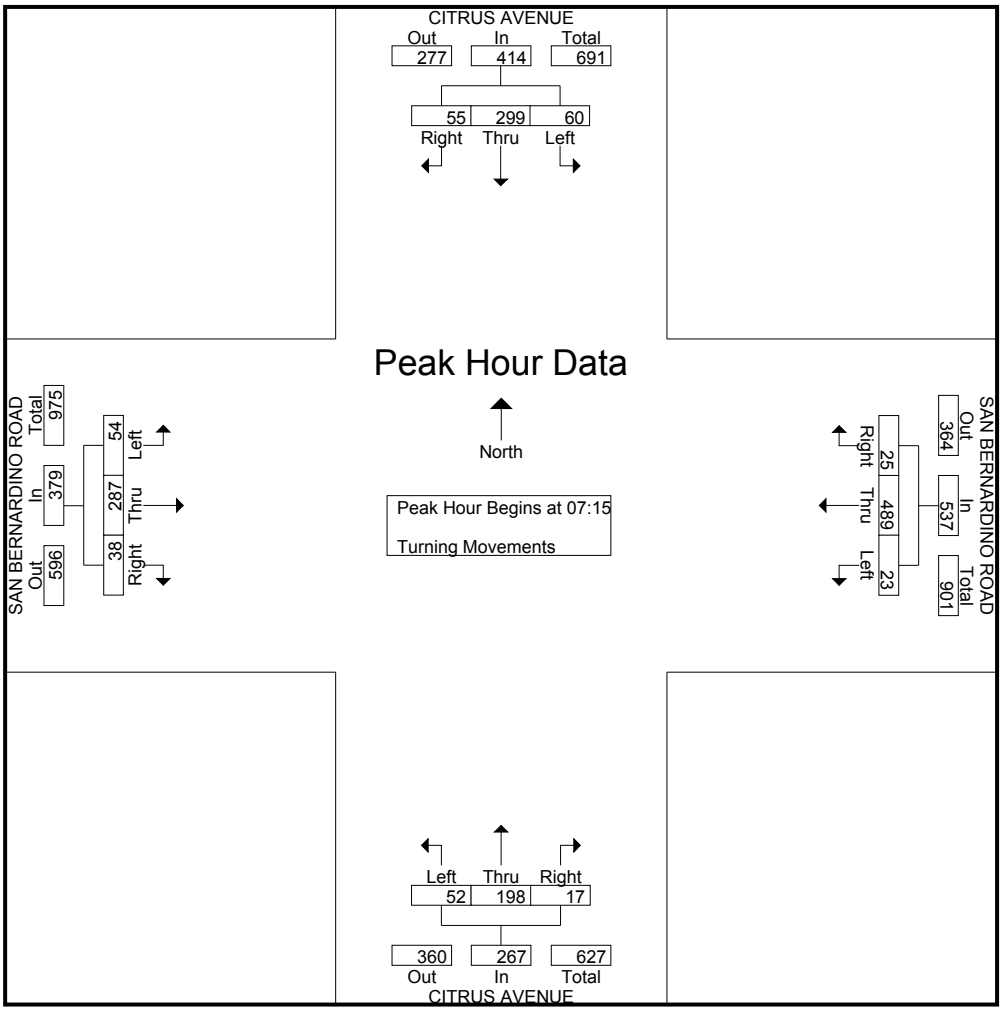
	CITRUS AVENUE Southbound			SAN BERNARDINO ROAD Westbound			CITRUS AVENUE Northbound			SAN BERNARDINO ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	11	42	6	3	127	5	2	34	12	6	30	6	284
07:15	9	65	14	3	142	7	5	42	9	9	51	10	366
07:30	16	81	6	4	142	4	1	41	19	9	81	14	418
07:45	10	65	23	11	102	5	3	60	12	15	94	21	421
Total	46	253	49	21	513	21	11	177	52	39	256	51	1489
08:00	20	88	17	7	103	7	8	55	12	5	61	9	392
08:15	15	55	6	3	79	6	3	51	12	3	60	11	304
08:30	5	59	10	8	94	1	4	58	8	10	71	11	339
08:45	18	62	18	6	65	10	2	62	13	12	58	14	340
Total	58	264	51	24	341	24	17	226	45	30	250	45	1375
*** BREAK ***													
16:00	12	55	11	9	71	13	10	74	13	20	138	25	451
16:15	23	91	22	12	53	4	10	66	16	14	122	26	459
16:30	11	74	18	6	64	4	8	68	21	12	136	25	447
16:45	18	64	26	7	68	12	8	87	11	9	124	30	464
Total	64	284	77	34	256	33	36	295	61	55	520	106	1821
17:00	22	78	16	21	82	11	7	80	13	7	130	28	495
17:15	16	64	11	12	63	11	9	82	17	15	129	22	451
17:30	20	82	28	6	80	8	9	78	11	7	98	17	444
17:45	10	69	22	5	62	8	6	65	10	9	108	25	399
Total	68	293	77	44	287	38	31	305	51	38	465	92	1789
Grand Total	236	1094	254	123	1397	116	95	1003	209	162	1491	294	6474
Apprch %	14.9	69.1	16	7.5	85.4	7.1	7.3	76.7	16	8.3	76.6	15.1	
Total %	3.6	16.9	3.9	1.9	21.6	1.8	1.5	15.5	3.2	2.5	23	4.5	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: CITRUS AVENUE
E-W Direction: SAN BERNARDINO ROAD

File Name : H1805004
Site Code : 00000000
Start Date : 5/9/2018
Page No : 2

	CITRUS AVENUE Southbound				SAN BERNARDINO ROAD Westbound				CITRUS AVENUE Northbound				SAN BERNARDINO ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	9	65	14	88	3	**142**	**7**	**152**	5	42	9	56	9	51	10	70	366
07:30	16	81	6	103	4	142	4	150	1	41	**19**	61	9	81	14	104	418
07:45	10	65	**23**	98	**11**	102	5	118	3	**60**	12	**75**	**15**	**94**	**21**	**130**	**421**
08:00	**20**	**88**	17	**125**	7	103	7	117	**8**	55	12	75	5	61	9	75	392
Total Volume	55	299	60	414	25	489	23	537	17	198	52	267	38	287	54	379	1597
% App. Total	13.3	72.2	14.5		4.7	91.1	4.3		6.4	74.2	19.5		10	75.7	14.2		
PHF	.688	.849	.652	.828	.568	.861	.821	.883	.531	.825	.684	.890	.633	.763	.643	.729	.948

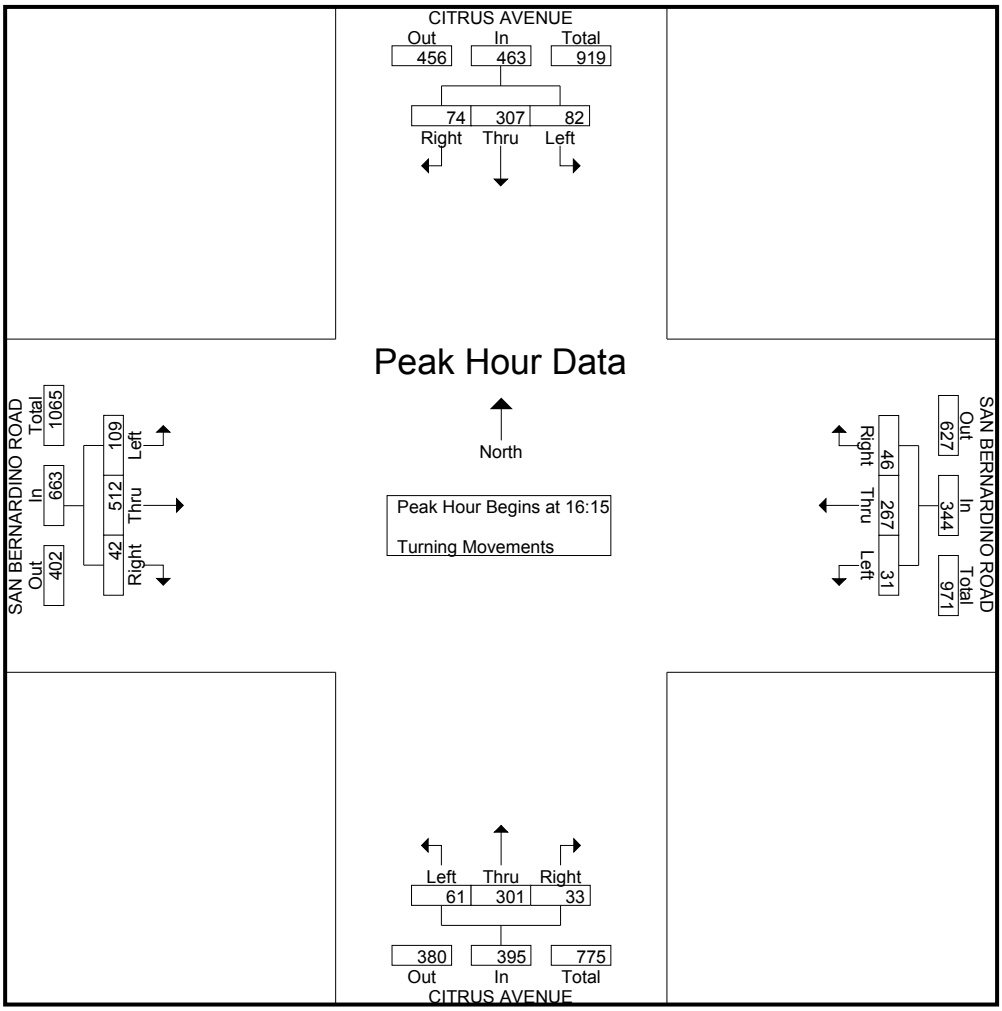


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: CITRUS AVENUE
E-W Direction: SAN BERNARDINO ROAD

File Name : H1805004
Site Code : 00000000
Start Date : 5/9/2018
Page No : 3

	CITRUS AVENUE Southbound				SAN BERNARDINO ROAD Westbound				CITRUS AVENUE Northbound				SAN BERNARDINO ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	**23**	**91**	22	**136**	12	53	4	69	**10**	66	16	92	**14**	122	26	162	459
16:30	11	74	18	103	6	64	4	74	8	68	**21**	97	12	**136**	25	**173**	447
16:45	18	64	**26**	108	7	68	**12**	87	8	**87**	11	**106**	9	124	**30**	163	464
17:00	22	78	16	116	**21**	**82**	11	**114**	7	80	13	100	7	130	28	165	**495**
Total Volume	74	307	82	463	46	267	31	344	33	301	61	395	42	512	109	663	1865
% App. Total	16	66.3	17.7		13.4	77.6	9		8.4	76.2	15.4		6.3	77.2	16.4		
PHF	.804	.843	.788	.851	.548	.814	.646	.754	.825	.865	.726	.932	.750	.941	.908	.958	.942



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: CITRUS AVENUE
E-W Direction: BADILLO STREET

File Name : H1805002
Site Code : 00000000
Start Date : 5/9/2018
Page No : 1

Groups Printed- Turning Movements

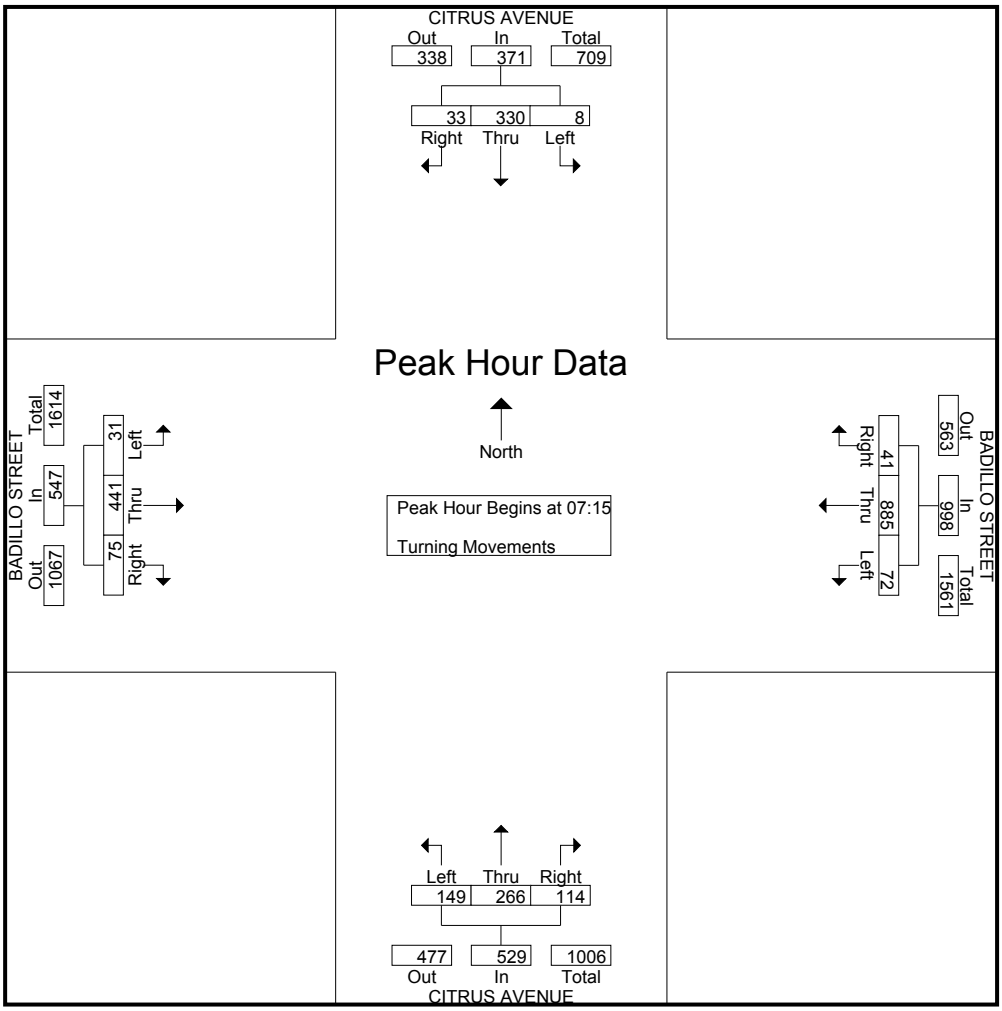
	CITRUS AVENUE Southbound			BADILLO STREET Westbound			CITRUS AVENUE Northbound			BADILLO STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	8	54	1	10	247	8	14	41	40	13	72	4	512
07:15	3	72	0	9	246	22	17	44	35	19	94	4	565
07:30	13	101	0	12	245	14	38	68	37	13	107	8	656
07:45	11	70	2	6	220	16	30	78	37	22	130	8	630
Total	35	297	3	37	958	60	99	231	149	67	403	24	2363
08:00	6	87	6	14	174	20	29	76	40	21	110	11	594
08:15	10	52	1	7	145	15	22	61	41	10	95	11	470
08:30	7	76	1	14	158	21	20	70	26	14	72	12	491
08:45	7	62	3	19	149	20	22	79	29	28	102	11	531
Total	30	277	11	54	626	76	93	286	136	73	379	45	2086
*** BREAK ***													
16:00	6	83	9	7	100	15	39	81	25	15	122	7	509
16:15	12	90	7	15	95	18	34	65	29	21	133	11	530
16:30	7	102	5	20	111	20	33	75	23	20	145	21	582
16:45	15	67	9	13	106	8	37	77	26	40	168	14	580
Total	40	342	30	55	412	61	143	298	103	96	568	53	2201
17:00	9	97	4	14	137	25	36	91	31	26	151	14	635
17:15	7	87	3	12	91	18	40	77	29	27	168	15	574
17:30	9	81	11	10	135	17	34	91	17	20	142	18	585
17:45	11	80	6	11	111	21	25	67	26	15	165	11	549
Total	36	345	24	47	474	81	135	326	103	88	626	58	2343
Grand Total	141	1261	68	193	2470	278	470	1141	491	324	1976	180	8993
Apprch %	9.6	85.8	4.6	6.6	84	9.5	22.4	54.3	23.4	13.1	79.7	7.3	
Total %	1.6	14	0.8	2.1	27.5	3.1	5.2	12.7	5.5	3.6	22	2	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: CITRUS AVENUE
E-W Direction: BADILLO STREET

File Name : H1805002
Site Code : 00000000
Start Date : 5/9/2018
Page No : 2

	CITRUS AVENUE Southbound				BADILLO STREET Westbound				CITRUS AVENUE Northbound				BADILLO STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	3	72	0	75	9	**246**	**22**	**277**	17	44	35	96	19	94	4	117	565
07:30	**13**	**101**	0	**114**	12	245	14	271	**38**	68	37	143	13	107	8	128	**656**
07:45	11	70	2	83	6	220	16	242	30	**78**	37	**145**	**22**	**130**	8	**160**	630
08:00	6	87	**6**	99	**14**	174	20	208	29	76	**40**	145	21	110	**11**	142	594
Total Volume	33	330	8	371	41	885	72	998	114	266	149	529	75	441	31	547	2445
% App. Total	8.9	88.9	2.2		4.1	88.7	7.2		21.6	50.3	28.2		13.7	80.6	5.7		
PHF	.635	.817	.333	.814	.732	.899	.818	.901	.750	.853	.931	.912	.852	.848	.705	.855	.932

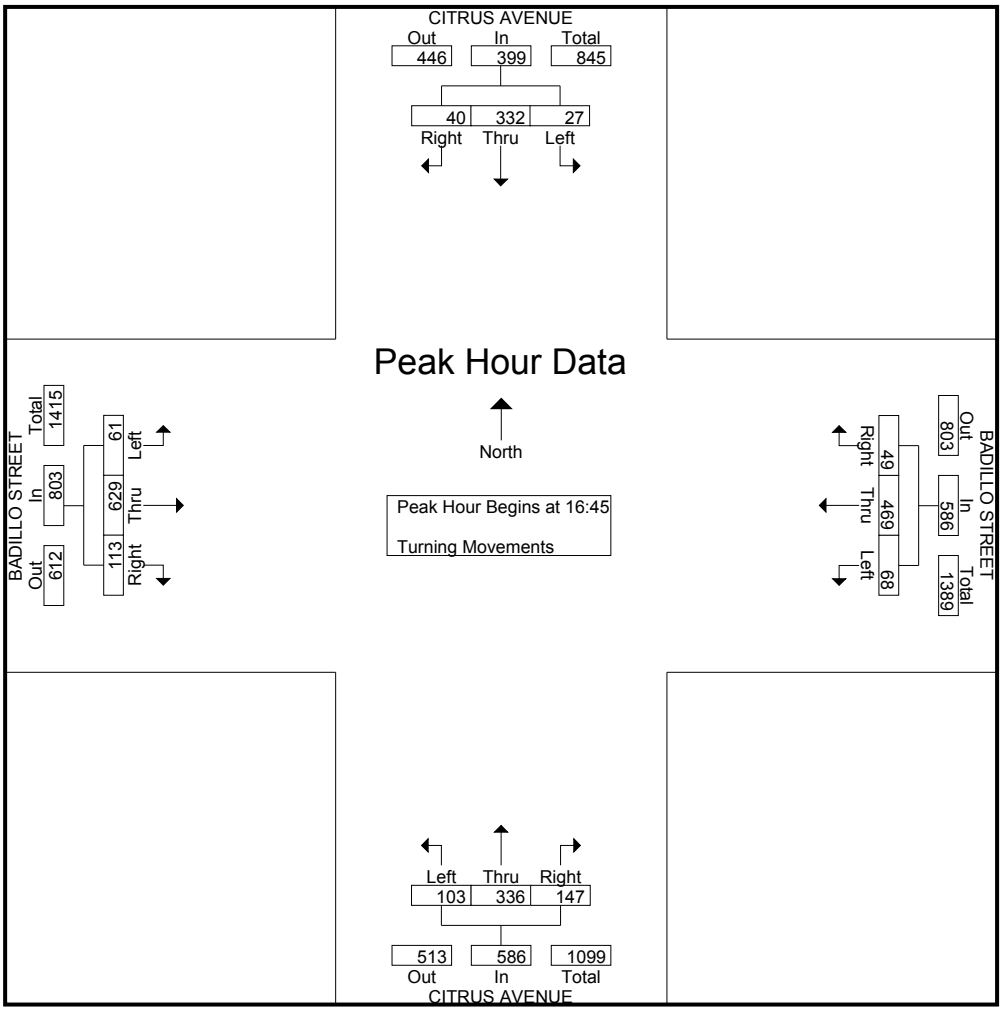


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: CITRUS AVENUE
E-W Direction: BADILLO STREET

File Name : H1805002
Site Code : 00000000
Start Date : 5/9/2018
Page No : 3

	CITRUS AVENUE Southbound				BADILLO STREET Westbound				CITRUS AVENUE Northbound				BADILLO STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	**15**	67	9	91	13	106	8	127	37	77	26	140	**40**	**168**	14	**222**	580
17:00	9	**97**	4	**110**	**14**	**137**	**25**	**176**	36	**91**	**31**	**158**	26	151	14	191	**635**
17:15	7	87	3	97	12	91	18	121	**40**	77	29	146	27	168	15	210	574
17:30	9	81	**11**	101	10	135	17	162	34	91	17	142	20	142	**18**	180	585
Total Volume	40	332	27	399	49	469	68	586	147	336	103	586	113	629	61	803	2374
% App. Total	10	83.2	6.8		8.4	80	11.6		25.1	57.3	17.6		14.1	78.3	7.6		
PHF	.667	.856	.614	.907	.875	.856	.680	.832	.919	.923	.831	.927	.706	.936	.847	.904	.935



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: 2ND AVENUE
E-W Direction: FRONT STREET

File Name : H1805005
Site Code : 00000000
Start Date : 5/9/2018
Page No : 1

Groups Printed- Turning Movements

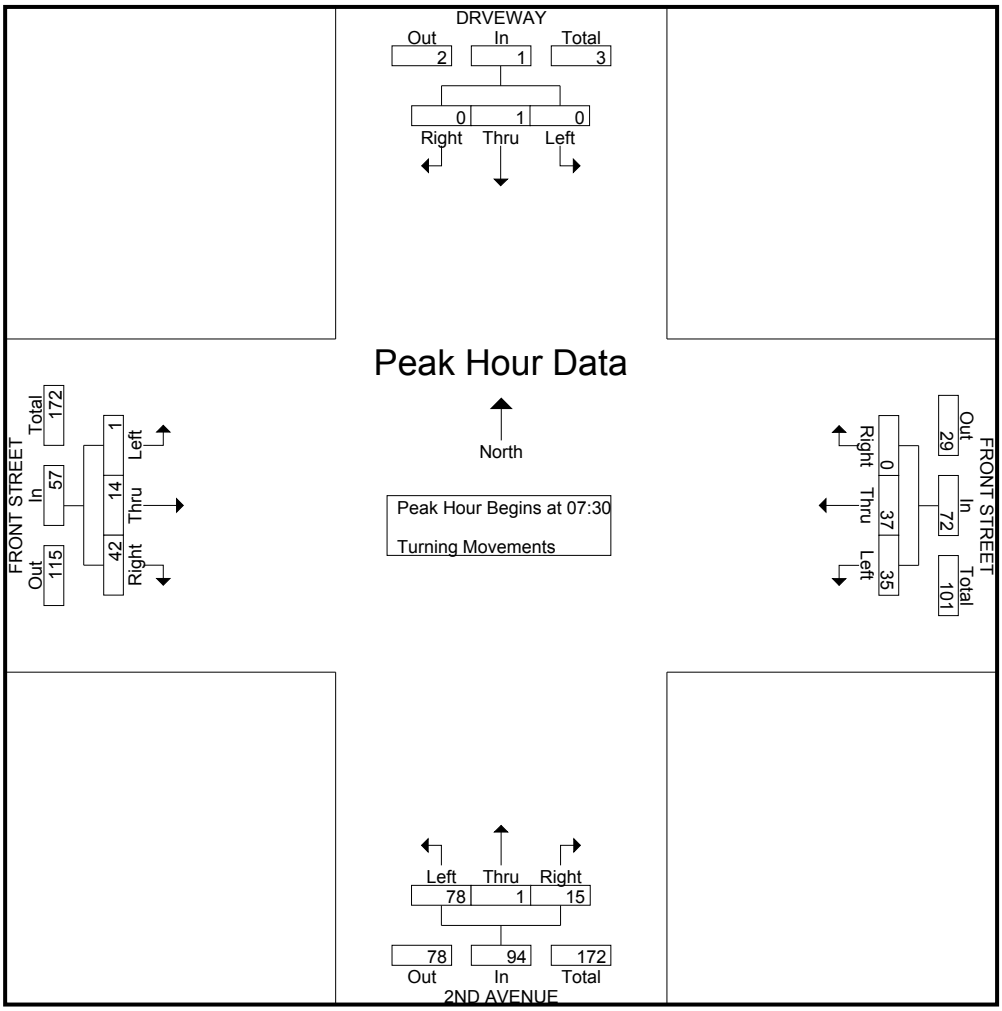
	DRVEWAY Southbound			FRONT STREET Westbound			2ND AVENUE Northbound			FRONT STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	0	0	1	0	13	3	2	0	16	6	3	0	44
07:15	0	0	0	0	9	8	1	1	9	5	4	0	37
07:30	0	0	0	0	14	16	2	1	20	9	2	0	64
07:45	0	1	0	0	9	6	6	0	21	9	3	1	56
Total	0	1	1	0	45	33	11	2	66	29	12	1	201
08:00	0	0	0	0	10	8	3	0	24	11	4	0	60
08:15	0	0	0	0	4	5	4	0	13	13	5	0	44
08:30	0	0	0	0	6	3	5	0	13	12	6	0	45
08:45	0	0	0	0	2	6	2	0	13	5	1	0	29
Total	0	0	0	0	22	22	14	0	63	41	16	0	178
*** BREAK ***													
16:00	0	0	3	0	7	4	7	0	30	10	4	0	65
16:15	0	1	0	0	9	4	2	0	20	18	5	0	59
16:30	0	0	0	0	11	8	2	0	37	22	7	0	87
16:45	0	1	0	0	16	10	10	0	23	15	7	0	82
Total	0	2	3	0	43	26	21	0	110	65	23	0	293
17:00	0	1	0	0	18	8	6	0	30	23	8	1	95
17:15	1	3	0	0	11	6	6	0	12	15	2	1	57
17:30	0	0	0	0	5	7	10	0	21	24	3	0	70
17:45	0	3	0	0	8	7	3	0	21	14	2	0	58
Total	1	7	0	0	42	28	25	0	84	76	15	2	280
Grand Total	1	10	4	0	152	109	71	2	323	211	66	3	952
Apprch %	6.7	66.7	26.7	0	58.2	41.8	17.9	0.5	81.6	75.4	23.6	1.1	
Total %	0.1	1.1	0.4	0	16	11.4	7.5	0.2	33.9	22.2	6.9	0.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: 2ND AVENUE
E-W Direction: FRONT STREET

File Name : H1805005
Site Code : 00000000
Start Date : 5/9/2018
Page No : 2

	DRVEWAY Southbound				FRONT STREET Westbound				2ND AVENUE Northbound				FRONT STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	0	0	0	0	**14**	**16**	**30**	2	**1**	20	23	9	2	0	11	**64**
07:45	0	**1**	0	**1**	0	9	6	15	**6**	0	21	**27**	9	3	**1**	13	56
08:00	0	0	0	0	0	10	8	18	3	0	**24**	27	11	4	0	15	60
08:15	0	0	0	0	0	4	5	9	4	0	13	17	**13**	**5**	0	**18**	44
Total Volume	0	1	0	1	0	37	35	72	15	1	78	94	42	14	1	57	224
% App. Total	0	100	0		0	51.4	48.6		16	1.1	83		73.7	24.6	1.8		
PHF	.000	.250	.000	.250	.000	.661	.547	.600	.625	.250	.813	.870	.808	.700	.250	.792	.875

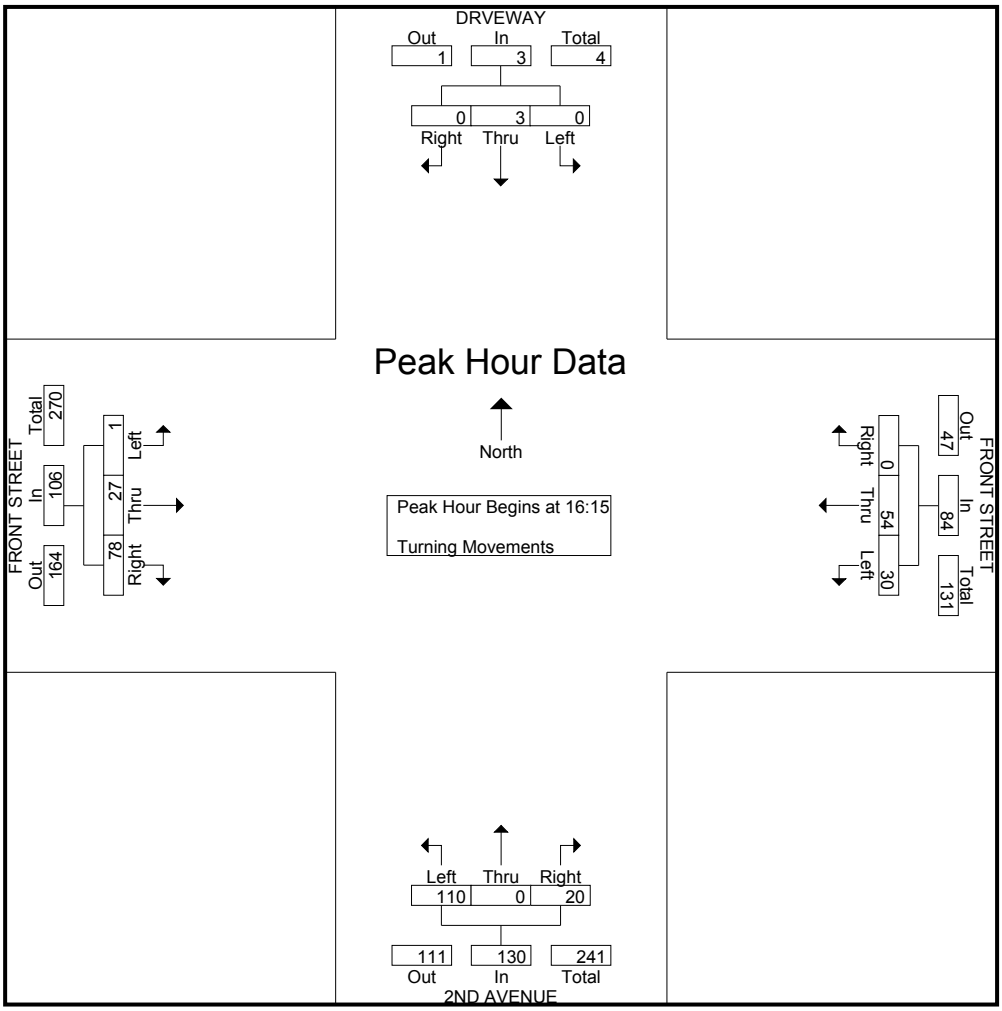


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: 2ND AVENUE
E-W Direction: FRONT STREET

File Name : H1805005
Site Code : 00000000
Start Date : 5/9/2018
Page No : 3

	DRVEWAY Southbound				FRONT STREET Westbound				2ND AVENUE Northbound				FRONT STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	0	**1**	0	**1**	0	9	4	13	2	0	20	22	18	5	0	23	59
16:30	0	0	0	0	0	11	8	19	2	0	**37**	**39**	22	7	0	29	87
16:45	0	1	0	1	0	16	**10**	**26**	**10**	0	23	33	15	7	0	22	82
17:00	0	1	0	1	0	**18**	8	26	6	0	30	36	**23**	**8**	**1**	**32**	**95**
Total Volume	0	3	0	3	0	54	30	84	20	0	110	130	78	27	1	106	323
% App. Total	0	100	0		0	64.3	35.7		15.4	0	84.6		73.6	25.5	0.9		
PHF	.000	.750	.000	.750	.000	.750	.750	.808	.500	.000	.743	.833	.848	.844	.250	.828	.850



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: 2ND AVENUE
E-W Direction: BADILLO STREET

File Name : H1805006
Site Code : 00000000
Start Date : 5/9/2018
Page No : 1

Groups Printed- Turning Movements

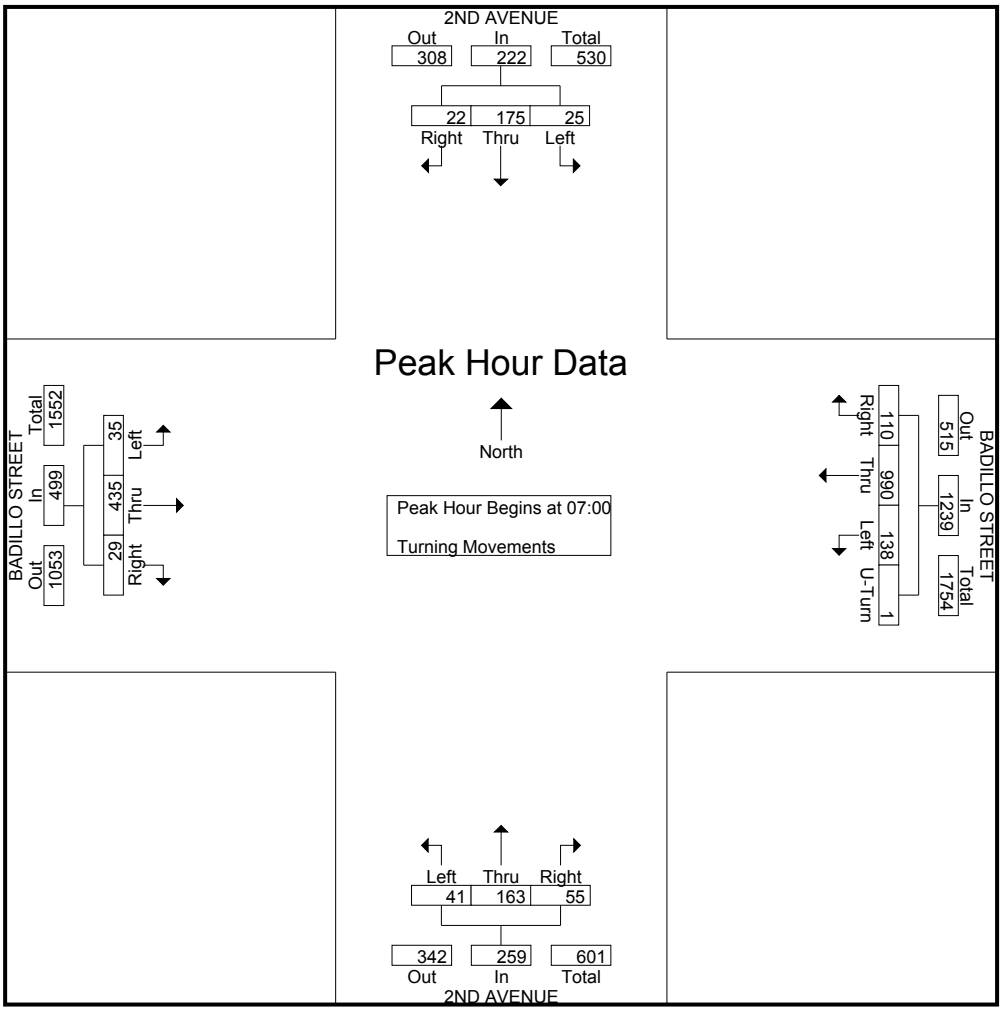
	2ND AVENUE Southbound			BADILLO STREET Westbound				2ND AVENUE Northbound			BADILLO STREET Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	U-Turn	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	2	24	8	26	269	36	0	9	32	8	8	76	4	502
07:15	6	41	3	25	266	34	1	12	36	11	4	100	7	546
07:30	11	66	5	31	260	43	0	19	48	13	10	126	9	641
07:45	3	44	9	28	195	25	0	15	47	9	7	133	15	530
Total	22	175	25	110	990	138	1	55	163	41	29	435	35	2219
08:00	9	28	13	23	176	25	0	13	46	5	9	125	12	484
08:15	5	30	10	20	181	19	1	8	28	3	7	94	9	415
08:30	13	38	11	22	177	19	0	14	35	10	5	86	7	437
08:45	12	46	6	35	166	30	1	9	34	9	8	97	13	466
Total	39	142	40	100	700	93	2	44	143	27	29	402	41	1802
*** BREAK ***														
16:00	14	57	22	24	109	20	1	18	54	4	9	176	12	520
16:15	10	64	26	16	114	19	0	14	57	15	3	147	8	493
16:30	13	69	40	15	140	21	2	26	53	10	11	164	17	581
16:45	16	83	38	14	112	23	3	22	56	15	12	170	15	579
Total	53	273	126	69	475	83	6	80	220	44	35	657	52	2173
17:00	19	84	34	20	130	29	1	18	48	17	5	164	25	594
17:15	10	65	24	15	120	26	1	20	55	13	6	172	14	541
17:30	14	77	22	15	135	17	0	33	53	14	8	169	13	570
17:45	15	76	23	18	116	26	0	19	57	13	5	174	16	558
Total	58	302	103	68	501	98	2	90	213	57	24	679	68	2263
Grand Total	172	892	294	347	2666	412	11	269	739	169	117	2173	196	8457
Apprch %	12.7	65.7	21.6	10.1	77.6	12	0.3	22.9	62.8	14.4	4.7	87.4	7.9	
Total %	2	10.5	3.5	4.1	31.5	4.9	0.1	3.2	8.7	2	1.4	25.7	2.3	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: 2ND AVENUE
E-W Direction: BADILLO STREET

File Name : H1805006
Site Code : 00000000
Start Date : 5/9/2018
Page No : 2

	2ND AVENUE Southbound				BADILLO STREET Westbound					2ND AVENUE Northbound				BADILLO STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:00																		
07:00	2	24	8	34	26	**269**	36	0	331	9	32	8	49	8	76	4	88	502
07:15	6	41	3	50	25	266	34	**1**	326	12	36	11	59	4	100	7	111	546
07:30	**11**	**66**	5	**82**	**31**	260	**43**	0	**334**	**19**	**48**	**13**	**80**	**10**	126	9	145	**641**
07:45	3	44	**9**	56	28	195	25	0	248	15	47	9	71	7	**133**	**15**	**155**	530
Total Volume	22	175	25	222	110	990	138	1	1239	55	163	41	259	29	435	35	499	2219
% App. Total	9.9	78.8	11.3		8.9	79.9	11.1	0.1		21.2	62.9	15.8		5.8	87.2	7		
PHF	.500	.663	.694	.677	.887	.920	.802	.250	.927	.724	.849	.788	.809	.725	.818	.583	.805	.865

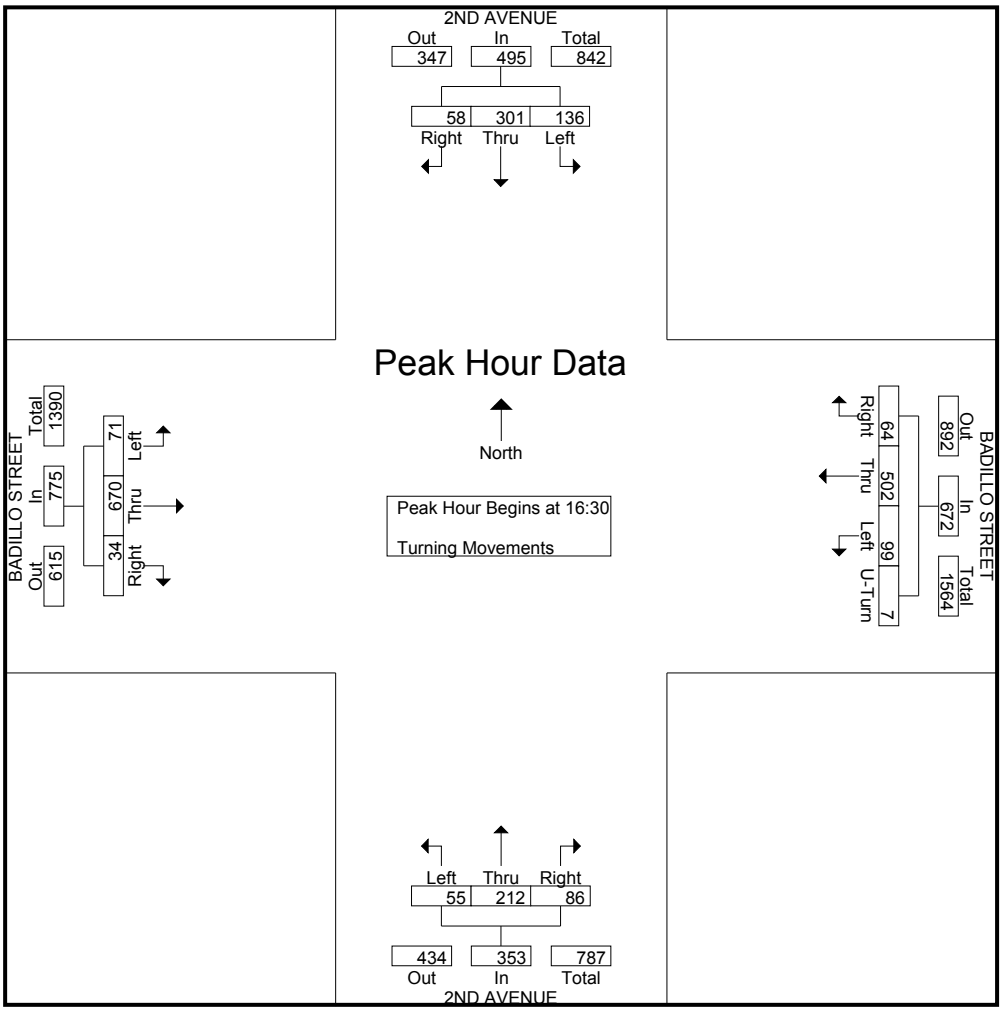


Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: 2ND AVENUE
E-W Direction: BADILLO STREET

File Name : H1805006
Site Code : 00000000
Start Date : 5/9/2018
Page No : 3

	2ND AVENUE Southbound				BADILLO STREET Westbound					2ND AVENUE Northbound				BADILLO STREET Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 16:30																		
16:30	13	69	**40**	122	15	**140**	21	2	178	**26**								
16:45	**16**	**83**	**38**	**137**	14	112	23	**3**	152	22	**56**	15	**93**	**12**	170	15	**197**	579
17:00	**19**	**84**	34	137	**20**	130	**29**	1	**180**	18	48	**17**				**25**	194	**594**
17:15	10	65	24	99	15	120	26	1	162	20	55	13	88	6	**172**	14	192	541
Total Volume	58	301	136	495	64	502	99	7	672	86	212	55	353	34	670	71	775	2295
% App. Total	11.7	60.8	27.5		9.5	74.7	14.7	1		24.4	60.1	15.6		4.4	86.5	9.2		
PHF	.763	.896	.850	.903	.800	.896	.853	.583	.933	.827	.946	.809	.949	.708	.974	.710	.984	.966



Transportation Studies, Inc.
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: COVINA
N-S Direction: BARRANCA AVENUE
E-W Direction: SAN BERNARDINO ROAD

File Name : H1805008
Site Code : 00000000
Start Date : 5/9/2018
Page No : 1

Groups Printed- Turning Movements

	BARRANCA AVENUE Southbound			SAN BERNARDINO ROAD Westbound			BARRANCA AVENUE Northbound			SAN BERNARDINO ROAD Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00	32	109	5	14	85	8	6	98	19	6	22	8	412
07:15	37	164	13	17	100	9	6	124	15	11	20	18	534
07:30	39	145	11	23	86	14	6	170	17	8	42	26	587
07:45	59	180	24	31	70	5	23	212	10	11	59	39	723
Total	167	598	53	85	341	36	41	604	61	36	143	91	2256
08:00	38	131	33	40	67	15	14	191	10	11	50	37	637
08:15	41	138	21	26	58	10	13	158	15	11	45	25	561
08:30	41	121	18	11	74	7	16	133	8	13	51	21	514
08:45	52	134	15	24	46	14	15	122	9	7	38	18	494
Total	172	524	87	101	245	46	58	604	42	42	184	101	2206
*** BREAK ***													
16:00	25	135	18	17	50	12	24	177	9	15	106	44	632
16:15	16	141	11	18	55	15	11	138	8	14	90	46	563
16:30	28	144	17	25	42	11	12	184	10	15	99	50	637
16:45	29	163	10	21	55	13	14	172	13	11	114	49	664
Total	98	583	56	81	202	51	61	671	40	55	409	189	2496
17:00	32	159	16	25	53	12	10	182	9	17	80	42	637
17:15	24	156	19	16	42	11	8	170	11	13	126	49	645
17:30	34	158	13	15	51	16	20	125	11	19	88	29	579
17:45	24	165	14	13	24	11	9	160	10	22	90	43	585
Total	114	638	62	69	170	50	47	637	41	71	384	163	2446
Grand Total	551	2343	258	336	958	183	207	2516	184	204	1120	544	9404
Apprch %	17.5	74.3	8.2	22.7	64.9	12.4	7.1	86.5	6.3	10.9	60	29.1	
Total %	5.9	24.9	2.7	3.6	10.2	1.9	2.2	26.8	2	2.2	11.9	5.8	

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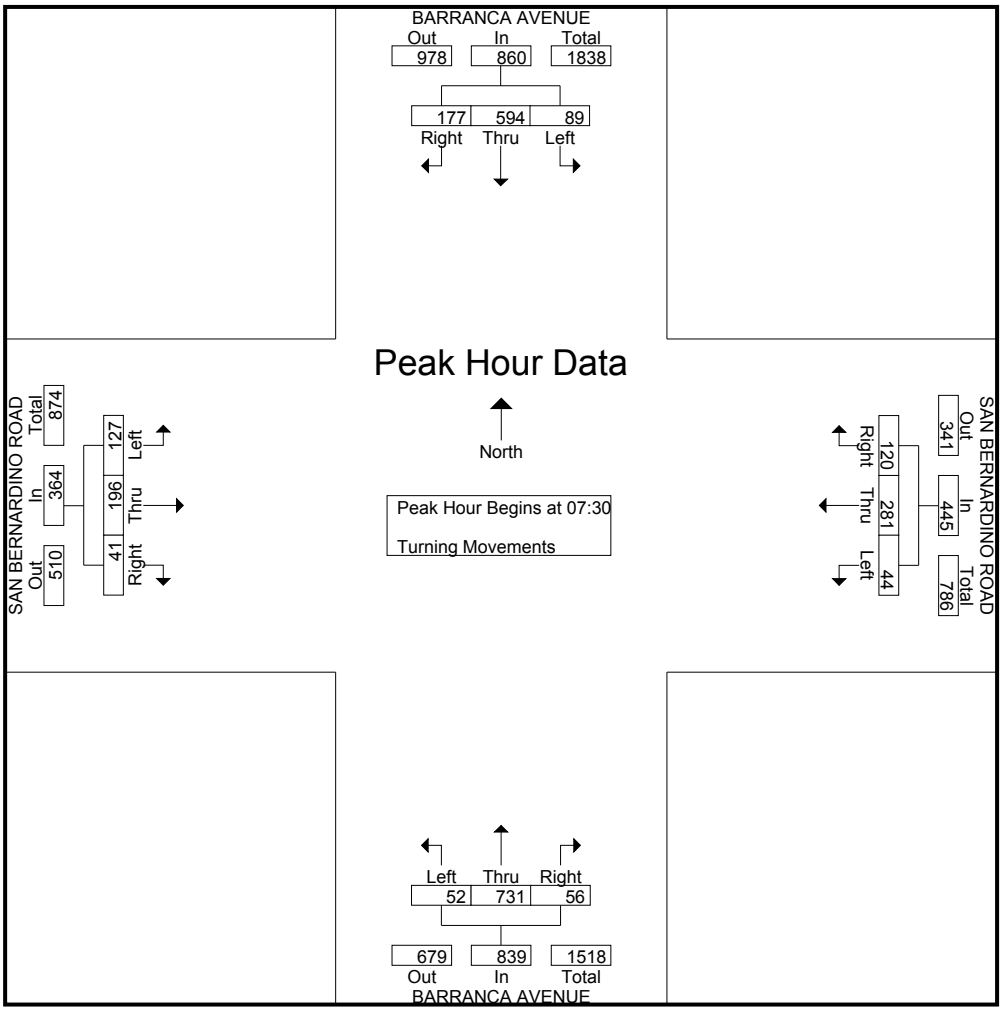
File Name : H1805008
Site Code : 00000000
Start Date : 5/9/2018
Page No : 2

	BARRANCA AVENUE Southbound				SAN BERNARDINO ROAD Westbound				BARRANCA AVENUE Northbound				SAN BERNARDINO ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	39	145	11	195	23	**86**	14	**123**	6	170	**17**	193	8	42	26	76	587
07:45	**59**	**180**	24	**263**	31	70	5	106	**23**	**212**	10	**245**	**11**	**59**	**39**	**109**	**723**
08:00	38	131	**33**	202	**40**	67	**15**	122	14	191	10	215	11	50	37	98	637
08:15	41	138	21	200	26	58	10	94	13	158	15	186	11	45	25	81	561
Total Volume	177	594	89	860	120	281	44	445	56	731	52	839	41	196	127	364	2508
% App. Total	20.6	69.1	10.3		27	63.1	9.9		6.7	87.1	6.2		11.3	53.8	34.9		
PHF	.750	.825	.674	.817	.750	.817	.733	.904	.609	.862	.765	.856	.932	.831	.814	.835	.867



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File Name : H1805008
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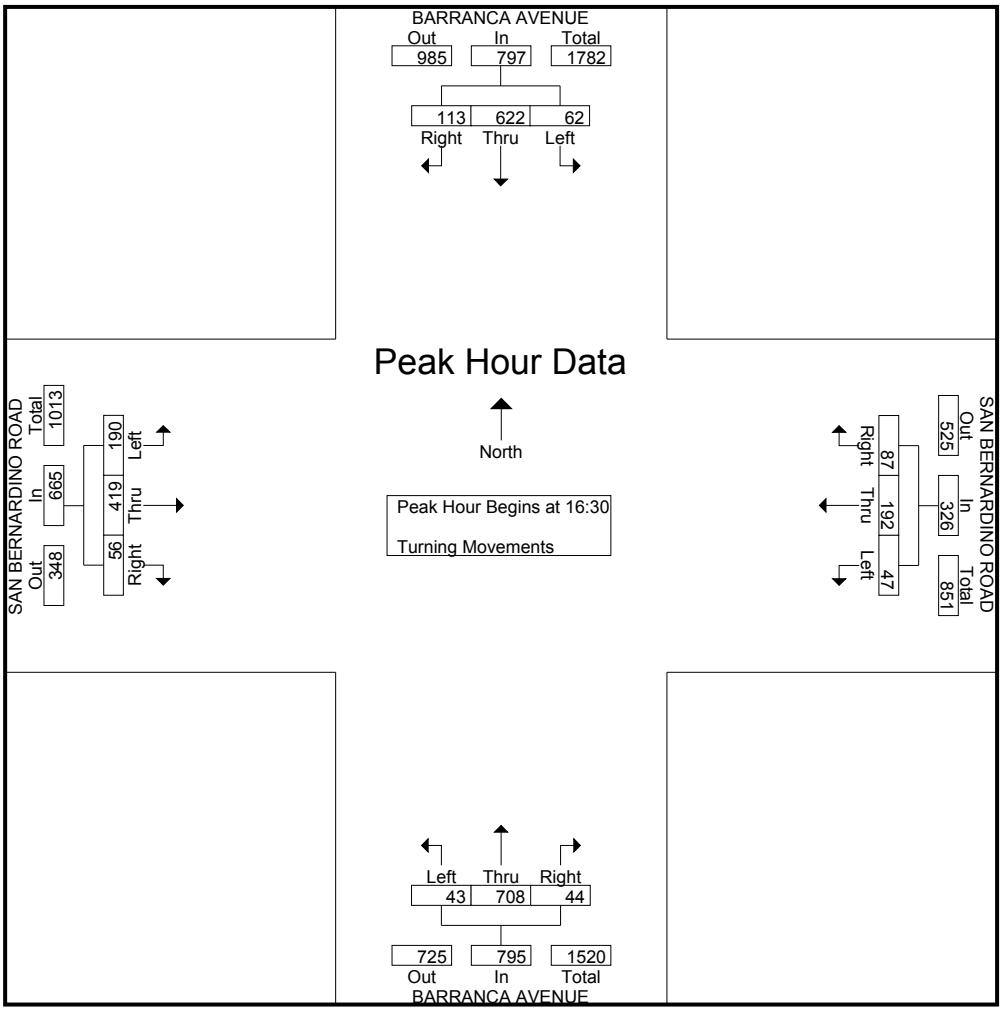
Page No : 3

	BARRANCA AVENUE Southbound				SAN BERNARDINO ROAD Westbound				BARRANCA AVENUE Northbound				SAN BERNARDINO ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	28	144	17	189	**25**	42	11	78	12	**184**	10	**206**	15	99	**50**	164	637
16:45	29	**163**	10	202	21	**55**	**13**	89	**14**	172	**13**	199	11	114	49	174	**664**
17:00	**32**	159	16	**207**	25	53	12	**90**	10	182	9	201	**17**	80	42	139	637
17:15	24	156	**19**	199	16	42	11	69	8	170	11	189	13	**126**	49	**188**	645
Total Volume	113	622	62	797	87	192	47	326	44	708	43	795	56	419	190	665	2583
% App. Total	14.2	78	7.8		26.7	58.9	14.4		5.5	89.1	5.4		8.4	63	28.6		
PHF	.883	.954	.816	.963	.870	.873	.904	.906	.786	.962	.827	.965	.824	.831	.950	.884	.973



APPENDIX B

Level of Service Calculations

Vistro File: C:\...\CovinaTC Traffic Analysis.vistro
Report File: C:\...\AM Existing Report.pdf

Scenario 3 AM Existing
7/24/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Citrus - Badillo	Signalized	ICU 1	WB Thru	0.650	-	B
6	2nd - Badillo	Signalized	ICU 1	WB Thru	0.462	-	A
12	Citrus at W. San Bernardino	Signalized	ICU 1	WB Right	0.584	-	A
13	Citrus at Front	Signalized	ICU 1	SB Thru	0.214	-	A
14	Barranca - E. San Bernardino	Signalized	ICU 1	SB Thru	0.522	-	A
16	2nd at Front	Signalized	ICU 1	NB Left	0.105	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Citrus - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.650

Intersection Setup

Name	Citrus			Citrus			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	12.00	12.00	12.00	12.00	10.00	14.00	18.00	10.00	12.00	10.00
No. of Lanes in Pocket	1	0	0	0	0	0	1	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			Badillo			Badillo		
Base Volume Input [veh/h]	149	266	114	8	330	33	31	441	75	72	885	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	9	13	2	9	3	0	18	1	4	14	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	152	275	127	10	339	36	31	459	76	76	899	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	69	32	3	85	9	8	115	19	19	225	11
Total Analysis Volume [veh/h]	152	275	127	10	339	36	31	459	76	76	899	45
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.17	0.08	0.01	0.24	0.24	0.02	0.17	0.17	0.05	0.30	0.30
Intersection LOS	B											
Intersection V/C	0.650											

Intersection Level Of Service Report
Intersection 6: 2nd - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	2nd			2nd			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	14.00	12.00	23.00	10.00	12.00	22.00	10.00	12.00	20.00	10.00	13.00	21.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd			2nd			Badillo			Badillo		
Base Volume Input [veh/h]	41	163	55	25	175	22	35	435	29	139	990	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	6	8	2	0	2	2	31	0	0	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	169	63	27	175	24	37	466	29	139	1006	110
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	42	16	7	44	6	9	117	7	35	252	28
Total Analysis Volume [veh/h]	44	169	63	27	175	24	37	466	29	139	1006	110
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.02	0.06	0.06	0.02	0.15	0.15	0.09	0.35	0.35
Intersection LOS	A											
Intersection V/C	0.462											

Intersection Level Of Service Report
Intersection 12: Citrus at W. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	10.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	120.00	100.00	100.00	150.00	100.00	100.00	80.00	100.00	100.00	80.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	52	198	17	60	299	55	54	287	28	23	489	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	11	2	0	7	2	1	5	1	4	6	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	209	19	60	306	57	55	292	29	27	495	24
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	52	5	15	77	14	14	73	7	7	124	6
Total Analysis Volume [veh/h]	54	209	19	60	306	57	55	292	29	27	495	24
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.04	0.19	0.04	0.03	0.20	0.20	0.02	0.32	0.32
Intersection LOS	A											
Intersection V/C	0.584											

Intersection Level Of Service Report
Intersection 13: Citrus at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.214

Intersection Setup

Name	Citrus			Citrus			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	12.00	10.00	12.00	20.00	10.00	11.00	11.00	11.00	13.00	13.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Citrus			Citrus			Front			Front		
Base Volume Input [veh/h]	7	274	5	45	443	17	0	0	3	3	11	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	0	0	0	1	0	0	9	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	288	5	45	443	17	1	0	3	12	11	93
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	72	1	11	111	4	0	0	1	3	3	23
Total Analysis Volume [veh/h]	7	288	5	45	443	17	1	0	3	12	11	93
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.09	0.03	0.14	0.14	0.00	0.00	0.00	0.01	0.07	0.07
Intersection LOS	A											
Intersection V/C	0.214											

Intersection Level Of Service Report
Intersection 14: Barranca - E. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	15.00	10.00	12.00	15.00	10.00	12.00	16.00	10.00	12.00	16.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	52	731	56	89	594	177	127	196	41	44	281	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	8	11	36	10	7	4	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	738	64	100	630	187	134	200	43	44	281	120
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	185	16	25	158	47	34	50	11	11	70	30
Total Analysis Volume [veh/h]	52	738	64	100	630	187	134	200	43	44	281	120
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.25	0.25	0.06	0.26	0.26	0.08	0.08	0.08	0.03	0.13	0.13
Intersection LOS	A											
Intersection V/C	0.522											

Intersection Level Of Service Report
Intersection 16: 2nd at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.105

Intersection Setup

Name	2nd			2nd			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	18.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	2nd			2nd			Front			Front		
Base Volume Input [veh/h]	78	1	15	0	1	0	1	14	42	35	37	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	1	2	0	0	0	6	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	1	15	0	2	2	1	14	42	41	54	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	0	4	0	1	1	0	4	11	10	14	0
Total Analysis Volume [veh/h]	81	1	15	0	2	2	1	14	42	41	54	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.03	0.03	0.03	0.00
Intersection LOS	A											
Intersection V/C	0.105											

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Scenario 3 AM Existing
7/24/2018

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	152	275	127	10	339	36	31	459	76	76	899	45	2525

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	44	169	63	27	175	24	37	466	29	139	1006	110	2289

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	54	209	19	60	306	57	55	292	29	27	495	24	1627

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	7	288	5	45	443	17	1	0	3	12	11	93	925

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	52	738	64	100	630	187	134	200	43	44	281	120	2593

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	81	1	15	0	2	2	1	14	42	41	54	0	253

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Scenario 3 AM Existing
7/24/2018

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	Final Base	149	266	114	8	330	33	31	441	75	72	885	41	2445
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	9	13	2	9	3	0	18	1	4	14	4	80
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**152**	**275**	**127**	**10**	**339**	**36**	**31**	**459**	**76**	**76**	**899**	**45**	**2525**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	Final Base	41	163	55	25	175	22	35	435	29	139	990	110	2219
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	6	8	2	0	2	2	31	0	0	16	0	70
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**44**	**169**	**63**	**27**	**175**	**24**	**37**	**466**	**29**	**139**	**1006**	**110**	**2289**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	Final Base	52	198	17	60	299	55	54	287	28	23	489	25	1587
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	2	11	2	0	7	2	1	5	1	4	6	-1	40
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**54**	**209**	**19**	**60**	**306**	**57**	**55**	**292**	**29**	**27**	**495**	**24**	**1627**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	Final Base	7	274	5	45	443	17	0	0	3	3	11	79	887
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	14	0	0	0	0	1	0	0	9	0	14	38
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**7**	**288**	**5**	**45**	**443**	**17**	**1**	**0**	**3**	**12**	**11**	**93**	**925**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	Final Base	52	731	56	89	594	177	127	196	41	44	281	120	2508
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	7	8	11	36	10	7	4	2	0	0	0	85
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**52**	**738**	**64**	**100**	**630**	**187**	**134**	**200**	**43**	**44**	**281**	**120**	**2593**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	Final Base	78	1	15	0	1	0	1	14	42	35	37	0	224
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	0	0	0	1	2	0	0	0	6	17	0	29
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**81**	**1**	**15**	**0**	**2**	**2**	**1**	**14**	**42**	**41**	**54**	**0**	**253**

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Scenario 3 AM Existing
7/24/2018

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
1: zone				1.000	0.000	50.00	50.00	46	68	114	21.11
2: zone				1.000	0.000	50.00	50.00	25	56	81	15.00
4: zone				1.000	0.000	50.00	50.00	0	27	27	5.00
5: zone				1.000	0.000	50.00	50.00	223	95	318	58.89
					Added Trips Total			**294**	**246**	**540**	**100.00**

Removed Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
3: zone				1.000	0.000	50.00	50.00	86	25	61	100.00
					Removed Trips Total			**86**	**25**	**61**	**100.00**

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Scenario 3 AM Existing
7/24/2018

Trip Distribution summary

Zone / Gate	Zone 1: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	5	10.00	7
12: Gate	5.00	2	5.00	3
13: Gate	0.00	0	0.00	0
15: Gate	40.00	18	40.00	27
17: Gate	10.00	5	10.00	7
20: Gate	10.00	5	10.00	7
21: Gate	10.00	5	10.00	7
23: Gate	10.00	5	10.00	7
24: Gate	1.00	0	1.00	1
25: Gate	0.00	0	0.00	0
26: Gate	2.00	1	2.00	1
33: Gate	2.00	1	2.00	1
Total	**100.00**	**47**	**100.00**	**68**

Zone / Gate	Zone 2: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	3	10.00	6
12: Gate	5.00	1	5.00	3
13: Gate	25.00	6	25.00	11
15: Gate	15.00	4	15.00	8
17: Gate	10.00	3	10.00	6
20: Gate	10.00	3	10.00	6
21: Gate	10.00	3	10.00	6
23: Gate	10.00	3	10.00	6
24: Gate	1.00	0	1.00	1
25: Gate	1.00	0	1.00	1
26: Gate	2.00	1	2.00	1
33: Gate	1.00	0	1.00	1
Total	**100.00**	**27**	**100.00**	**56**

Zone / Gate	Zone 3: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
6: Gate	10.00	(9)	10.00	(3)
12: Gate	5.00	(4)	5.00	(1)
13: Gate	25.00	(22)	25.00	(3)
15: Gate	15.00	(13)	15.00	(4)
17: Gate	10.00	(9)	10.00	(3)
20: Gate	10.00	(9)	10.00	(3)
21: Gate	10.00	(9)	10.00	(3)
23: Gate	10.00	(9)	10.00	(3)
24: Gate	1.00	(1)	1.00	(0)
25: Gate	2.00	(2)	2.00	(1)
26: Gate	2.00	(2)	2.00	(1)
33: Gate	0.00	(0)	0.00	(0)
Total	**100.00**	**(89)**	**100.00**	**(25)**

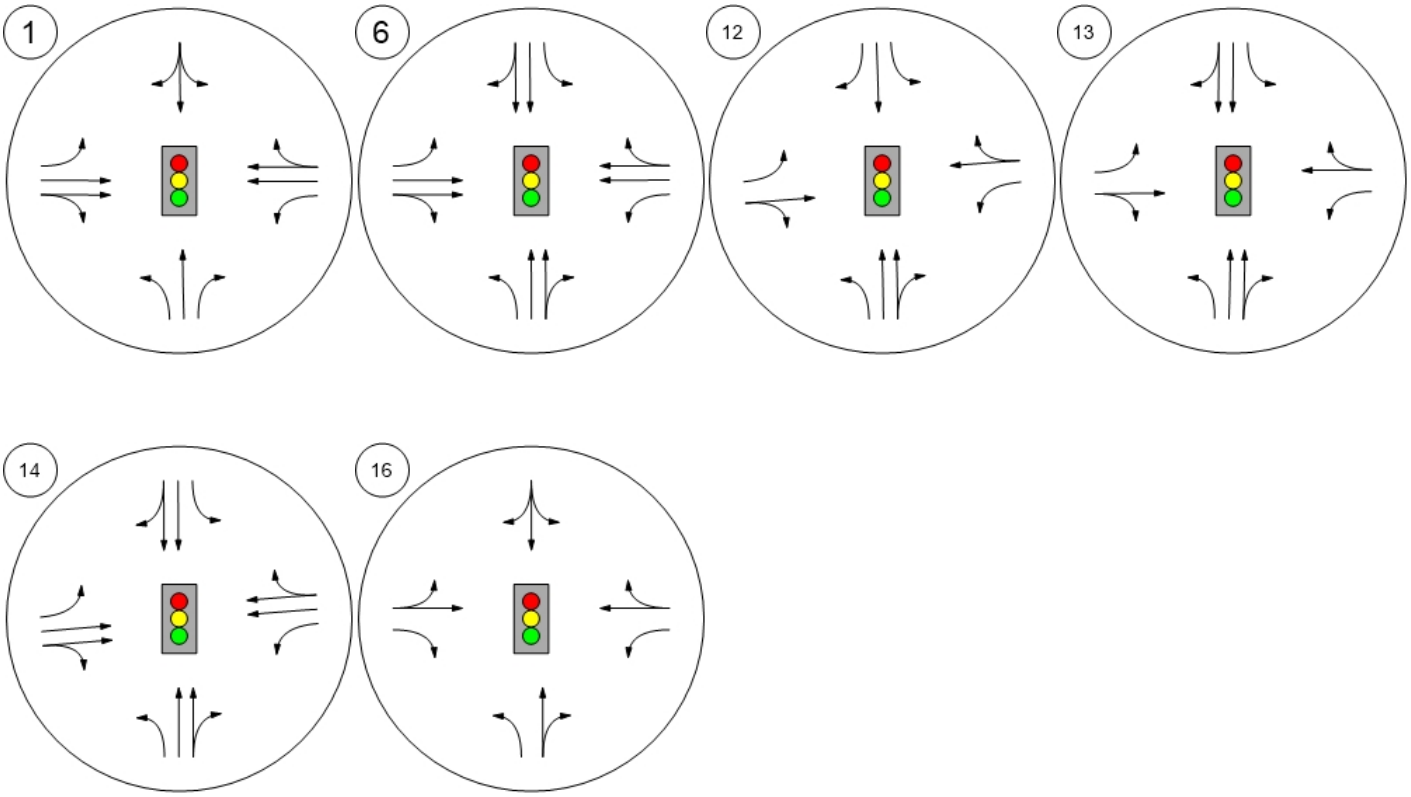
Zone / Gate	Zone 4: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	0	10.00	3
12: Gate	5.00	0	5.00	1
13: Gate	30.00	0	30.00	6
15: Gate	10.00	0	10.00	3
17: Gate	10.00	0	10.00	3
20: Gate	10.00	0	10.00	3
21: Gate	10.00	0	10.00	3
23: Gate	10.00	0	10.00	3
24: Gate	2.00	0	2.00	1
25: Gate	1.00	0	1.00	0
26: Gate	0.00	0	0.00	0
33: Gate	2.00	0	2.00	1
Total	**100.00**	**0**	**100.00**	**27**

Zone / Gate	Zone 5: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
6: Gate	15.00	33	15.00	14
12: Gate	5.00	11	5.00	5
13: Gate	15.00	33	15.00	14
15: Gate	10.00	22	10.00	10

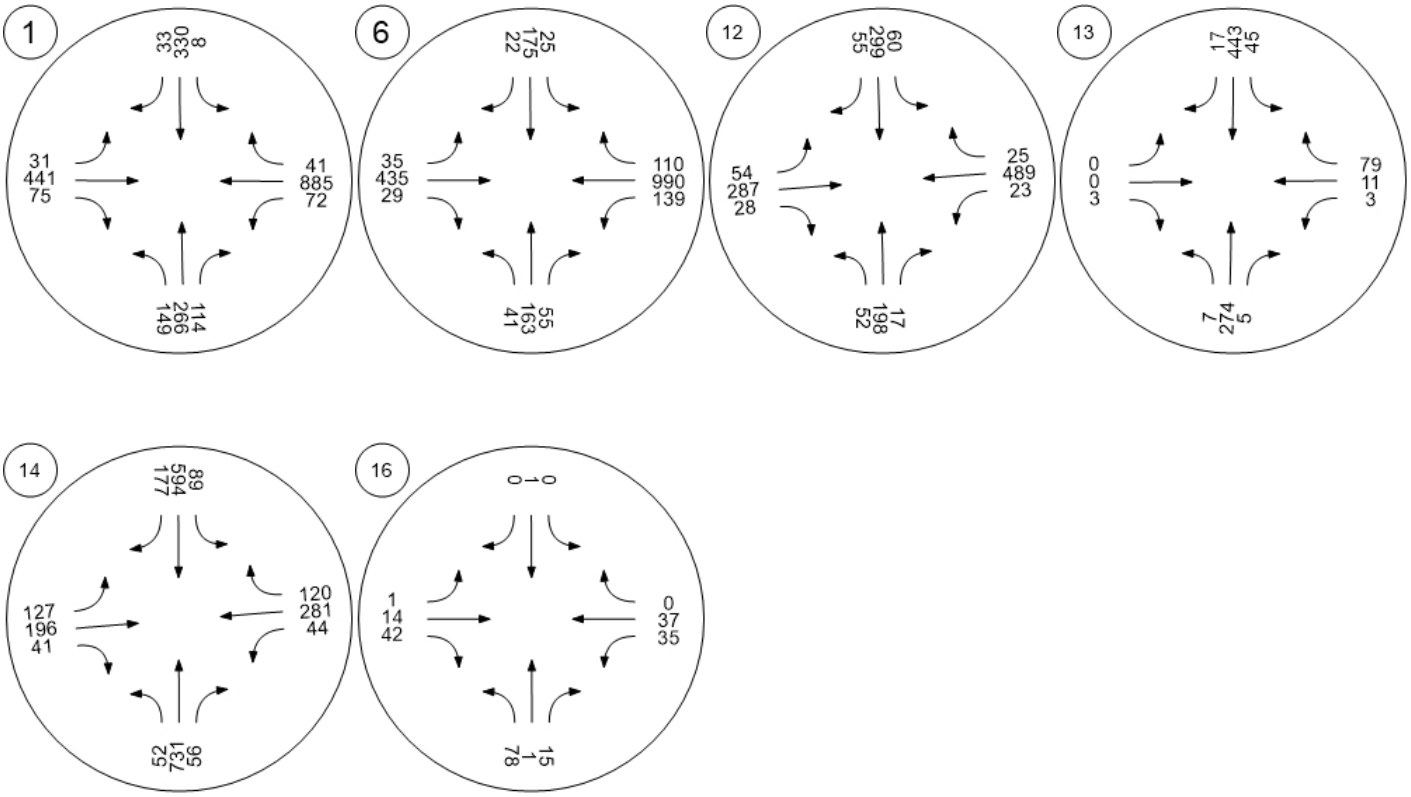
17: Gate	10.00	22	10.00	10
20: Gate	15.00	33	15.00	12
21: Gate	10.00	22	10.00	10
23: Gate	10.00	22	10.00	10
24: Gate	0.00	0	0.00	0
25: Gate	0.00	0	0.00	0
26: Gate	5.00	11	5.00	5
33: Gate	5.00	11	5.00	5
Total	**100.00**	**220**	**100.00**	**95**

Study Intersections

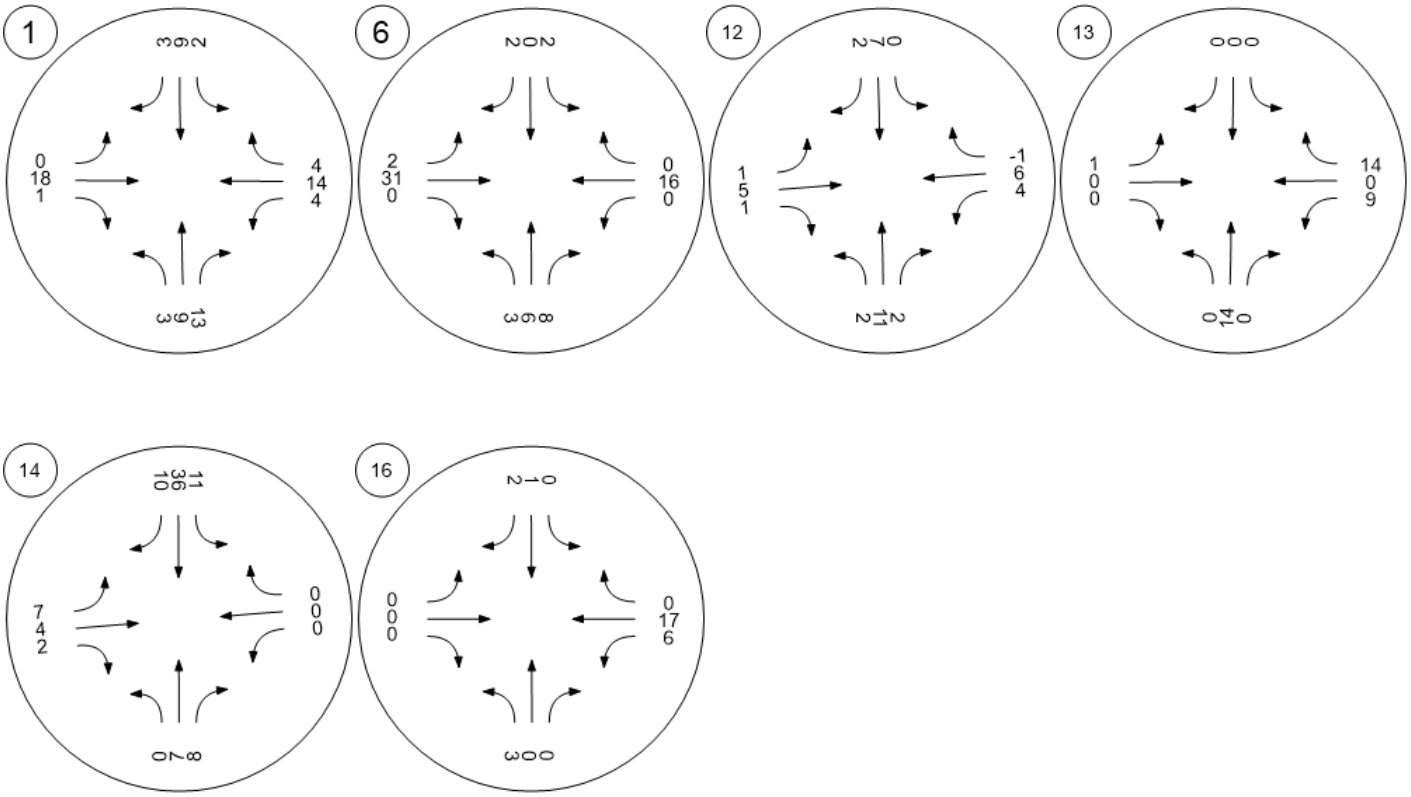
Lane Configuration and Traffic Control



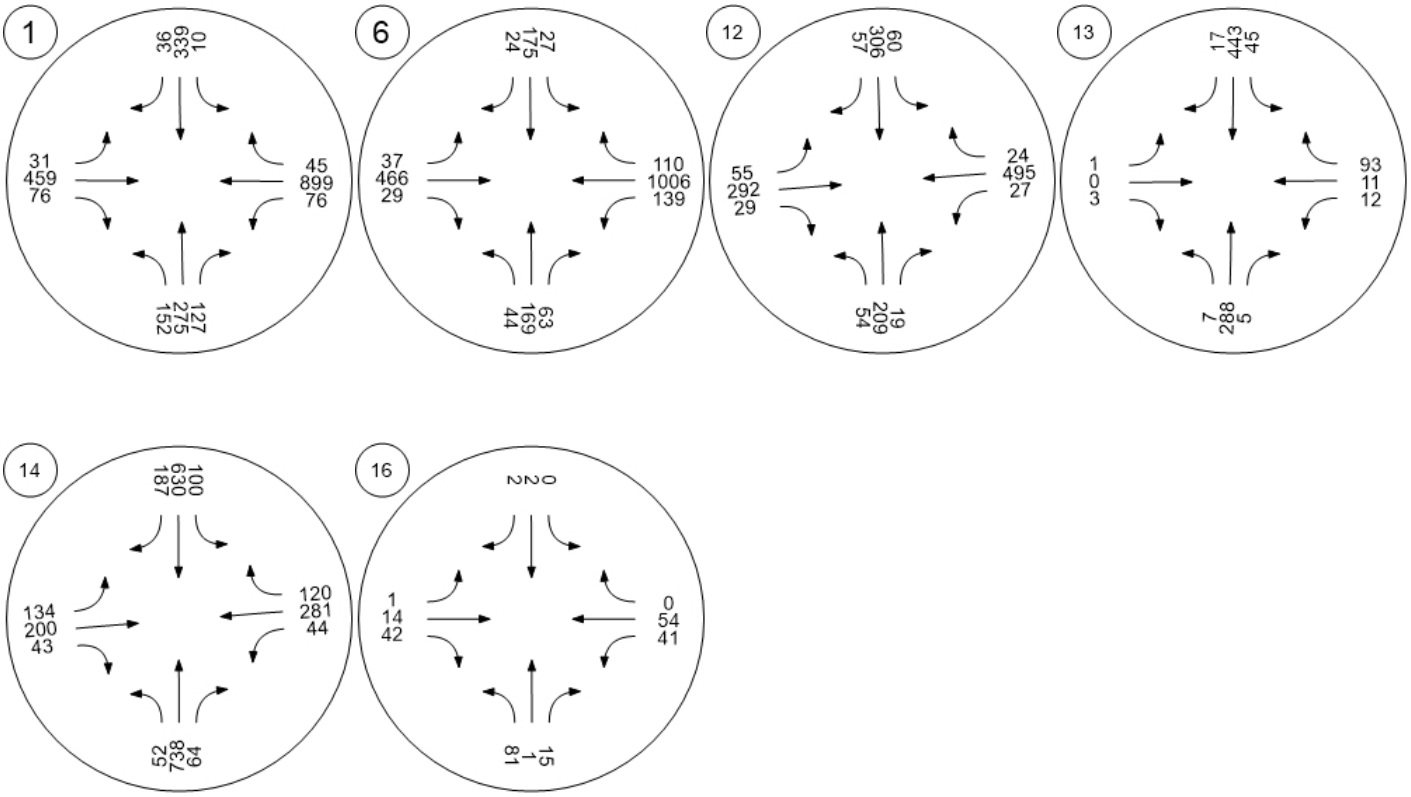
Traffic Volume - Base Volume



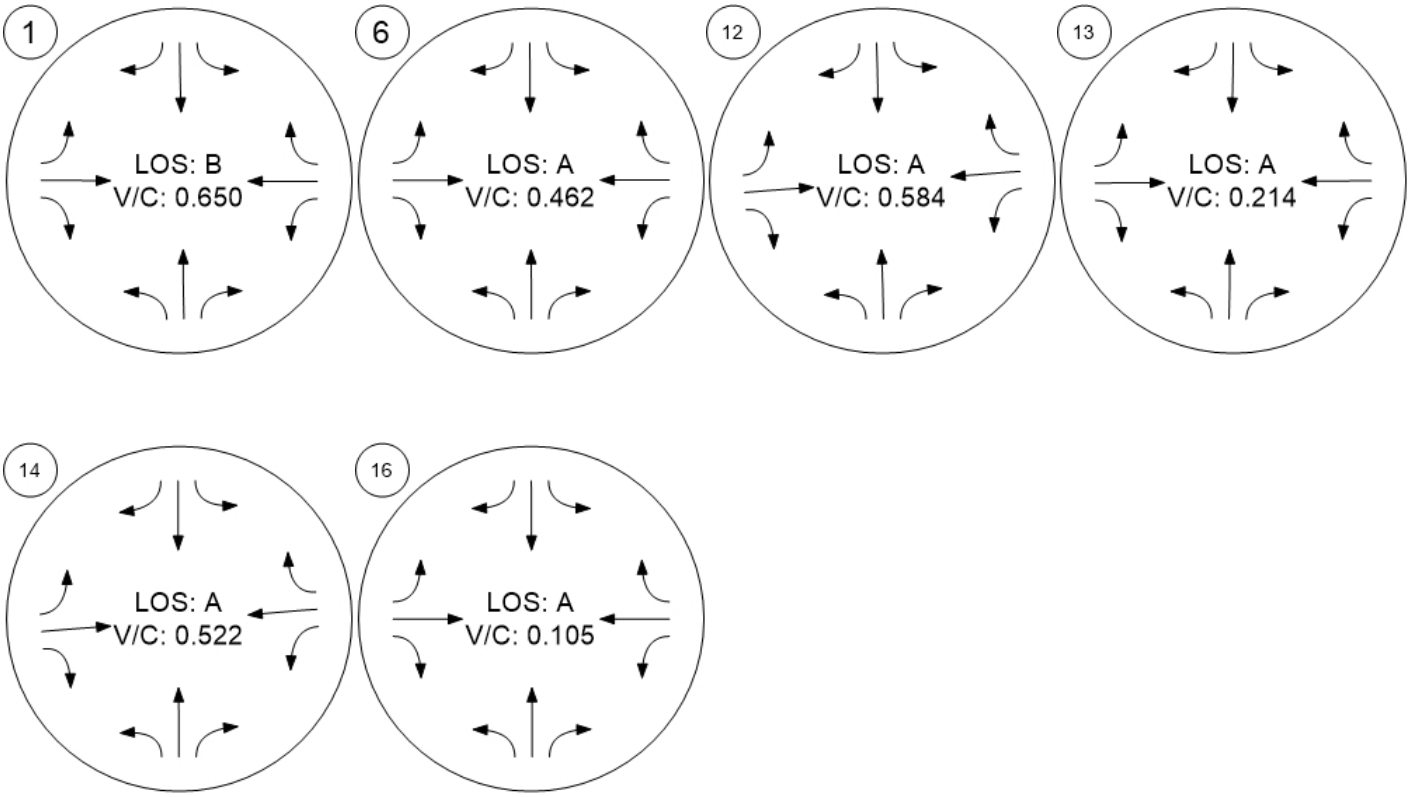
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Conditions



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Scenario 4 PM Existing
7/24/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Citrus - Badillo	Signalized	ICU 1	SB Thru	0.607	-	B
6	2nd - Badillo	Signalized	ICU 1	EB Right	0.480	-	A
12	Citrus at W. San Bernardino	Signalized	ICU 1	EB Thru	0.608	-	B
13	Citrus at Front	Signalized	ICU 1	SB Thru	0.282	-	A
14	Barranca - E. San Bernardino	Signalized	ICU 1	SB Right	0.496	-	A
16	2nd at Front	Signalized	ICU 1	NB Left	0.146	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Citrus - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.607

Intersection Setup

Name	Citrus			Citrus			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	12.00	12.00	12.00	12.00	10.00	14.00	18.00	10.00	10.00	10.00
No. of Lanes in Pocket	1	0	0	0	0	0	1	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			Badillo			Badillo		
Base Volume Input [veh/h]	103	336	147	27	332	40	61	629	113	68	469	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	9	13	2	9	3	0	18	1	4	14	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	106	345	160	29	341	43	61	647	114	72	483	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	86	40	7	85	11	15	162	29	18	121	13
Total Analysis Volume [veh/h]	106	345	160	29	341	43	61	647	114	72	483	53
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.22	0.10	0.02	0.26	0.26	0.04	0.24	0.24	0.05	0.17	0.17
Intersection LOS	B											
Intersection V/C	0.607											

Intersection Level Of Service Report
Intersection 6: 2nd - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.480

Intersection Setup

Name	2nd			2nd			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	14.00	12.00	23.00	10.00	12.00	22.00	10.00	12.00	20.00	10.00	13.00	21.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd			2nd			Badillo			Badillo		
Base Volume Input [veh/h]	55	212	86	136	301	58	71	670	34	106	502	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	6	8	2	0	2	2	31	0	0	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	218	94	138	301	60	73	701	34	106	518	64
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	55	24	35	75	15	18	175	9	27	130	16
Total Analysis Volume [veh/h]	58	218	94	138	301	60	73	701	34	106	518	64
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.10	0.10	0.09	0.11	0.11	0.05	0.23	0.23	0.07	0.18	0.18
Intersection LOS	A											
Intersection V/C	0.480											

Intersection Level Of Service Report
Intersection 12: Citrus at W. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.608

Intersection Setup

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	10.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	120.00	100.00	100.00	150.00	100.00	100.00	80.00	100.00	100.00	80.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	61	301	33	82	307	74	109	512	42	31	267	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	11	2	0	7	2	1	5	1	4	6	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	312	35	82	314	76	110	517	43	35	273	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	78	9	21	79	19	28	129	11	9	68	11
Total Analysis Volume [veh/h]	63	312	35	82	314	76	110	517	43	35	273	45
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.11	0.11	0.05	0.20	0.05	0.07	0.35	0.35	0.02	0.20	0.20
Intersection LOS	B											
Intersection V/C	0.608											

Intersection Level Of Service Report
Intersection 13: Citrus at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name	Citrus			Citrus			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	12.00	10.00	12.00	20.00	10.00	11.00	11.00	11.00	13.00	13.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Citrus			Citrus			Front			Front		
Base Volume Input [veh/h]	8	443	7	53	461	5	26	15	20	13	3	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	0	0	0	1	0	0	9	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	457	7	53	461	5	27	15	20	22	3	136
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	114	2	13	115	1	7	4	5	6	1	34
Total Analysis Volume [veh/h]	8	457	7	53	461	5	27	15	20	22	3	136
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.15	0.15	0.03	0.15	0.15	0.02	0.02	0.02	0.01	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.282											

Intersection Level Of Service Report
Intersection 14: Barranca - E. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.496

Intersection Setup

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	15.00	10.00	12.00	15.00	10.00	12.00	16.00	10.00	12.00	16.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	43	708	44	62	622	113	190	419	56	47	192	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	8	11	36	10	7	4	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	715	52	73	658	123	197	423	58	47	192	87
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	179	13	18	165	31	49	106	15	12	48	22
Total Analysis Volume [veh/h]	43	715	52	73	658	123	197	423	58	47	192	87
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.24	0.24	0.05	0.24	0.24	0.12	0.15	0.15	0.03	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.496											

Intersection Level Of Service Report
Intersection 16: 2nd at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.146

Intersection Setup

Name	2nd			2nd			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	18.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	2nd			2nd			Front			Front		
Base Volume Input [veh/h]	110	0	20	0	3	0	1	27	78	30	54	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	1	2	0	0	0	6	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	0	20	0	4	2	1	27	78	36	71	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	0	5	0	1	1	0	7	20	9	18	0
Total Analysis Volume [veh/h]	113	0	20	0	4	2	1	27	78	36	71	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.05	0.02	0.04	0.00
Intersection LOS	A											
Intersection V/C	0.146											

Vistro File: C:\...\CovinaTC Traffic Analysis.vistro
Report File: C:\...\PM Existing Report.pdf

Scenario 4 PM Existing
7/24/2018

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	106	345	160	29	341	43	61	647	114	72	483	53	2454

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	58	218	94	138	301	60	73	701	34	106	518	64	2365

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	63	312	35	82	314	76	110	517	43	35	273	45	1905

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	8	457	7	53	461	5	27	15	20	22	3	136	1214

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	43	715	52	73	658	123	197	423	58	47	192	87	2668

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	113	0	20	0	4	2	1	27	78	36	71	0	352

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Scenario 4 PM Existing
7/24/2018

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	Final Base	103	336	147	27	332	40	61	629	113	68	469	49	2374
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	9	13	2	9	3	0	18	1	4	14	4	80
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**106**	**345**	**160**	**29**	**341**	**43**	**61**	**647**	**114**	**72**	**483**	**53**	**2454**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	Final Base	55	212	86	136	301	58	71	670	34	106	502	64	2295
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	6	8	2	0	2	2	31	0	0	16	0	70
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**58**	**218**	**94**	**138**	**301**	**60**	**73**	**701**	**34**	**106**	**518**	**64**	**2365**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	Final Base	61	301	33	82	307	74	109	512	42	31	267	46	1865
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	2	11	2	0	7	2	1	5	1	4	6	-1	40
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**63**	**312**	**35**	**82**	**314**	**76**	**110**	**517**	**43**	**35**	**273**	**45**	**1905**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	Final Base	8	443	7	53	461	5	26	15	20	13	3	122	1176
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	14	0	0	0	0	1	0	0	9	0	14	38
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**8**	**457**	**7**	**53**	**461**	**5**	**27**	**15**	**20**	**22**	**3**	**136**	**1214**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	Final Base	43	708	44	62	622	113	190	419	56	47	192	87	2583
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	7	8	11	36	10	7	4	2	0	0	0	85
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**43**	**715**	**52**	**73**	**658**	**123**	**197**	**423**	**58**	**47**	**192**	**87**	**2668**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	Final Base	110	0	20	0	3	0	1	27	78	30	54	0	323
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	0	0	0	1	2	0	0	0	6	17	0	29
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**113**	**0**	**20**	**0**	**4**	**2**	**1**	**27**	**78**	**36**	**71**	**0**	**352**

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Scenario 4 PM Existing
7/24/2018

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
1: zone				1.000	0.000	50.00	50.00	46	68	114	21.11
2: zone				1.000	0.000	50.00	50.00	25	56	81	15.00
4: zone				1.000	0.000	50.00	50.00	0	27	27	5.00
5: zone				1.000	0.000	50.00	50.00	223	95	318	58.89
					Added Trips Total			**294**	**246**	**540**	**100.00**

Removed Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
3: zone				1.000	0.000	50.00	50.00	86	25	61	100.00
					Removed Trips Total			**86**	**25**	**61**	**100.00**

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Scenario 4 PM Existing
7/24/2018

Trip Distribution summary

Zone / Gate	Zone 1: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	5	10.00	7
12: Gate	5.00	2	5.00	3
13: Gate	0.00	0	0.00	0
15: Gate	40.00	18	40.00	27
17: Gate	10.00	5	10.00	7
20: Gate	10.00	5	10.00	7
21: Gate	10.00	5	10.00	7
23: Gate	10.00	5	10.00	7
24: Gate	1.00	0	1.00	1
25: Gate	0.00	0	0.00	0
26: Gate	2.00	1	2.00	1
33: Gate	2.00	1	2.00	1
Total	**100.00**	**47**	**100.00**	**68**

Zone / Gate	Zone 2: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	3	10.00	6
12: Gate	5.00	1	5.00	3
13: Gate	25.00	6	25.00	11
15: Gate	15.00	4	15.00	8
17: Gate	10.00	3	10.00	6
20: Gate	10.00	3	10.00	6
21: Gate	10.00	3	10.00	6
23: Gate	10.00	3	10.00	6
24: Gate	1.00	0	1.00	1
25: Gate	1.00	0	1.00	1
26: Gate	2.00	1	2.00	1
33: Gate	1.00	0	1.00	1
Total	**100.00**	**27**	**100.00**	**56**

Zone / Gate	Zone 3: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
6: Gate	10.00	(9)	10.00	(3)
12: Gate	5.00	(4)	5.00	(1)
13: Gate	25.00	(22)	25.00	(3)
15: Gate	15.00	(13)	15.00	(4)
17: Gate	10.00	(9)	10.00	(3)
20: Gate	10.00	(9)	10.00	(3)
21: Gate	10.00	(9)	10.00	(3)
23: Gate	10.00	(9)	10.00	(3)
24: Gate	1.00	(1)	1.00	(0)
25: Gate	2.00	(2)	2.00	(1)
26: Gate	2.00	(2)	2.00	(1)
33: Gate	0.00	(0)	0.00	(0)
Total	**100.00**	**(89)**	**100.00**	**(25)**

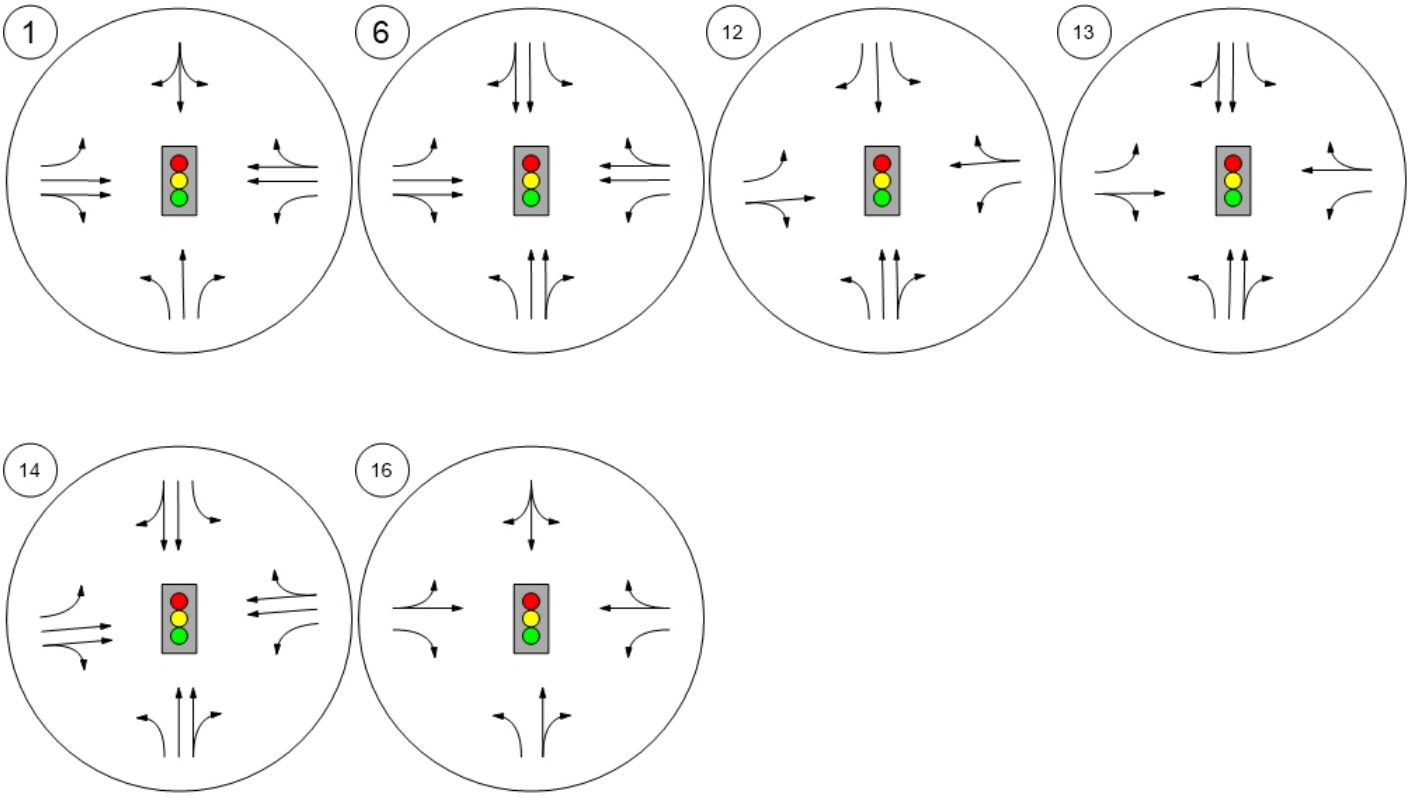
Zone / Gate	Zone 4: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	0	10.00	3
12: Gate	5.00	0	5.00	1
13: Gate	30.00	0	30.00	6
15: Gate	10.00	0	10.00	3
17: Gate	10.00	0	10.00	3
20: Gate	10.00	0	10.00	3
21: Gate	10.00	0	10.00	3
23: Gate	10.00	0	10.00	3
24: Gate	2.00	0	2.00	1
25: Gate	1.00	0	1.00	0
26: Gate	0.00	0	0.00	0
33: Gate	2.00	0	2.00	1
Total	**100.00**	**0**	**100.00**	**27**

Zone / Gate	Zone 5: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
6: Gate	15.00	33	15.00	14
12: Gate	5.00	11	5.00	5
13: Gate	15.00	33	15.00	14
15: Gate	10.00	22	10.00	10

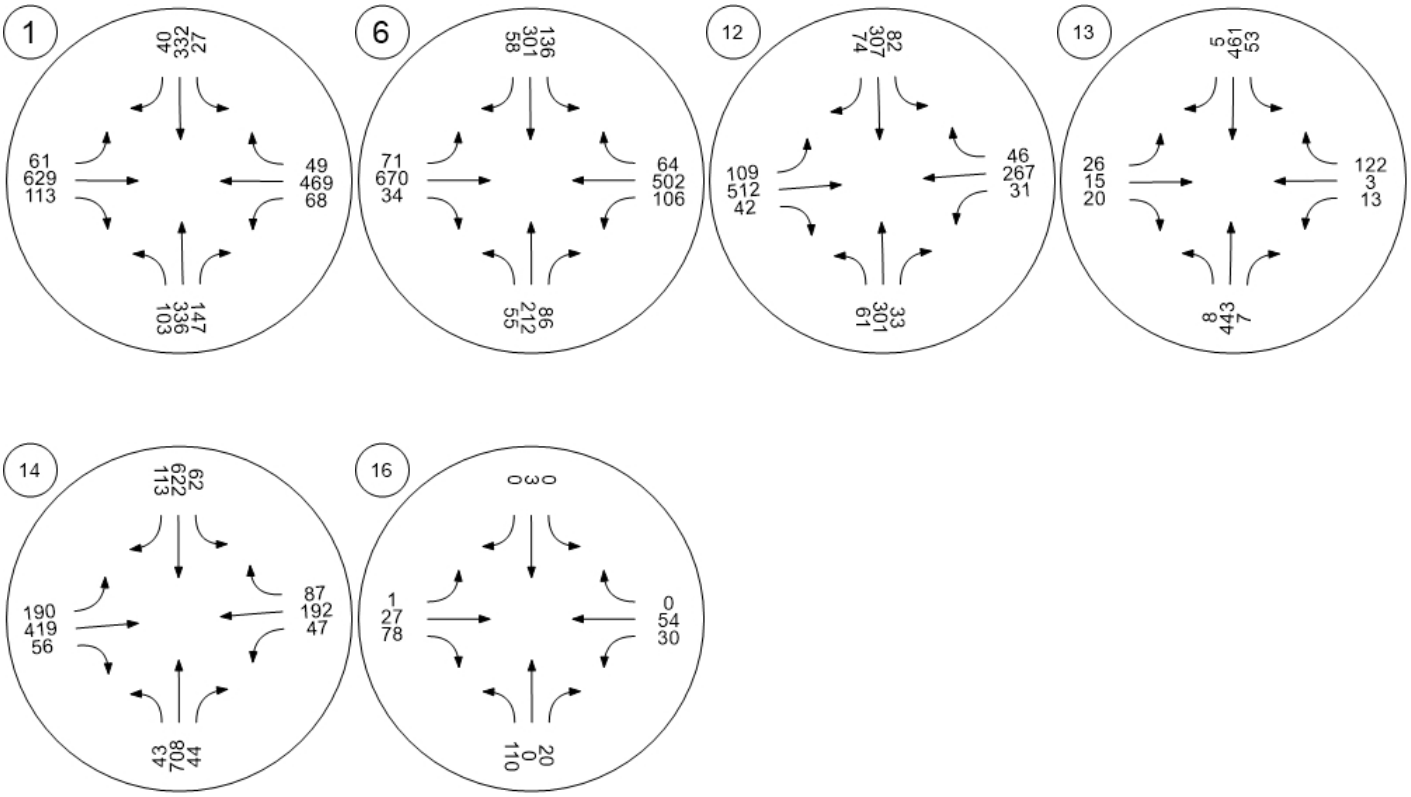
17: Gate	10.00	22	10.00	10
20: Gate	15.00	33	15.00	12
21: Gate	10.00	22	10.00	10
23: Gate	10.00	22	10.00	10
24: Gate	0.00	0	0.00	0
25: Gate	0.00	0	0.00	0
26: Gate	5.00	11	5.00	5
33: Gate	5.00	11	5.00	5
Total	**100.00**	**220**	**100.00**	**95**

Study Intersections

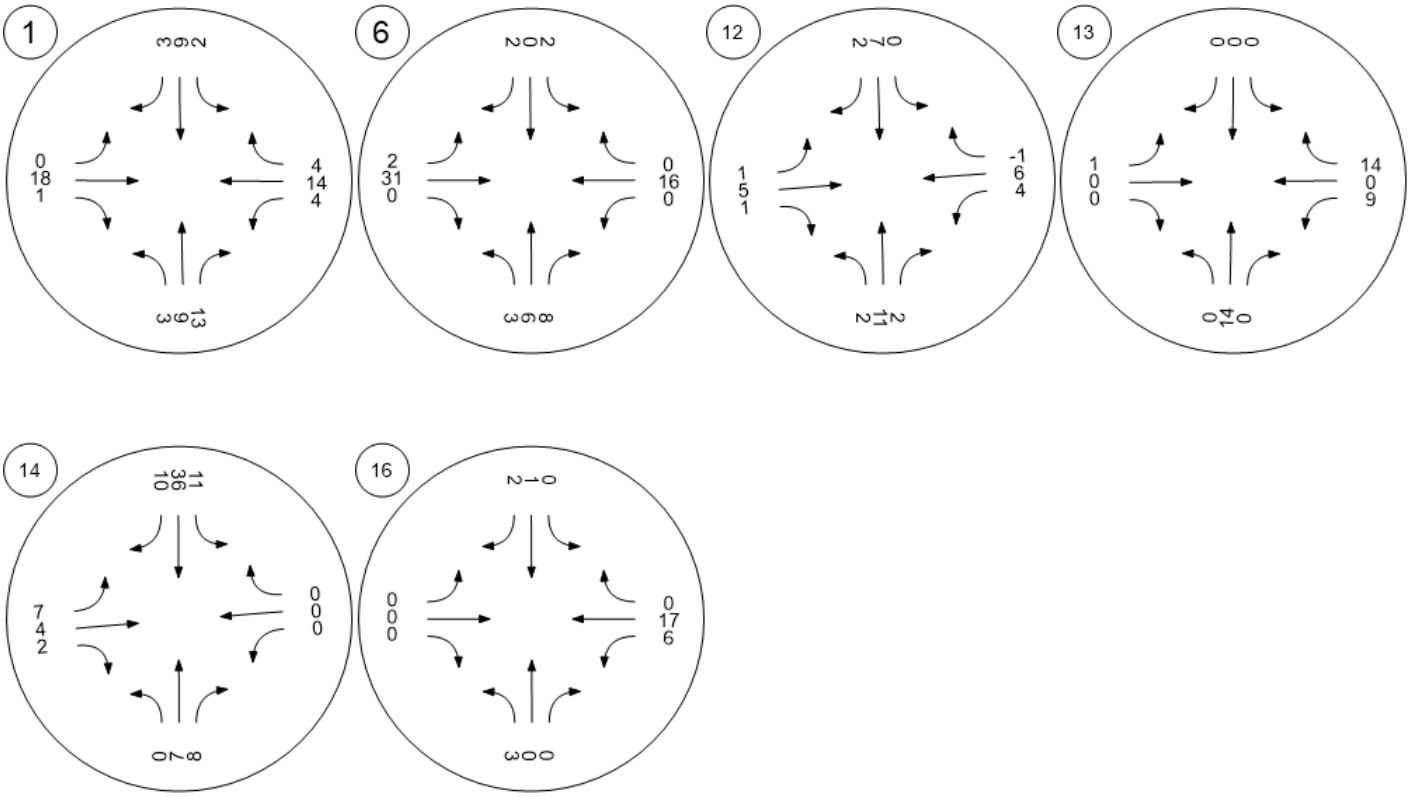
Lane Configuration and Traffic Control



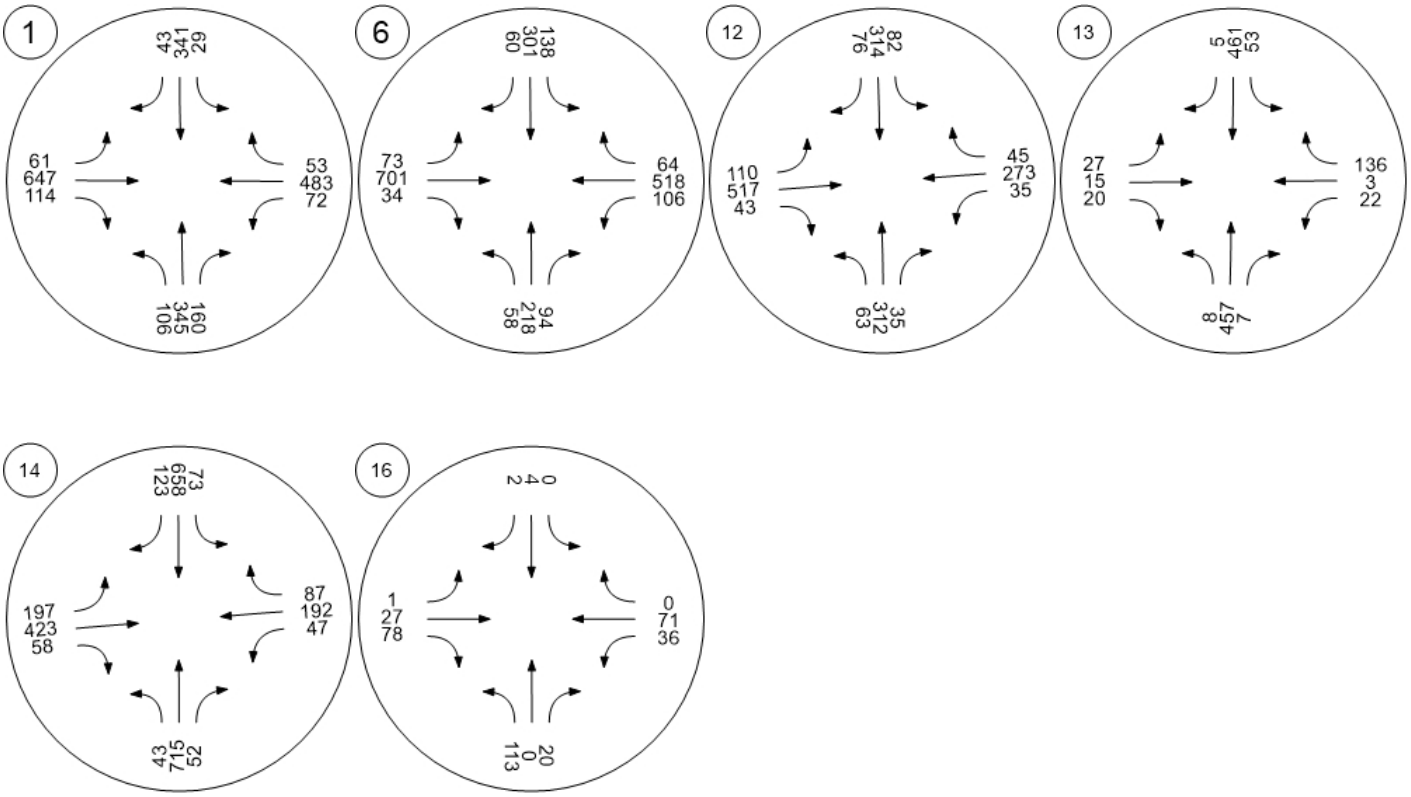
Traffic Volume - Base Volume



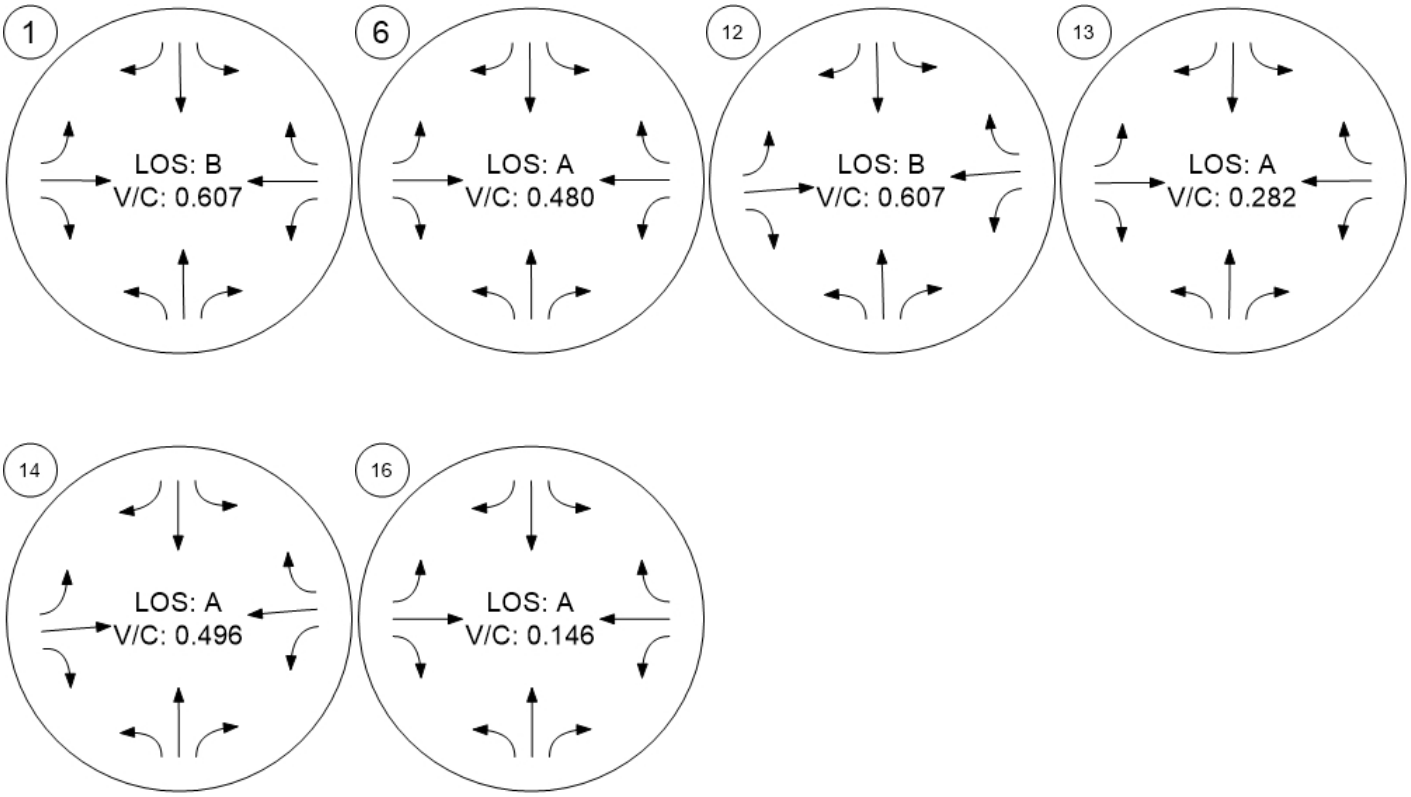
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Conditions



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Scenario 1 AM Future
7/24/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Citrus - Badillo	Signalized	ICU 1	WB Thru	0.790	-	C
6	2nd - Badillo	Signalized	ICU 1	WB Right	0.562	-	A
12	Citrus at W. San Bernardino	Signalized	ICU 1	WB Thru	0.711	-	C
13	Citrus at Front	Signalized	ICU 1	SB Thru	0.258	-	A
14	Barranca - E. San Bernardino	Signalized	ICU 1	SB Thru	0.634	-	B
16	2nd at Front	Signalized	ICU 1	NB Left	0.126	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Citrus - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.790

Intersection Setup

Name	Citrus			Citrus			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	12.00	12.00	12.00	12.00	10.00	14.00	18.00	10.00	12.00	10.00
No. of Lanes in Pocket	1	0	0	0	0	0	1	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			Badillo			Badillo		
Base Volume Input [veh/h]	149	266	114	8	330	33	31	441	75	72	885	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	9	13	2	9	3	0	18	1	4	14	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	185	334	152	12	412	43	38	556	93	92	1094	54
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	84	38	3	103	11	10	139	23	23	274	14
Total Analysis Volume [veh/h]	185	334	152	12	412	43	38	556	93	92	1094	54
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.21	0.10	0.01	0.29	0.29	0.02	0.20	0.20	0.06	0.36	0.36
Intersection LOS	C											
Intersection V/C	0.790											

Intersection Level Of Service Report
Intersection 6: 2nd - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.562

Intersection Setup

Name	2nd			2nd			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	14.00	12.00	23.00	10.00	12.00	22.00	10.00	12.00	20.00	10.00	13.00	21.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd			2nd			Badillo			Badillo		
Base Volume Input [veh/h]	41	163	55	25	175	22	35	435	29	139	990	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	6	8	2	0	2	2	31	0	0	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	205	75	33	214	29	45	562	35	170	1224	134
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	51	19	8	54	7	11	141	9	43	306	34
Total Analysis Volume [veh/h]	53	205	75	33	214	29	45	562	35	170	1224	134
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.09	0.09	0.02	0.08	0.08	0.03	0.19	0.19	0.11	0.42	0.42
Intersection LOS	A											
Intersection V/C	0.562											

Intersection Level Of Service Report
Intersection 12: Citrus at W. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

Intersection Setup

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	10.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	120.00	100.00	100.00	150.00	100.00	100.00	80.00	100.00	100.00	80.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	52	198	17	60	299	55	54	287	28	23	489	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	11	2	0	7	2	1	5	1	4	6	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	253	23	73	372	69	67	355	35	32	603	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	63	6	18	93	17	17	89	9	8	151	8
Total Analysis Volume [veh/h]	65	253	23	73	372	69	67	355	35	32	603	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.09	0.09	0.05	0.23	0.04	0.04	0.24	0.24	0.02	0.40	0.40
Intersection LOS	C											
Intersection V/C	0.711											

Intersection Level Of Service Report
Intersection 13: Citrus at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.258

Intersection Setup

Name	Citrus			Citrus			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	12.00	10.00	12.00	20.00	10.00	11.00	11.00	11.00	13.00	13.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Citrus			Citrus			Front			Front		
Base Volume Input [veh/h]	7	274	5	45	443	17	0	0	3	3	11	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	0	0	0	1	0	0	9	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	348	6	55	540	21	1	0	4	13	13	110
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	87	2	14	135	5	0	0	1	3	3	28
Total Analysis Volume [veh/h]	9	348	6	55	540	21	1	0	4	13	13	110
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.11	0.11	0.03	0.18	0.18	0.00	0.00	0.00	0.01	0.08	0.08
Intersection LOS	A											
Intersection V/C	0.258											

Intersection Level Of Service Report
Intersection 14: Barranca - E. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.634

Intersection Setup

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	15.00	10.00	12.00	15.00	10.00	12.00	16.00	10.00	12.00	16.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	52	731	56	89	594	177	127	196	41	44	281	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	8	11	36	10	7	4	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	899	76	120	761	226	162	243	52	54	343	146
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	225	19	30	190	57	41	61	13	14	86	37
Total Analysis Volume [veh/h]	63	899	76	120	761	226	162	243	52	54	343	146
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.30	0.30	0.08	0.31	0.31	0.10	0.09	0.09	0.03	0.15	0.15
Intersection LOS	B											
Intersection V/C	0.634											

Intersection Level Of Service Report
Intersection 16: 2nd at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.126

Intersection Setup

Name	2nd			2nd			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	18.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	2nd			2nd			Front			Front		
Base Volume Input [veh/h]	78	1	15	0	1	0	1	14	42	35	37	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	1	2	0	0	0	6	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	1	18	0	2	2	1	17	51	49	62	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	5	0	1	1	0	4	13	12	16	0
Total Analysis Volume [veh/h]	98	1	18	0	2	2	1	17	51	49	62	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.03	0.03	0.04	0.00
Intersection LOS	A											
Intersection V/C	0.126											

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Scenario 1 AM Future
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Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	185	334	152	12	412	43	38	556	93	92	1094	54	3065

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	53	205	75	33	214	29	45	562	35	170	1224	134	2779

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	65	253	23	73	372	69	67	355	35	32	603	30	1977

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	9	348	6	55	540	21	1	0	4	13	13	110	1120

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	63	899	76	120	761	226	162	243	52	54	343	146	3145

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	98	1	18	0	2	2	1	17	51	49	62	0	301

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Scenario 1 AM Future
7/24/2018

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	Final Base	149	266	114	8	330	33	31	441	75	72	885	41	2445
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	9	13	2	9	3	0	18	1	4	14	4	80
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**185**	**334**	**152**	**12**	**412**	**43**	**38**	**556**	**93**	**92**	**1094**	**54**	**3065**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	Final Base	41	163	55	25	175	22	35	435	29	139	990	110	2219
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	6	8	2	0	2	2	31	0	0	16	0	70
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**53**	**205**	**75**	**33**	**214**	**29**	**45**	**562**	**35**	**170**	**1224**	**134**	**2779**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	Final Base	52	198	17	60	299	55	54	287	28	23	489	25	1587
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	2	11	2	0	7	2	1	5	1	4	6	-1	40
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**65**	**253**	**23**	**73**	**372**	**69**	**67**	**355**	**35**	**32**	**603**	**30**	**1977**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	Final Base	7	274	5	45	443	17	0	0	3	3	11	79	887
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	14	0	0	0	0	1	0	0	9	0	14	38
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**9**	**348**	**6**	**55**	**540**	**21**	**1**	**0**	**4**	**13**	**13**	**110**	**1120**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	Final Base	52	731	56	89	594	177	127	196	41	44	281	120	2508
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	7	8	11	36	10	7	4	2	0	0	0	85
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**63**	**899**	**76**	**120**	**761**	**226**	**162**	**243**	**52**	**54**	**343**	**146**	**3145**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	Final Base	78	1	15	0	1	0	1	14	42	35	37	0	224
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	0	0	0	1	2	0	0	0	6	17	0	29
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**98**	**1**	**18**	**0**	**2**	**2**	**1**	**17**	**51**	**49**	**62**	**0**	**301**

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Scenario 1 AM Future
7/24/2018

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
1: zone				1.000	0.000	50.00	50.00	46	68	114	21.11
2: zone				1.000	0.000	50.00	50.00	25	56	81	15.00
4: zone				1.000	0.000	50.00	50.00	0	27	27	5.00
5: zone				1.000	0.000	50.00	50.00	223	95	318	58.89
					Added Trips Total			**294**	**246**	**540**	**100.00**

Removed Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
3: zone				1.000	0.000	50.00	50.00	86	25	61	100.00
					Removed Trips Total			**86**	**25**	**61**	**100.00**

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Scenario 1 AM Future
7/24/2018

Trip Distribution summary

Zone / Gate	Zone 1: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	5	10.00	7
12: Gate	5.00	2	5.00	3
13: Gate	0.00	0	0.00	0
15: Gate	40.00	18	40.00	27
17: Gate	10.00	5	10.00	7
20: Gate	10.00	5	10.00	7
21: Gate	10.00	5	10.00	7
23: Gate	10.00	5	10.00	7
24: Gate	1.00	0	1.00	1
25: Gate	0.00	0	0.00	0
26: Gate	2.00	1	2.00	1
33: Gate	2.00	1	2.00	1
Total	**100.00**	**47**	**100.00**	**68**

Zone / Gate	Zone 2: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	3	10.00	6
12: Gate	5.00	1	5.00	3
13: Gate	25.00	6	25.00	11
15: Gate	15.00	4	15.00	8
17: Gate	10.00	3	10.00	6
20: Gate	10.00	3	10.00	6
21: Gate	10.00	3	10.00	6
23: Gate	10.00	3	10.00	6
24: Gate	1.00	0	1.00	1
25: Gate	1.00	0	1.00	1
26: Gate	2.00	1	2.00	1
33: Gate	1.00	0	1.00	1
Total	**100.00**	**27**	**100.00**	**56**

Zone / Gate	Zone 3: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
6: Gate	10.00	(9)	10.00	(3)
12: Gate	5.00	(4)	5.00	(1)
13: Gate	25.00	(22)	25.00	(3)
15: Gate	15.00	(13)	15.00	(4)
17: Gate	10.00	(9)	10.00	(3)
20: Gate	10.00	(9)	10.00	(3)
21: Gate	10.00	(9)	10.00	(3)
23: Gate	10.00	(9)	10.00	(3)
24: Gate	1.00	(1)	1.00	(0)
25: Gate	2.00	(2)	2.00	(1)
26: Gate	2.00	(2)	2.00	(1)
33: Gate	0.00	(0)	0.00	(0)
Total	**100.00**	**(89)**	**100.00**	**(25)**

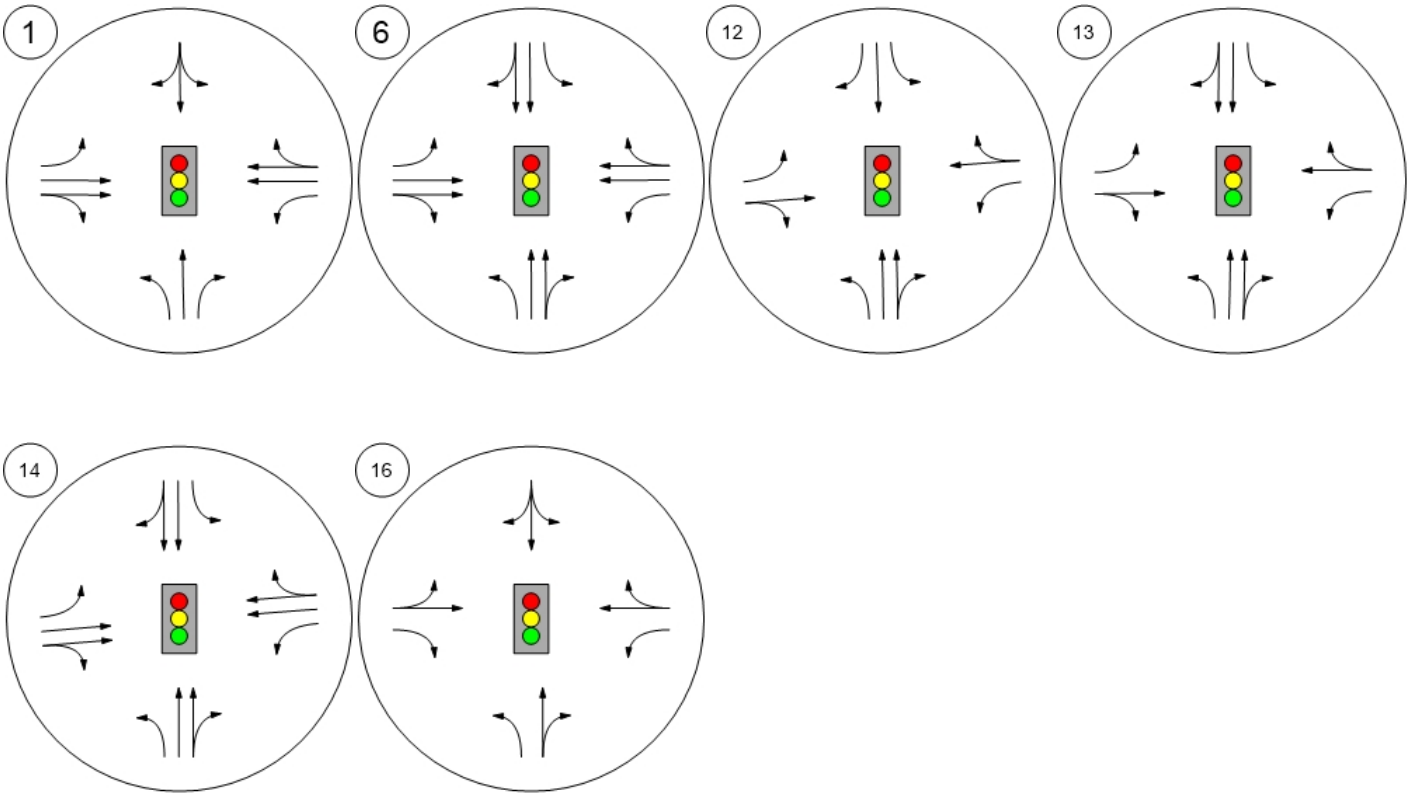
Zone / Gate	Zone 4: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	0	10.00	3
12: Gate	5.00	0	5.00	1
13: Gate	30.00	0	30.00	6
15: Gate	10.00	0	10.00	3
17: Gate	10.00	0	10.00	3
20: Gate	10.00	0	10.00	3
21: Gate	10.00	0	10.00	3
23: Gate	10.00	0	10.00	3
24: Gate	2.00	0	2.00	1
25: Gate	1.00	0	1.00	0
26: Gate	0.00	0	0.00	0
33: Gate	2.00	0	2.00	1
Total	**100.00**	**0**	**100.00**	**27**

Zone / Gate	Zone 5: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
6: Gate	15.00	33	15.00	14
12: Gate	5.00	11	5.00	5
13: Gate	15.00	33	15.00	14
15: Gate	10.00	22	10.00	10

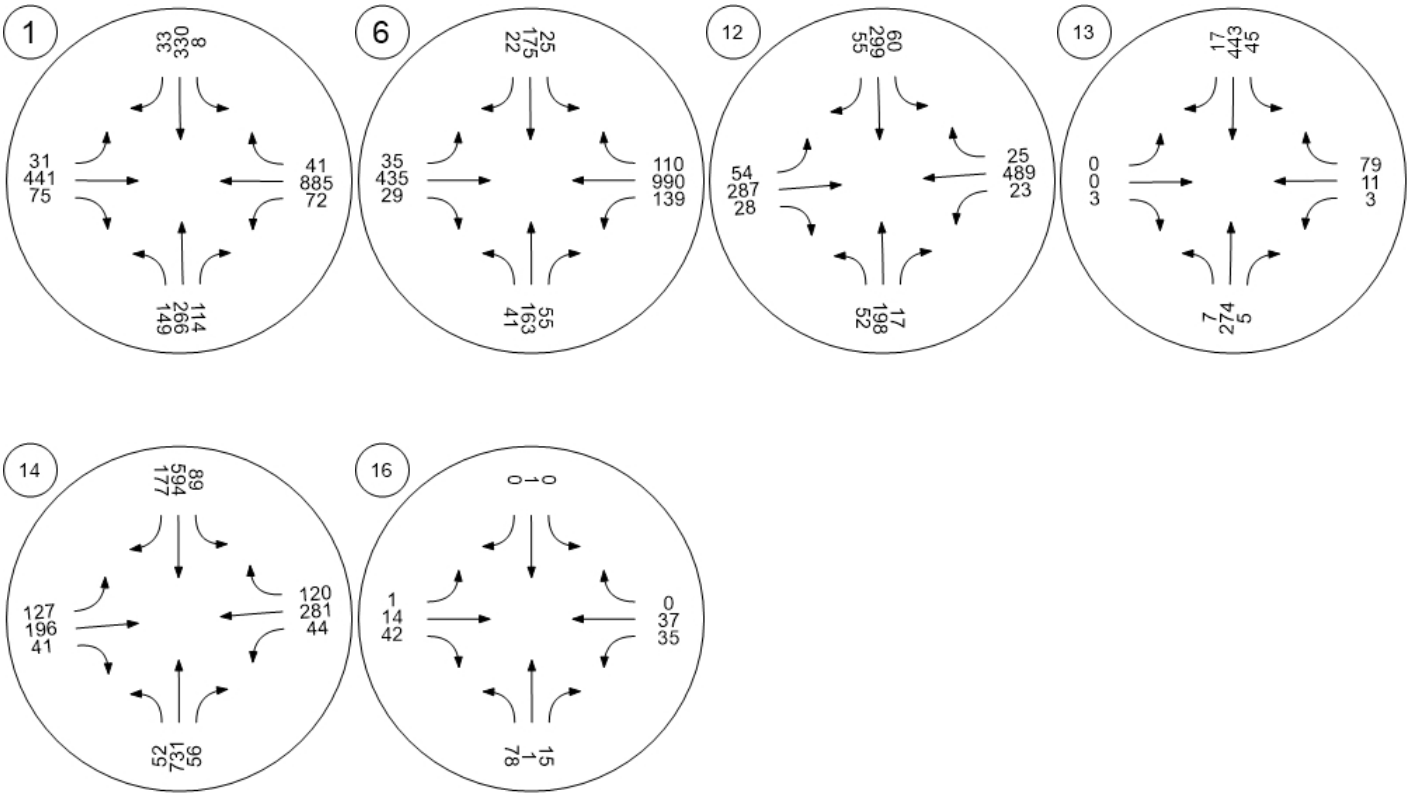
17: Gate	10.00	22	10.00	10
20: Gate	15.00	33	15.00	12
21: Gate	10.00	22	10.00	10
23: Gate	10.00	22	10.00	10
24: Gate	0.00	0	0.00	0
25: Gate	0.00	0	0.00	0
26: Gate	5.00	11	5.00	5
33: Gate	5.00	11	5.00	5
Total	**100.00**	**220**	**100.00**	**95**

Study Intersections

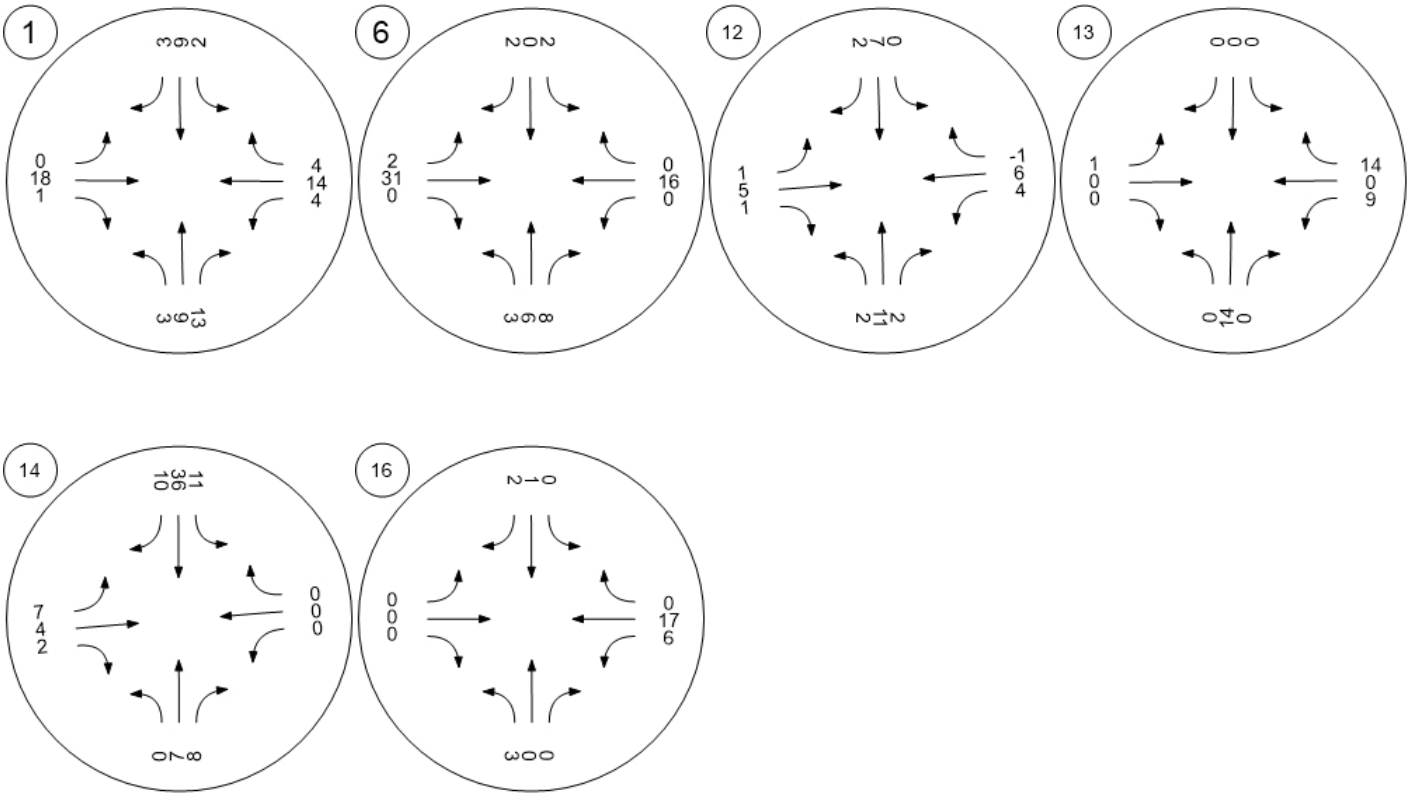
Lane Configuration and Traffic Control



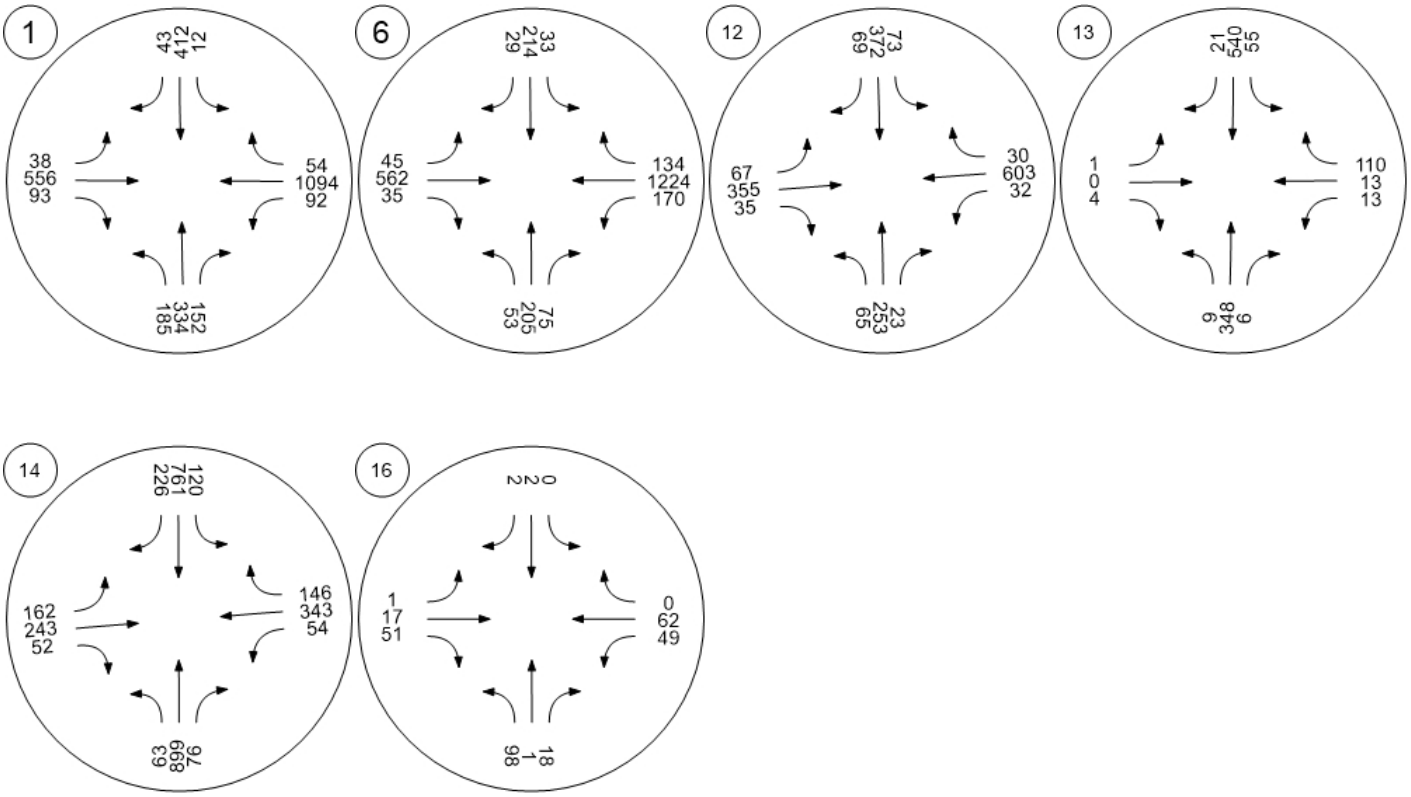
Traffic Volume - Base Volume



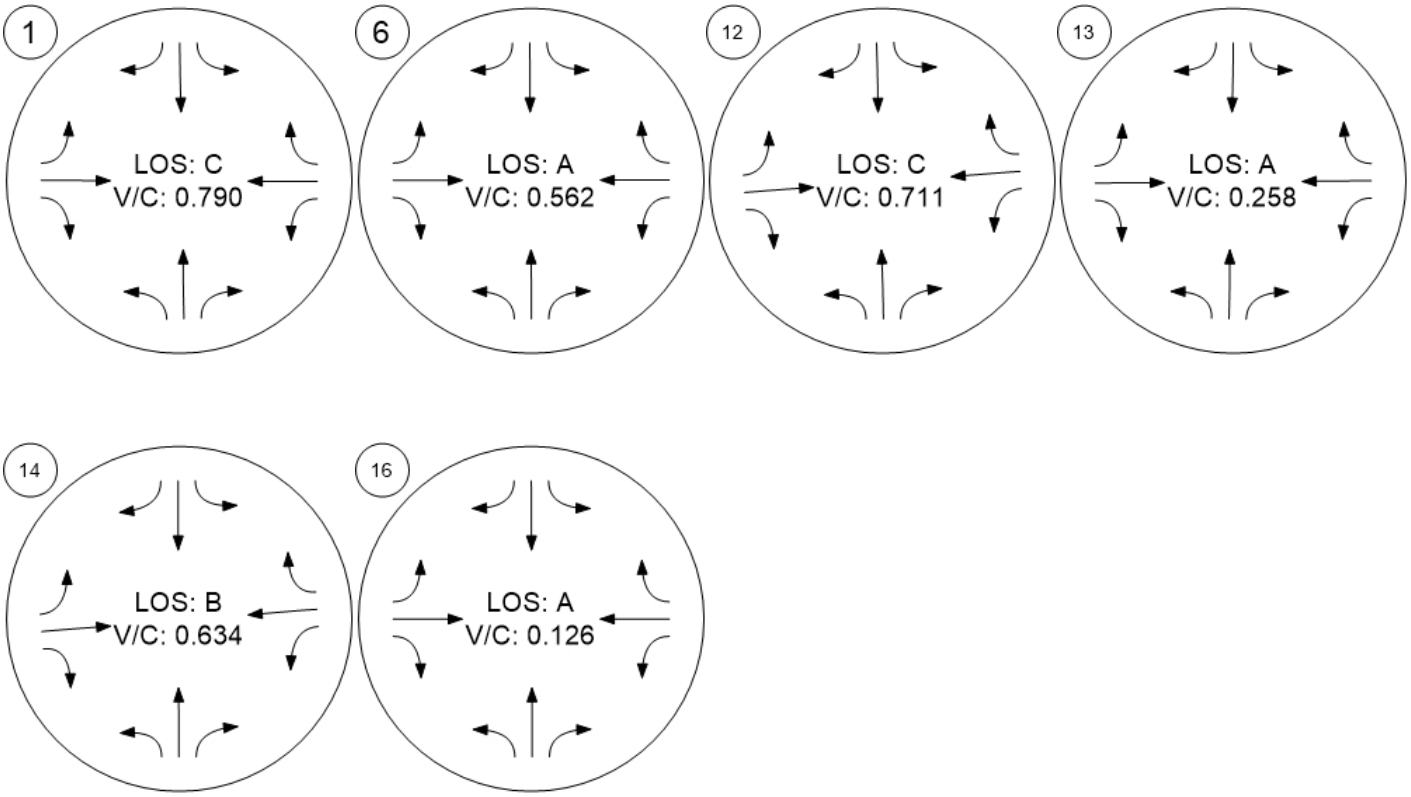
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Conditions



Vistro File: C:\...\CovinaTC Traffic Analysis.vistro
Report File: C:\...\PM Future Report.pdf

Scenario 5 PM Future
7/24/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Citrus - Badillo	Signalized	ICU 1	SB Right	0.737	-	C
6	2nd - Badillo	Signalized	ICU 1	EB Right	0.582	-	A
12	Citrus at W. San Bernardino	Signalized	ICU 1	EB Thru	0.739	-	C
13	Citrus at Front	Signalized	ICU 1	SB Right	0.342	-	A
14	Barranca - E. San Bernardino	Signalized	ICU 1	SB Thru	0.602	-	B
16	2nd at Front	Signalized	ICU 1	NB Left	0.176	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Citrus - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name	Citrus			Citrus			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	12.00	12.00	12.00	12.00	10.00	14.00	18.00	10.00	10.00	10.00
No. of Lanes in Pocket	1	0	0	0	0	0	1	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			Badillo			Badillo		
Base Volume Input [veh/h]	103	336	147	27	332	40	61	629	113	68	469	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	9	13	2	9	3	0	18	1	4	14	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	419	192	35	414	52	74	785	139	87	586	64
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	105	48	9	104	13	19	196	35	22	147	16
Total Analysis Volume [veh/h]	129	419	192	35	414	52	74	785	139	87	586	64
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.26	0.12	0.02	0.31	0.31	0.05	0.29	0.29	0.05	0.20	0.20
Intersection LOS	C											
Intersection V/C	0.737											

Intersection Level Of Service Report
Intersection 6: 2nd - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	2nd			2nd			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	14.00	12.00	23.00	10.00	12.00	22.00	10.00	12.00	20.00	10.00	13.00	21.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd			2nd			Badillo			Badillo		
Base Volume Input [veh/h]	55	212	86	136	301	58	71	670	34	106	502	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	6	8	2	0	2	2	31	0	0	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	265	113	168	367	73	89	848	41	129	628	78
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	66	28	42	92	18	22	212	10	32	157	20
Total Analysis Volume [veh/h]	70	265	113	168	367	73	89	848	41	129	628	78
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.12	0.12	0.11	0.14	0.14	0.06	0.28	0.28	0.08	0.22	0.22
Intersection LOS	A											
Intersection V/C	0.582											

Intersection Level Of Service Report
Intersection 12: Citrus at W. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

Intersection Setup

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	10.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	120.00	100.00	100.00	150.00	100.00	100.00	80.00	100.00	100.00	80.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	61	301	33	82	307	74	109	512	42	31	267	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	11	2	0	7	2	1	5	1	4	6	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	378	42	100	382	92	134	630	52	42	332	55
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	95	11	25	96	23	34	158	13	11	83	14
Total Analysis Volume [veh/h]	76	378	42	100	382	92	134	630	52	42	332	55
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.13	0.13	0.06	0.24	0.06	0.08	0.43	0.43	0.03	0.24	0.24
Intersection LOS	C											
Intersection V/C	0.739											

Intersection Level Of Service Report
Intersection 13: Citrus at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.342

Intersection Setup

Name	Citrus			Citrus			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	12.00	10.00	12.00	20.00	10.00	11.00	11.00	11.00	13.00	13.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Citrus			Citrus			Front			Front		
Base Volume Input [veh/h]	8	443	7	53	461	5	26	15	20	13	3	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	0	0	0	1	0	0	9	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	554	9	65	562	6	33	18	24	25	4	163
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	139	2	16	141	2	8	5	6	6	1	41
Total Analysis Volume [veh/h]	10	554	9	65	562	6	33	18	24	25	4	163
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.18	0.18	0.04	0.18	0.18	0.02	0.03	0.03	0.02	0.10	0.10
Intersection LOS	A											
Intersection V/C	0.342											

Intersection Level Of Service Report
Intersection 14: Barranca - E. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	15.00	10.00	12.00	15.00	10.00	12.00	16.00	10.00	12.00	16.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	43	708	44	62	622	113	190	419	56	47	192	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	8	11	36	10	7	4	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	871	62	87	795	148	239	515	70	57	234	106
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	218	16	22	199	37	60	129	18	14	59	27
Total Analysis Volume [veh/h]	52	871	62	87	795	148	239	515	70	57	234	106
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.29	0.29	0.05	0.29	0.29	0.15	0.18	0.18	0.04	0.11	0.11
Intersection LOS	B											
Intersection V/C	0.602											

Intersection Level Of Service Report
Intersection 16: 2nd at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.176

Intersection Setup

Name	2nd			2nd			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	18.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	2nd			2nd			Front			Front		
Base Volume Input [veh/h]	110	0	20	0	3	0	1	27	78	30	54	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	1	2	0	0	0	6	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	137	0	24	0	5	2	1	33	95	43	83	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	0	6	0	1	1	0	8	24	11	21	0
Total Analysis Volume [veh/h]	137	0	24	0	5	2	1	33	95	43	83	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.06	0.03	0.05	0.00
Intersection LOS	A											
Intersection V/C	0.176											

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Scenario 5 PM Future
7/24/2018

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	129	419	192	35	414	52	74	785	139	87	586	64	2976

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	70	265	113	168	367	73	89	848	41	129	628	78	2869

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	76	378	42	100	382	92	134	630	52	42	332	55	2315

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	10	554	9	65	562	6	33	18	24	25	4	163	1473

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	52	871	62	87	795	148	239	515	70	57	234	106	3236

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	137	0	24	0	5	2	1	33	95	43	83	0	423

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Scenario 5 PM Future
7/24/2018

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	Final Base	103	336	147	27	332	40	61	629	113	68	469	49	2374
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	9	13	2	9	3	0	18	1	4	14	4	80
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**129**	**419**	**192**	**35**	**414**	**52**	**74**	**785**	**139**	**87**	**586**	**64**	**2976**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	Final Base	55	212	86	136	301	58	71	670	34	106	502	64	2295
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	6	8	2	0	2	2	31	0	0	16	0	70
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**70**	**265**	**113**	**168**	**367**	**73**	**89**	**848**	**41**	**129**	**628**	**78**	**2869**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	Final Base	61	301	33	82	307	74	109	512	42	31	267	46	1865
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	2	11	2	0	7	2	1	5	1	4	6	-1	40
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**76**	**378**	**42**	**100**	**382**	**92**	**134**	**630**	**52**	**42**	**332**	**55**	**2315**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	Final Base	8	443	7	53	461	5	26	15	20	13	3	122	1176
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	14	0	0	0	0	1	0	0	9	0	14	38
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**10**	**554**	**9**	**65**	**562**	**6**	**33**	**18**	**24**	**25**	**4**	**163**	**1473**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	Final Base	43	708	44	62	622	113	190	419	56	47	192	87	2583
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	7	8	11	36	10	7	4	2	0	0	0	85
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**52**	**871**	**62**	**87**	**795**	**148**	**239**	**515**	**70**	**57**	**234**	**106**	**3236**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	Final Base	110	0	20	0	3	0	1	27	78	30	54	0	323
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	0	0	0	1	2	0	0	0	6	17	0	29
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**137**	**0**	**24**	**0**	**5**	**2**	**1**	**33**	**95**	**43**	**83**	**0**	**423**

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Scenario 5 PM Future
7/24/2018

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
1: zone				1.000	0.000	50.00	50.00	46	68	114	21.11
2: zone				1.000	0.000	50.00	50.00	25	56	81	15.00
4: zone				1.000	0.000	50.00	50.00	0	27	27	5.00
5: zone				1.000	0.000	50.00	50.00	223	95	318	58.89
					Added Trips Total			**294**	**246**	**540**	**100.00**

Removed Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
3: zone				1.000	0.000	50.00	50.00	86	25	61	100.00
					Removed Trips Total			**86**	**25**	**61**	**100.00**

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Scenario 5 PM Future
7/24/2018

Trip Distribution summary

Zone / Gate	Zone 1: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	5	10.00	7
12: Gate	5.00	2	5.00	3
13: Gate	0.00	0	0.00	0
15: Gate	40.00	18	40.00	27
17: Gate	10.00	5	10.00	7
20: Gate	10.00	5	10.00	7
21: Gate	10.00	5	10.00	7
23: Gate	10.00	5	10.00	7
24: Gate	1.00	0	1.00	1
25: Gate	0.00	0	0.00	0
26: Gate	2.00	1	2.00	1
33: Gate	2.00	1	2.00	1
Total	**100.00**	**47**	**100.00**	**68**

Zone / Gate	Zone 2: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	3	10.00	6
12: Gate	5.00	1	5.00	3
13: Gate	25.00	6	25.00	11
15: Gate	15.00	4	15.00	8
17: Gate	10.00	3	10.00	6
20: Gate	10.00	3	10.00	6
21: Gate	10.00	3	10.00	6
23: Gate	10.00	3	10.00	6
24: Gate	1.00	0	1.00	1
25: Gate	1.00	0	1.00	1
26: Gate	2.00	1	2.00	1
33: Gate	1.00	0	1.00	1
Total	**100.00**	**27**	**100.00**	**56**

Zone / Gate	Zone 3: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
6: Gate	10.00	(9)	10.00	(3)
12: Gate	5.00	(4)	5.00	(1)
13: Gate	25.00	(22)	25.00	(3)
15: Gate	15.00	(13)	15.00	(4)
17: Gate	10.00	(9)	10.00	(3)
20: Gate	10.00	(9)	10.00	(3)
21: Gate	10.00	(9)	10.00	(3)
23: Gate	10.00	(9)	10.00	(3)
24: Gate	1.00	(1)	1.00	(0)
25: Gate	2.00	(2)	2.00	(1)
26: Gate	2.00	(2)	2.00	(1)
33: Gate	0.00	(0)	0.00	(0)
Total	**100.00**	**(89)**	**100.00**	**(25)**

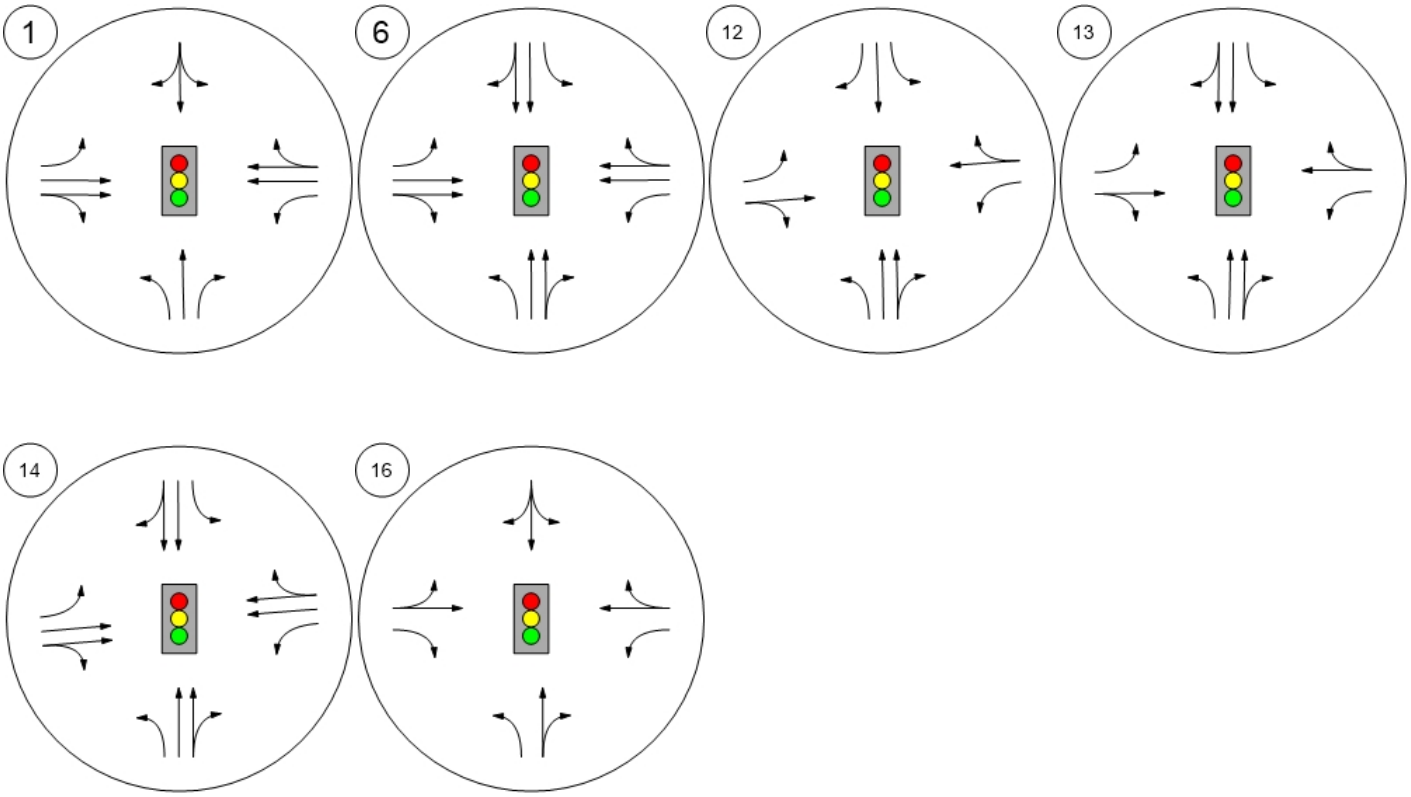
Zone / Gate	Zone 4: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	0	10.00	3
12: Gate	5.00	0	5.00	1
13: Gate	30.00	0	30.00	6
15: Gate	10.00	0	10.00	3
17: Gate	10.00	0	10.00	3
20: Gate	10.00	0	10.00	3
21: Gate	10.00	0	10.00	3
23: Gate	10.00	0	10.00	3
24: Gate	2.00	0	2.00	1
25: Gate	1.00	0	1.00	0
26: Gate	0.00	0	0.00	0
33: Gate	2.00	0	2.00	1
Total	**100.00**	**0**	**100.00**	**27**

Zone / Gate	Zone 5: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
6: Gate	15.00	33	15.00	14
12: Gate	5.00	11	5.00	5
13: Gate	15.00	33	15.00	14
15: Gate	10.00	22	10.00	10

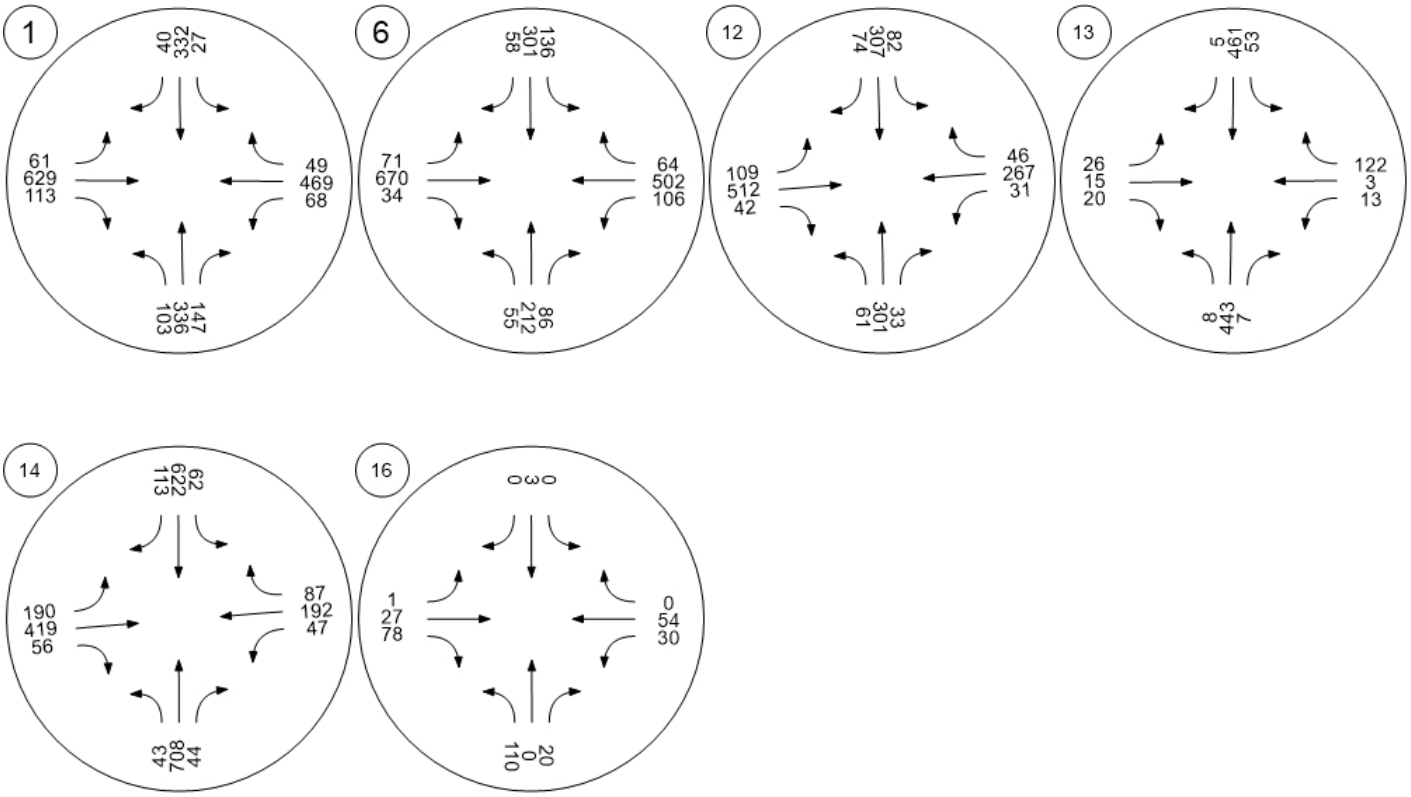
17: Gate	10.00	22	10.00	10
20: Gate	15.00	33	15.00	12
21: Gate	10.00	22	10.00	10
23: Gate	10.00	22	10.00	10
24: Gate	0.00	0	0.00	0
25: Gate	0.00	0	0.00	0
26: Gate	5.00	11	5.00	5
33: Gate	5.00	11	5.00	5
Total	**100.00**	**220**	**100.00**	**95**

Study Intersections

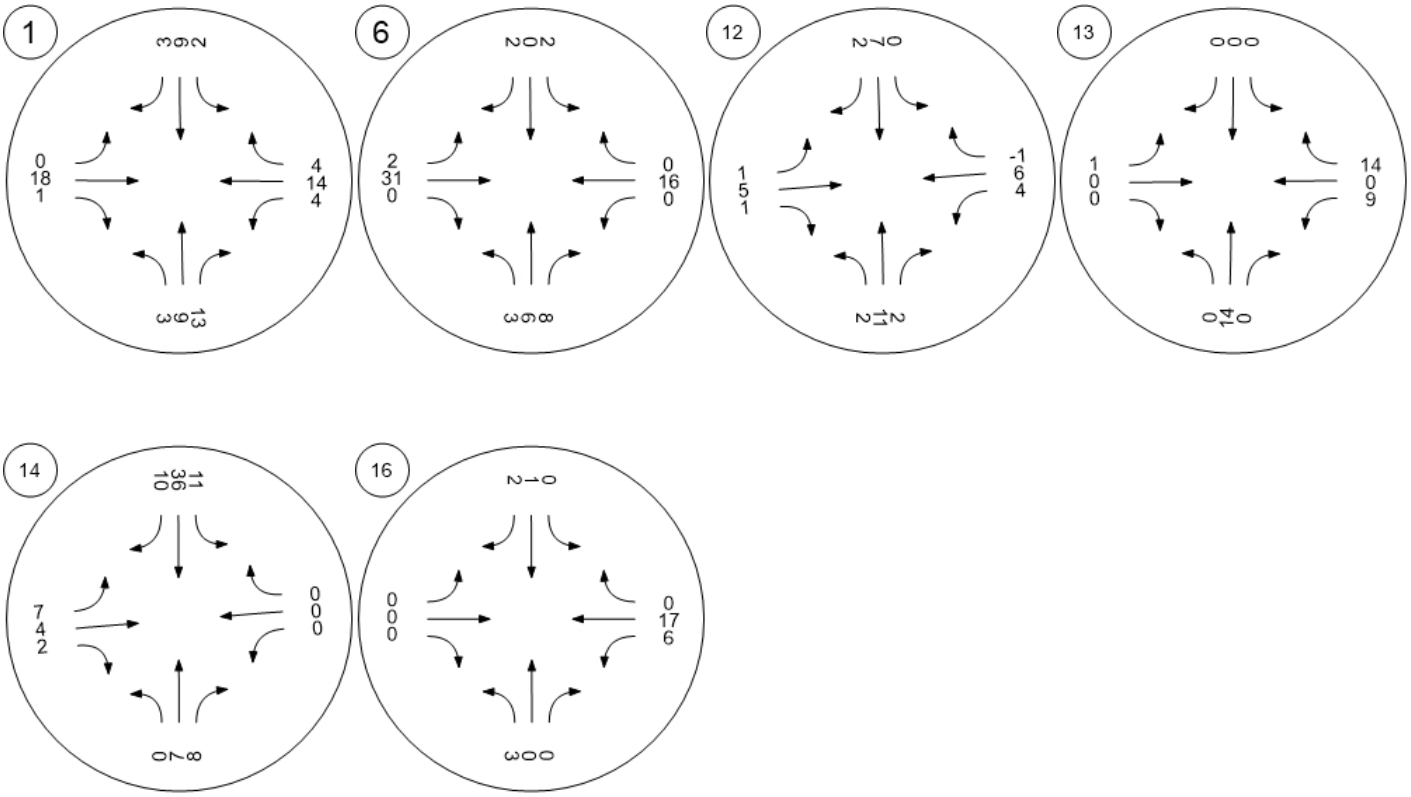
Lane Configuration and Traffic Control



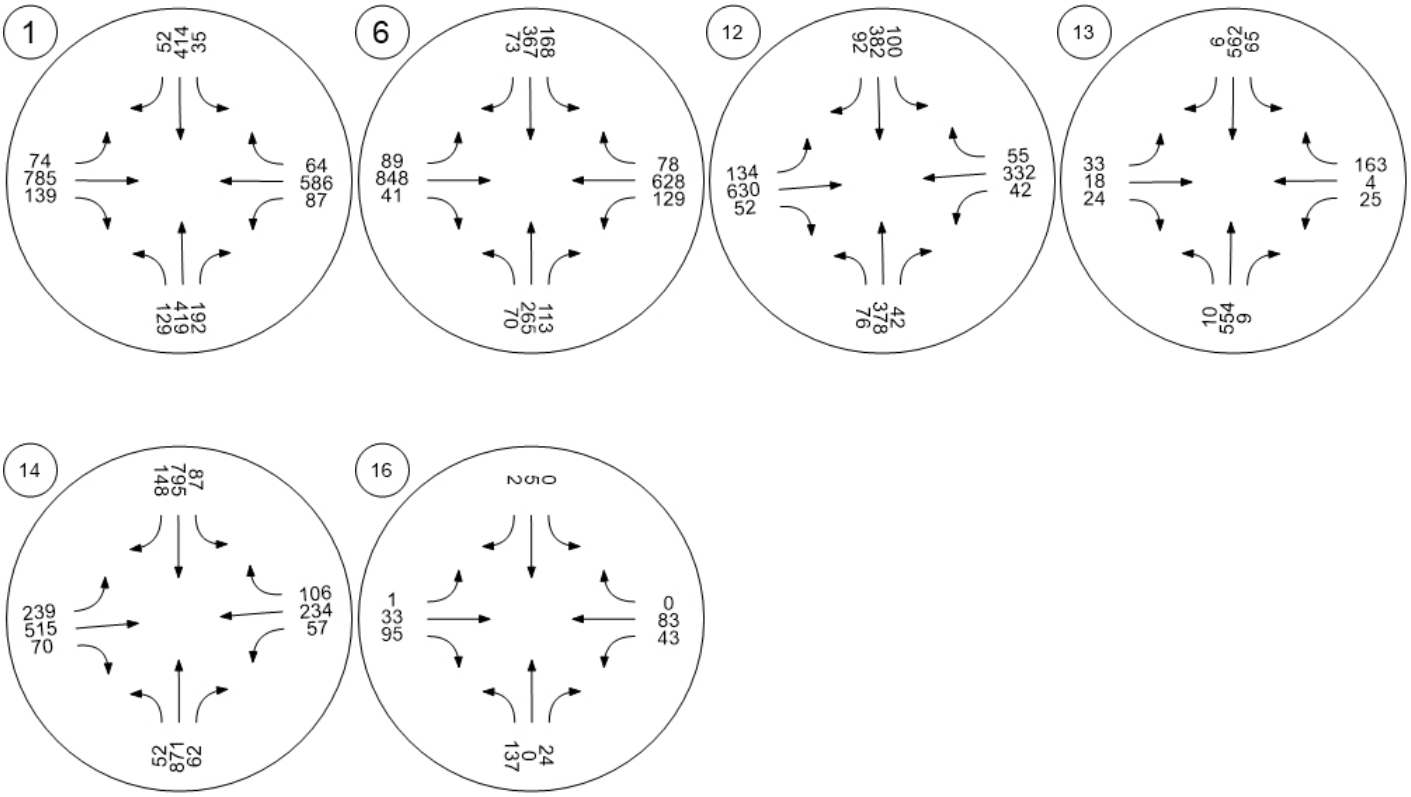
Traffic Volume - Base Volume



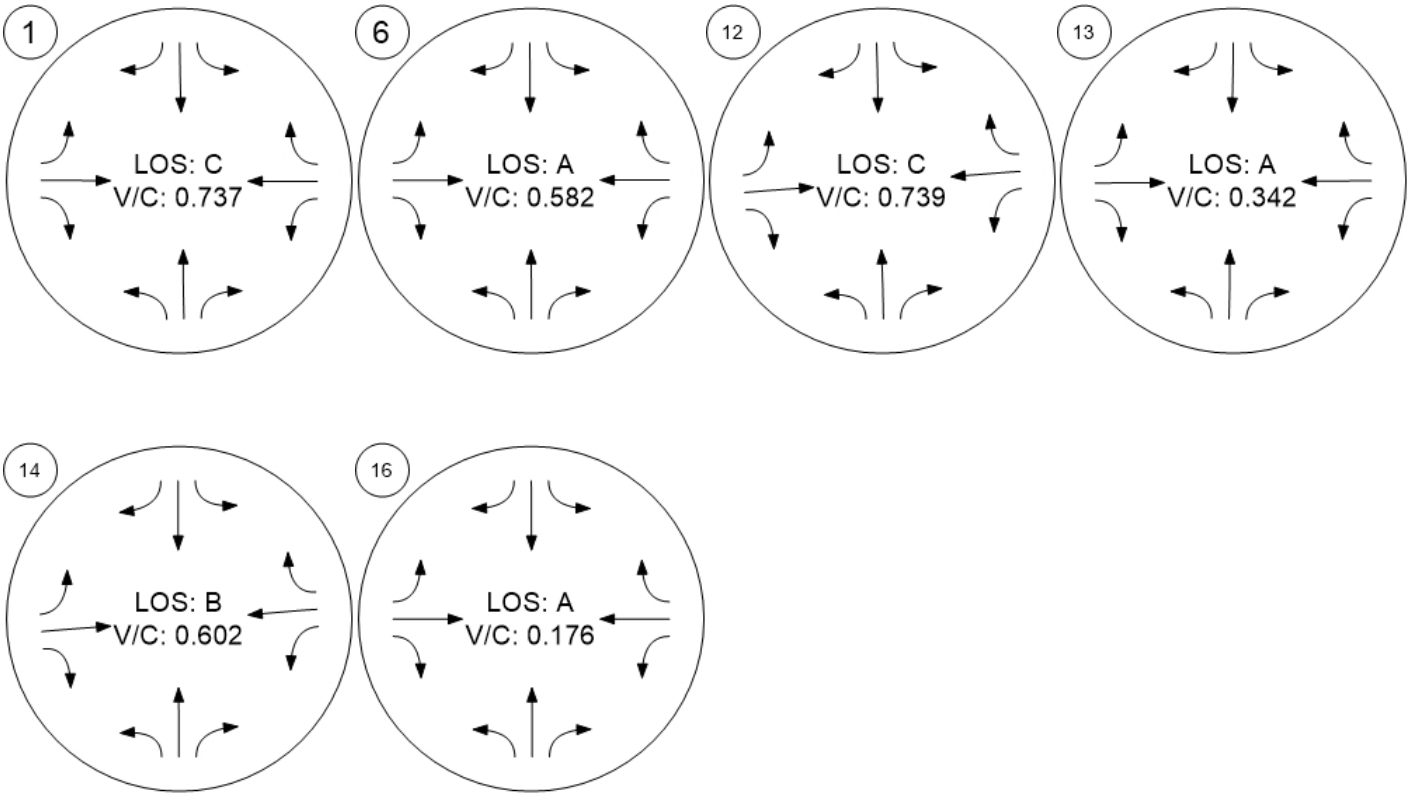
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Conditions



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Scenario 8 AM Future + Project
7/24/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Citrus - Badillo	Signalized	ICU 1	WB Thru	0.790	-	C
6	2nd - Badillo	Signalized	ICU 1	WB Right	0.562	-	A
12	Citrus at W. San Bernardino	Signalized	ICU 1	WB Thru	0.711	-	C
13	Citrus at Front	Signalized	ICU 1	SB Thru	0.258	-	A
14	Barranca - E. San Bernardino	Signalized	ICU 1	SB Thru	0.634	-	B
16	2nd at Front	Signalized	ICU 1	NB Left	0.126	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Citrus - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.790

Intersection Setup

Name	Citrus			Citrus			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	12.00	12.00	12.00	12.00	10.00	14.00	18.00	10.00	12.00	10.00
No. of Lanes in Pocket	1	0	0	0	0	0	1	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			Badillo			Badillo		
Base Volume Input [veh/h]	149	266	114	8	330	33	31	441	75	72	885	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	9	13	2	9	3	0	18	1	4	14	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	185	334	152	12	412	43	38	556	93	92	1094	54
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	84	38	3	103	11	10	139	23	23	274	14
Total Analysis Volume [veh/h]	185	334	152	12	412	43	38	556	93	92	1094	54
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.21	0.10	0.01	0.29	0.29	0.02	0.20	0.20	0.06	0.36	0.36
Intersection LOS	C											
Intersection V/C	0.790											

Intersection Level Of Service Report
Intersection 6: 2nd - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.562

Intersection Setup

Name	2nd			2nd			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	14.00	12.00	23.00	10.00	12.00	22.00	10.00	12.00	20.00	10.00	13.00	21.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd			2nd			Badillo			Badillo		
Base Volume Input [veh/h]	41	163	55	25	175	22	35	435	29	139	990	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	6	8	2	0	2	2	31	0	0	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	205	75	33	214	29	45	562	35	170	1224	134
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	51	19	8	54	7	11	141	9	43	306	34
Total Analysis Volume [veh/h]	53	205	75	33	214	29	45	562	35	170	1224	134
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.09	0.09	0.02	0.08	0.08	0.03	0.19	0.19	0.11	0.42	0.42
Intersection LOS	A											
Intersection V/C	0.562											

Intersection Level Of Service Report
Intersection 12: Citrus at W. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

Intersection Setup

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	10.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	120.00	100.00	100.00	150.00	100.00	100.00	80.00	100.00	100.00	80.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	52	198	17	60	299	55	54	287	28	23	489	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	11	2	0	7	2	1	5	1	4	6	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	253	23	73	372	69	67	355	35	32	603	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	63	6	18	93	17	17	89	9	8	151	8
Total Analysis Volume [veh/h]	65	253	23	73	372	69	67	355	35	32	603	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.09	0.09	0.05	0.23	0.04	0.04	0.24	0.24	0.02	0.40	0.40
Intersection LOS	C											
Intersection V/C	0.711											

Intersection Level Of Service Report
Intersection 13: Citrus at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.258

Intersection Setup

Name	Citrus			Citrus			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	12.00	10.00	12.00	20.00	10.00	11.00	11.00	11.00	13.00	13.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Citrus			Citrus			Front			Front		
Base Volume Input [veh/h]	7	274	5	45	443	17	0	0	3	3	11	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	0	0	0	1	0	0	9	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	348	6	55	540	21	1	0	4	13	13	110
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	87	2	14	135	5	0	0	1	3	3	28
Total Analysis Volume [veh/h]	9	348	6	55	540	21	1	0	4	13	13	110
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.11	0.11	0.03	0.18	0.18	0.00	0.00	0.00	0.01	0.08	0.08
Intersection LOS	A											
Intersection V/C	0.258											

Intersection Level Of Service Report
Intersection 14: Barranca - E. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.634

Intersection Setup

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	15.00	10.00	12.00	15.00	10.00	12.00	16.00	10.00	12.00	16.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	52	731	56	89	594	177	127	196	41	44	281	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	8	11	36	10	7	4	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	899	76	120	761	226	162	243	52	54	343	146
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	225	19	30	190	57	41	61	13	14	86	37
Total Analysis Volume [veh/h]	63	899	76	120	761	226	162	243	52	54	343	146
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.30	0.30	0.08	0.31	0.31	0.10	0.09	0.09	0.03	0.15	0.15
Intersection LOS	B											
Intersection V/C	0.634											

Intersection Level Of Service Report
Intersection 16: 2nd at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.126

Intersection Setup

Name	2nd			2nd			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	18.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	2nd			2nd			Front			Front		
Base Volume Input [veh/h]	78	1	15	0	1	0	1	14	42	35	37	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	1	2	0	0	0	6	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	1	18	0	2	2	1	17	51	49	62	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	5	0	1	1	0	4	13	12	16	0
Total Analysis Volume [veh/h]	98	1	18	0	2	2	1	17	51	49	62	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.03	0.03	0.04	0.00
Intersection LOS	A											
Intersection V/C	0.126											

Vistro File: C:\...\CovinaTC Traffic Analysis.vistro
Report File: C:\...\AM Future_Project Report.pdf

Scenario 8 AM Future + Project
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Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	185	334	152	12	412	43	38	556	93	92	1094	54	3065

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	53	205	75	33	214	29	45	562	35	170	1224	134	2779

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	65	253	23	73	372	69	67	355	35	32	603	30	1977

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	9	348	6	55	540	21	1	0	4	13	13	110	1120

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	63	899	76	120	761	226	162	243	52	54	343	146	3145

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	98	1	18	0	2	2	1	17	51	49	62	0	301

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Scenario 8 AM Future + Project
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Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	Final Base	149	266	114	8	330	33	31	441	75	72	885	41	2445
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	9	13	2	9	3	0	18	1	4	14	4	80
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**185**	**334**	**152**	**12**	**412**	**43**	**38**	**556**	**93**	**92**	**1094**	**54**	**3065**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	Final Base	41	163	55	25	175	22	35	435	29	139	990	110	2219
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	6	8	2	0	2	2	31	0	0	16	0	70
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**53**	**205**	**75**	**33**	**214**	**29**	**45**	**562**	**35**	**170**	**1224**	**134**	**2779**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	Final Base	52	198	17	60	299	55	54	287	28	23	489	25	1587
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	2	11	2	0	7	2	1	5	1	4	6	-1	40
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**65**	**253**	**23**	**73**	**372**	**69**	**67**	**355**	**35**	**32**	**603**	**30**	**1977**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	Final Base	7	274	5	45	443	17	0	0	3	3	11	79	887
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	14	0	0	0	0	1	0	0	9	0	14	38
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**9**	**348**	**6**	**55**	**540**	**21**	**1**	**0**	**4**	**13**	**13**	**110**	**1120**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	Final Base	52	731	56	89	594	177	127	196	41	44	281	120	2508
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	7	8	11	36	10	7	4	2	0	0	0	85
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**63**	**899**	**76**	**120**	**761**	**226**	**162**	**243**	**52**	**54**	**343**	**146**	**3145**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	Final Base	78	1	15	0	1	0	1	14	42	35	37	0	224
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	0	0	0	1	2	0	0	0	6	17	0	29
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**98**	**1**	**18**	**0**	**2**	**2**	**1**	**17**	**51**	**49**	**62**	**0**	**301**

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Scenario 8 AM Future + Project
7/24/2018

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
1: zone				1.000	0.000	50.00	50.00	46	68	114	21.11
2: zone				1.000	0.000	50.00	50.00	25	56	81	15.00
4: zone				1.000	0.000	50.00	50.00	0	27	27	5.00
5: zone				1.000	0.000	50.00	50.00	223	95	318	58.89
					Added Trips Total			**294**	**246**	**540**	**100.00**

Removed Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
3: zone				1.000	0.000	50.00	50.00	86	25	61	100.00
					Removed Trips Total			**86**	**25**	**61**	**100.00**

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Scenario 8 AM Future + Project
7/24/2018

Trip Distribution summary

Zone / Gate	Zone 1: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	5	10.00	7
12: Gate	5.00	2	5.00	3
13: Gate	0.00	0	0.00	0
15: Gate	40.00	18	40.00	27
17: Gate	10.00	5	10.00	7
20: Gate	10.00	5	10.00	7
21: Gate	10.00	5	10.00	7
23: Gate	10.00	5	10.00	7
24: Gate	1.00	0	1.00	1
25: Gate	0.00	0	0.00	0
26: Gate	2.00	1	2.00	1
33: Gate	2.00	1	2.00	1
Total	**100.00**	**47**	**100.00**	**68**

Zone / Gate	Zone 2: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	3	10.00	6
12: Gate	5.00	1	5.00	3
13: Gate	25.00	6	25.00	11
15: Gate	15.00	4	15.00	8
17: Gate	10.00	3	10.00	6
20: Gate	10.00	3	10.00	6
21: Gate	10.00	3	10.00	6
23: Gate	10.00	3	10.00	6
24: Gate	1.00	0	1.00	1
25: Gate	1.00	0	1.00	1
26: Gate	2.00	1	2.00	1
33: Gate	1.00	0	1.00	1
Total	**100.00**	**27**	**100.00**	**56**

Zone / Gate	Zone 3: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
6: Gate	10.00	(9)	10.00	(3)
12: Gate	5.00	(4)	5.00	(1)
13: Gate	25.00	(22)	25.00	(3)
15: Gate	15.00	(13)	15.00	(4)
17: Gate	10.00	(9)	10.00	(3)
20: Gate	10.00	(9)	10.00	(3)
21: Gate	10.00	(9)	10.00	(3)
23: Gate	10.00	(9)	10.00	(3)
24: Gate	1.00	(1)	1.00	(0)
25: Gate	2.00	(2)	2.00	(1)
26: Gate	2.00	(2)	2.00	(1)
33: Gate	0.00	(0)	0.00	(0)
Total	**100.00**	**(89)**	**100.00**	**(25)**

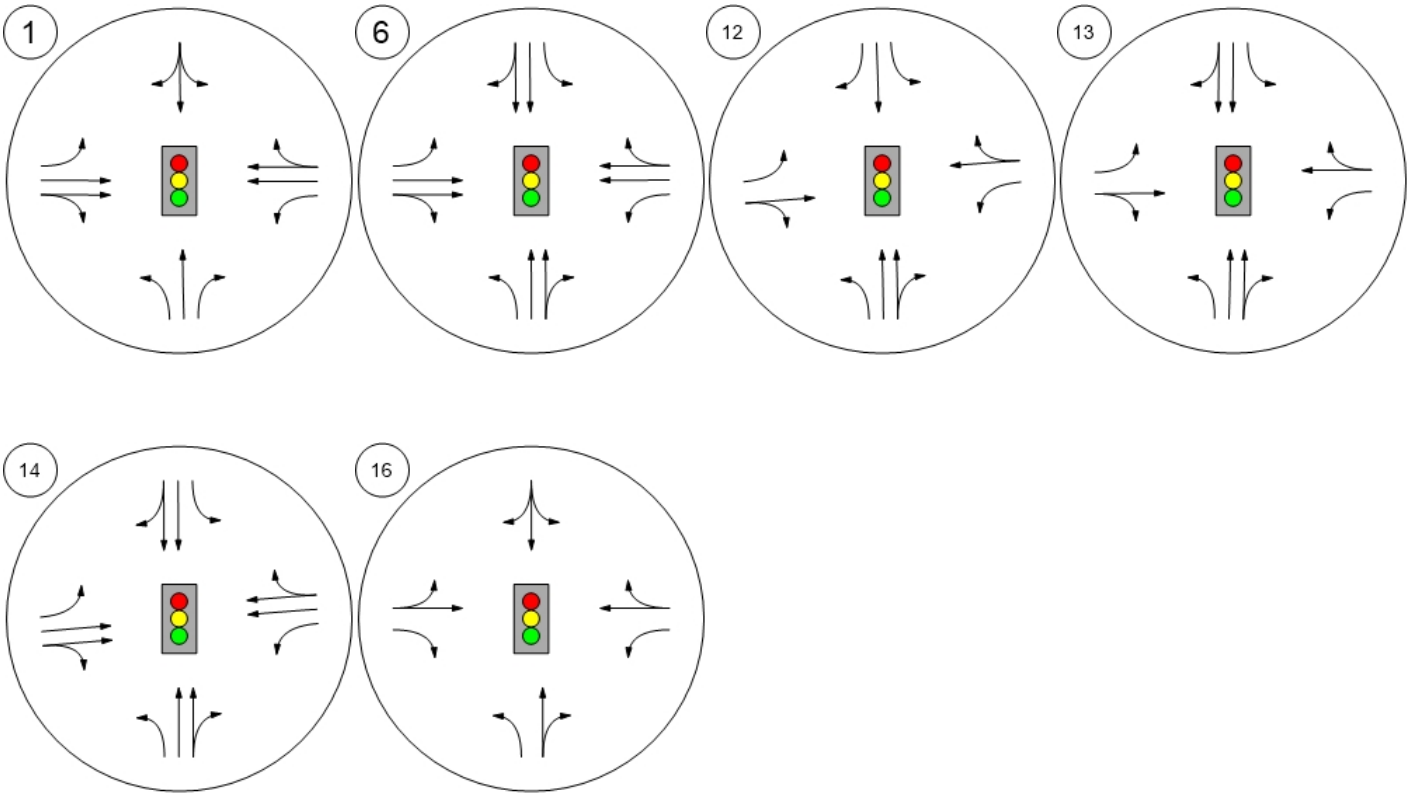
Zone / Gate	Zone 4: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	0	10.00	3
12: Gate	5.00	0	5.00	1
13: Gate	30.00	0	30.00	6
15: Gate	10.00	0	10.00	3
17: Gate	10.00	0	10.00	3
20: Gate	10.00	0	10.00	3
21: Gate	10.00	0	10.00	3
23: Gate	10.00	0	10.00	3
24: Gate	2.00	0	2.00	1
25: Gate	1.00	0	1.00	0
26: Gate	0.00	0	0.00	0
33: Gate	2.00	0	2.00	1
Total	**100.00**	**0**	**100.00**	**27**

Zone / Gate	Zone 5: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
6: Gate	15.00	33	15.00	14
12: Gate	5.00	11	5.00	5
13: Gate	15.00	33	15.00	14
15: Gate	10.00	22	10.00	10

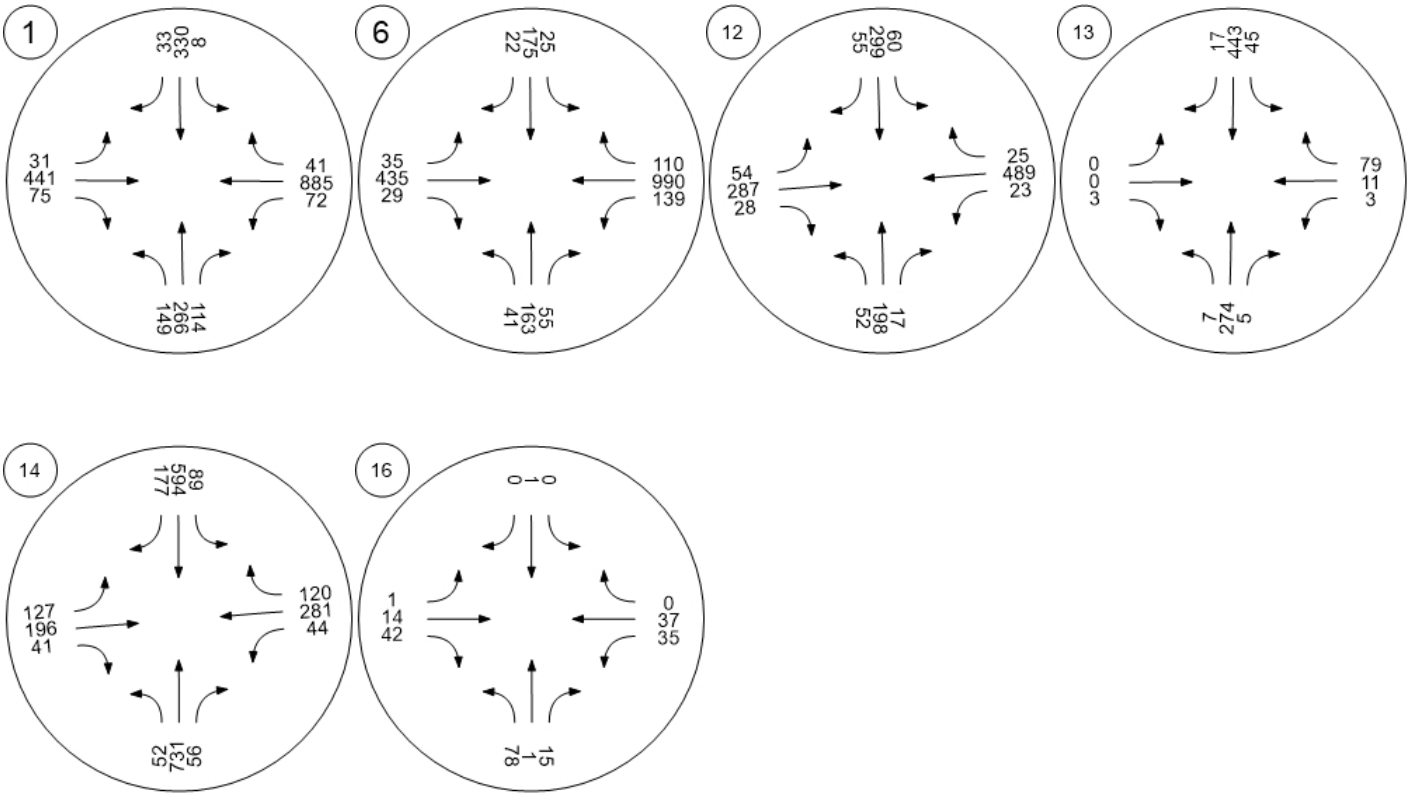
17: Gate	10.00	22	10.00	10
20: Gate	15.00	33	15.00	12
21: Gate	10.00	22	10.00	10
23: Gate	10.00	22	10.00	10
24: Gate	0.00	0	0.00	0
25: Gate	0.00	0	0.00	0
26: Gate	5.00	11	5.00	5
33: Gate	5.00	11	5.00	5
Total	**100.00**	**220**	**100.00**	**95**

Study Intersections

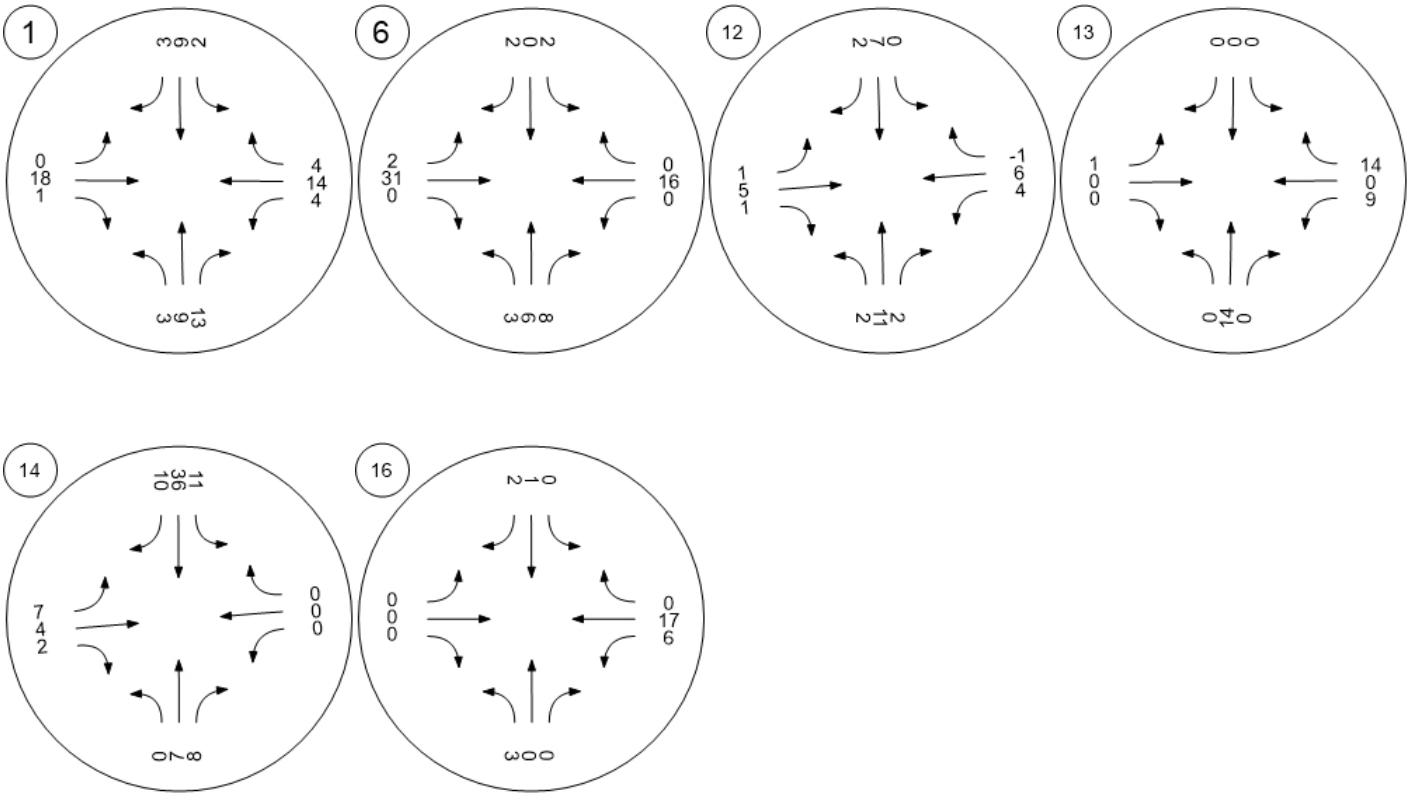
Lane Configuration and Traffic Control



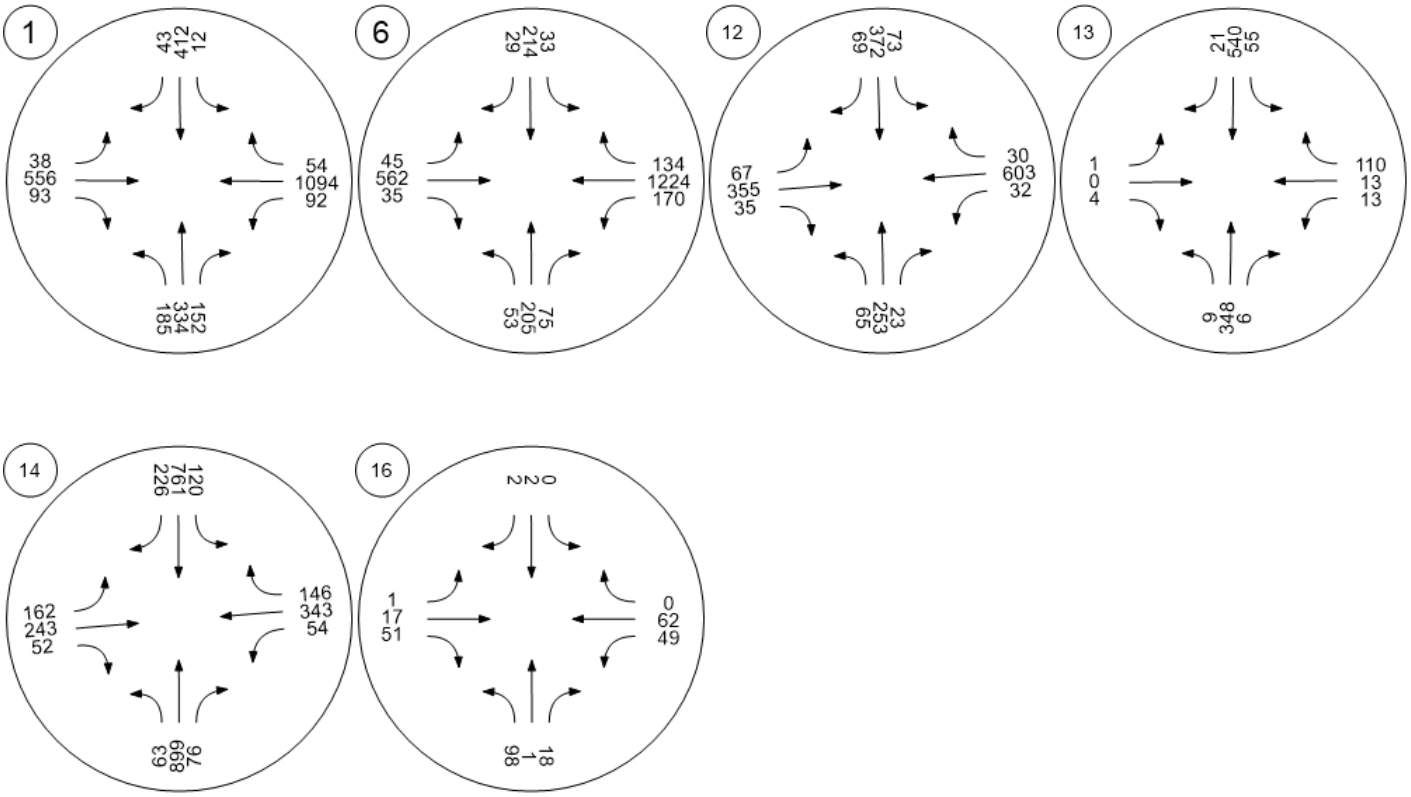
Traffic Volume - Base Volume



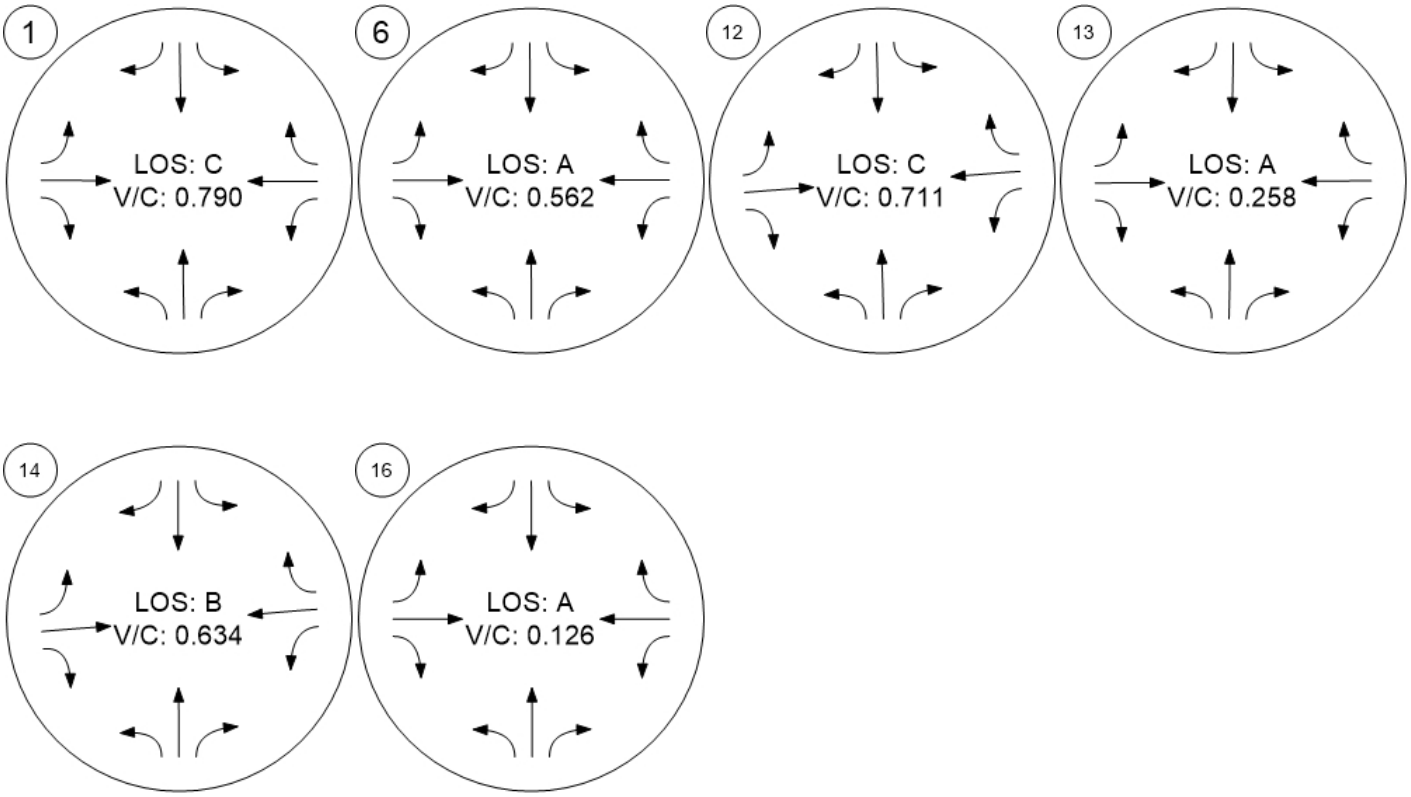
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Conditions



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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Citrus - Badillo	Signalized	ICU 1	SB Right	0.737	-	C
6	2nd - Badillo	Signalized	ICU 1	EB Right	0.582	-	A
12	Citrus at W. San Bernardino	Signalized	ICU 1	EB Thru	0.739	-	C
13	Citrus at Front	Signalized	ICU 1	SB Right	0.342	-	A
14	Barranca - E. San Bernardino	Signalized	ICU 1	SB Thru	0.602	-	B
16	2nd at Front	Signalized	ICU 1	NB Left	0.176	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Citrus - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name	Citrus			Citrus			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	12.00	12.00	12.00	12.00	10.00	14.00	18.00	10.00	10.00	10.00
No. of Lanes in Pocket	1	0	0	0	0	0	1	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			Badillo			Badillo		
Base Volume Input [veh/h]	103	336	147	27	332	40	61	629	113	68	469	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	9	13	2	9	3	0	18	1	4	14	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	419	192	35	414	52	74	785	139	87	586	64
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	105	48	9	104	13	19	196	35	22	147	16
Total Analysis Volume [veh/h]	129	419	192	35	414	52	74	785	139	87	586	64
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.26	0.12	0.02	0.31	0.31	0.05	0.29	0.29	0.05	0.20	0.20
Intersection LOS	C											
Intersection V/C	0.737											

Intersection Level Of Service Report
Intersection 6: 2nd - Badillo

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	2nd			2nd			Badillo			Badillo		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	14.00	12.00	23.00	10.00	12.00	22.00	10.00	12.00	20.00	10.00	13.00	21.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd			2nd			Badillo			Badillo		
Base Volume Input [veh/h]	55	212	86	136	301	58	71	670	34	106	502	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	6	8	2	0	2	2	31	0	0	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	265	113	168	367	73	89	848	41	129	628	78
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	66	28	42	92	18	22	212	10	32	157	20
Total Analysis Volume [veh/h]	70	265	113	168	367	73	89	848	41	129	628	78
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.12	0.12	0.11	0.14	0.14	0.06	0.28	0.28	0.08	0.22	0.22
Intersection LOS	A											
Intersection V/C	0.582											

Intersection Level Of Service Report
Intersection 12: Citrus at W. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

Intersection Setup

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	10.00	10.00	10.00	10.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	120.00	100.00	100.00	150.00	100.00	100.00	80.00	100.00	100.00	80.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Citrus			Citrus			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	61	301	33	82	307	74	109	512	42	31	267	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	11	2	0	7	2	1	5	1	4	6	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	378	42	100	382	92	134	630	52	42	332	55
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	95	11	25	96	23	34	158	13	11	83	14
Total Analysis Volume [veh/h]	76	378	42	100	382	92	134	630	52	42	332	55
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.13	0.13	0.06	0.24	0.06	0.08	0.43	0.43	0.03	0.24	0.24
Intersection LOS	C											
Intersection V/C	0.739											

Intersection Level Of Service Report
Intersection 13: Citrus at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.342

Intersection Setup

Name	Citrus			Citrus			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	12.00	10.00	12.00	20.00	10.00	11.00	11.00	11.00	13.00	13.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Citrus			Citrus			Front			Front		
Base Volume Input [veh/h]	8	443	7	53	461	5	26	15	20	13	3	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	0	0	0	1	0	0	9	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	554	9	65	562	6	33	18	24	25	4	163
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	139	2	16	141	2	8	5	6	6	1	41
Total Analysis Volume [veh/h]	10	554	9	65	562	6	33	18	24	25	4	163
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.18	0.18	0.04	0.18	0.18	0.02	0.03	0.03	0.02	0.10	0.10
Intersection LOS	A											
Intersection V/C	0.342											

Intersection Level Of Service Report
Intersection 14: Barranca - E. San Bernardino

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	15.00	10.00	12.00	15.00	10.00	12.00	16.00	10.00	12.00	16.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Barranca			Barranca			San Bernardino			San Bernardino		
Base Volume Input [veh/h]	43	708	44	62	622	113	190	419	56	47	192	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	8	11	36	10	7	4	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	871	62	87	795	148	239	515	70	57	234	106
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	218	16	22	199	37	60	129	18	14	59	27
Total Analysis Volume [veh/h]	52	871	62	87	795	148	239	515	70	57	234	106
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.29	0.29	0.05	0.29	0.29	0.15	0.18	0.18	0.04	0.11	0.11
Intersection LOS	B											
Intersection V/C	0.602											

Intersection Level Of Service Report
Intersection 16: 2nd at Front

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.176

Intersection Setup

Name	2nd			2nd			Front			Front		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	10.00	12.00	18.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	2nd			2nd			Front			Front		
Base Volume Input [veh/h]	110	0	20	0	3	0	1	27	78	30	54	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	1	2	0	0	0	6	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	137	0	24	0	5	2	1	33	95	43	83	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	0	6	0	1	1	0	8	24	11	21	0
Total Analysis Volume [veh/h]	137	0	24	0	5	2	1	33	95	43	83	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.06	0.03	0.05	0.00
Intersection LOS	A											
Intersection V/C	0.176											

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Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	129	419	192	35	414	52	74	785	139	87	586	64	2976

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	70	265	113	168	367	73	89	848	41	129	628	78	2869

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	76	378	42	100	382	92	134	630	52	42	332	55	2315

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	10	554	9	65	562	6	33	18	24	25	4	163	1473

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	52	871	62	87	795	148	239	515	70	57	234	106	3236

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	137	0	24	0	5	2	1	33	95	43	83	0	423

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Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Citrus - Badillo	Final Base	103	336	147	27	332	40	61	629	113	68	469	49	2374
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	9	13	2	9	3	0	18	1	4	14	4	80
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**129**	**419**	**192**	**35**	**414**	**52**	**74**	**785**	**139**	**87**	**586**	**64**	**2976**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	2nd - Badillo	Final Base	55	212	86	136	301	58	71	670	34	106	502	64	2295
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	6	8	2	0	2	2	31	0	0	16	0	70
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**70**	**265**	**113**	**168**	**367**	**73**	**89**	**848**	**41**	**129**	**628**	**78**	**2869**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12	Citrus at W. San Bernardino	Final Base	61	301	33	82	307	74	109	512	42	31	267	46	1865
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	2	11	2	0	7	2	1	5	1	4	6	-1	40
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**76**	**378**	**42**	**100**	**382**	**92**	**134**	**630**	**52**	**42**	**332**	**55**	**2315**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Citrus at Front	Final Base	8	443	7	53	461	5	26	15	20	13	3	122	1176
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	14	0	0	0	0	1	0	0	9	0	14	38
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**10**	**554**	**9**	**65**	**562**	**6**	**33**	**18**	**24**	**25**	**4**	**163**	**1473**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Barranca - E. San Bernardino	Final Base	43	708	44	62	622	113	190	419	56	47	192	87	2583
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	7	8	11	36	10	7	4	2	0	0	0	85
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**52**	**871**	**62**	**87**	**795**	**148**	**239**	**515**	**70**	**57**	**234**	**106**	**3236**

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	2nd at Front	Final Base	110	0	20	0	3	0	1	27	78	30	54	0	323
		Growth Rate	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	3	0	0	0	1	2	0	0	0	6	17	0	29
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**137**	**0**	**24**	**0**	**5**	**2**	**1**	**33**	**95**	**43**	**83**	**0**	**423**

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Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
1: zone				1.000	0.000	50.00	50.00	46	68	114	21.11
2: zone				1.000	0.000	50.00	50.00	25	56	81	15.00
4: zone				1.000	0.000	50.00	50.00	0	27	27	5.00
5: zone				1.000	0.000	50.00	50.00	223	95	318	58.89
					Added Trips Total			**294**	**246**	**540**	**100.00**

Removed Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	Trips In	Trips Out	Total Trips	% of Total Trips
3: zone				1.000	0.000	50.00	50.00	86	25	61	100.00
					Removed Trips Total			**86**	**25**	**61**	**100.00**

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Trip Distribution summary

Zone / Gate	Zone 1: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	5	10.00	7
12: Gate	5.00	2	5.00	3
13: Gate	0.00	0	0.00	0
15: Gate	40.00	18	40.00	27
17: Gate	10.00	5	10.00	7
20: Gate	10.00	5	10.00	7
21: Gate	10.00	5	10.00	7
23: Gate	10.00	5	10.00	7
24: Gate	1.00	0	1.00	1
25: Gate	0.00	0	0.00	0
26: Gate	2.00	1	2.00	1
33: Gate	2.00	1	2.00	1
Total	**100.00**	**47**	**100.00**	**68**

Zone / Gate	Zone 2: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	3	10.00	6
12: Gate	5.00	1	5.00	3
13: Gate	25.00	6	25.00	11
15: Gate	15.00	4	15.00	8
17: Gate	10.00	3	10.00	6
20: Gate	10.00	3	10.00	6
21: Gate	10.00	3	10.00	6
23: Gate	10.00	3	10.00	6
24: Gate	1.00	0	1.00	1
25: Gate	1.00	0	1.00	1
26: Gate	2.00	1	2.00	1
33: Gate	1.00	0	1.00	1
Total	**100.00**	**27**	**100.00**	**56**

Zone / Gate	Zone 3: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
6: Gate	10.00	(9)	10.00	(3)
12: Gate	5.00	(4)	5.00	(1)
13: Gate	25.00	(22)	25.00	(3)
15: Gate	15.00	(13)	15.00	(4)
17: Gate	10.00	(9)	10.00	(3)
20: Gate	10.00	(9)	10.00	(3)
21: Gate	10.00	(9)	10.00	(3)
23: Gate	10.00	(9)	10.00	(3)
24: Gate	1.00	(1)	1.00	(0)
25: Gate	2.00	(2)	2.00	(1)
26: Gate	2.00	(2)	2.00	(1)
33: Gate	0.00	(0)	0.00	(0)
Total	**100.00**	**(89)**	**100.00**	**(25)**

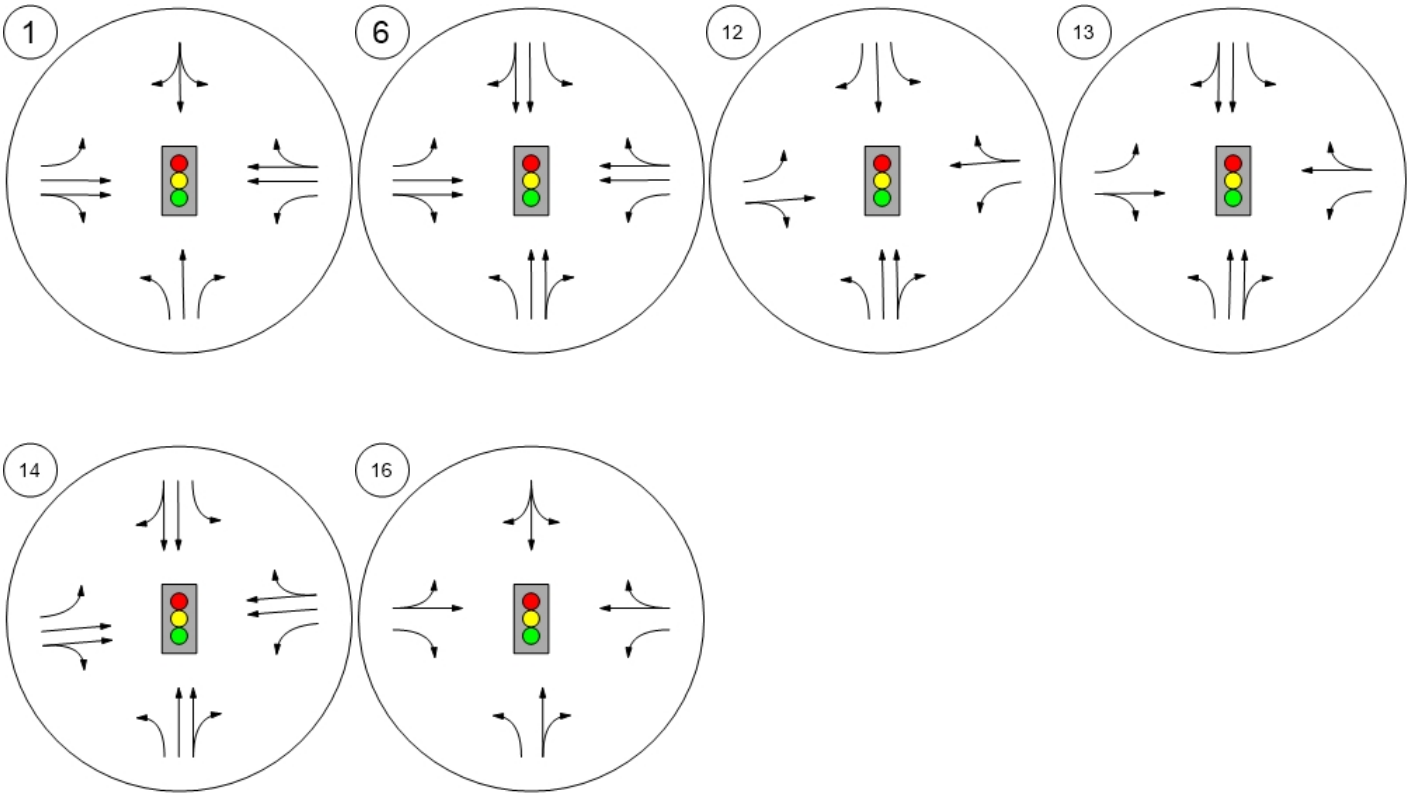
Zone / Gate	Zone 4: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
5: zone	0.00	0	0.00	0
6: Gate	10.00	0	10.00	3
12: Gate	5.00	0	5.00	1
13: Gate	30.00	0	30.00	6
15: Gate	10.00	0	10.00	3
17: Gate	10.00	0	10.00	3
20: Gate	10.00	0	10.00	3
21: Gate	10.00	0	10.00	3
23: Gate	10.00	0	10.00	3
24: Gate	2.00	0	2.00	1
25: Gate	1.00	0	1.00	0
26: Gate	0.00	0	0.00	0
33: Gate	2.00	0	2.00	1
Total	**100.00**	**0**	**100.00**	**27**

Zone / Gate	Zone 5: zone			
	To zone:		From zone:	
	Share %	Trips	Share %	Trips
1: zone	0.00	0	0.00	0
2: zone	0.00	0	0.00	0
4: zone	0.00	0	0.00	0
6: Gate	15.00	33	15.00	14
12: Gate	5.00	11	5.00	5
13: Gate	15.00	33	15.00	14
15: Gate	10.00	22	10.00	10

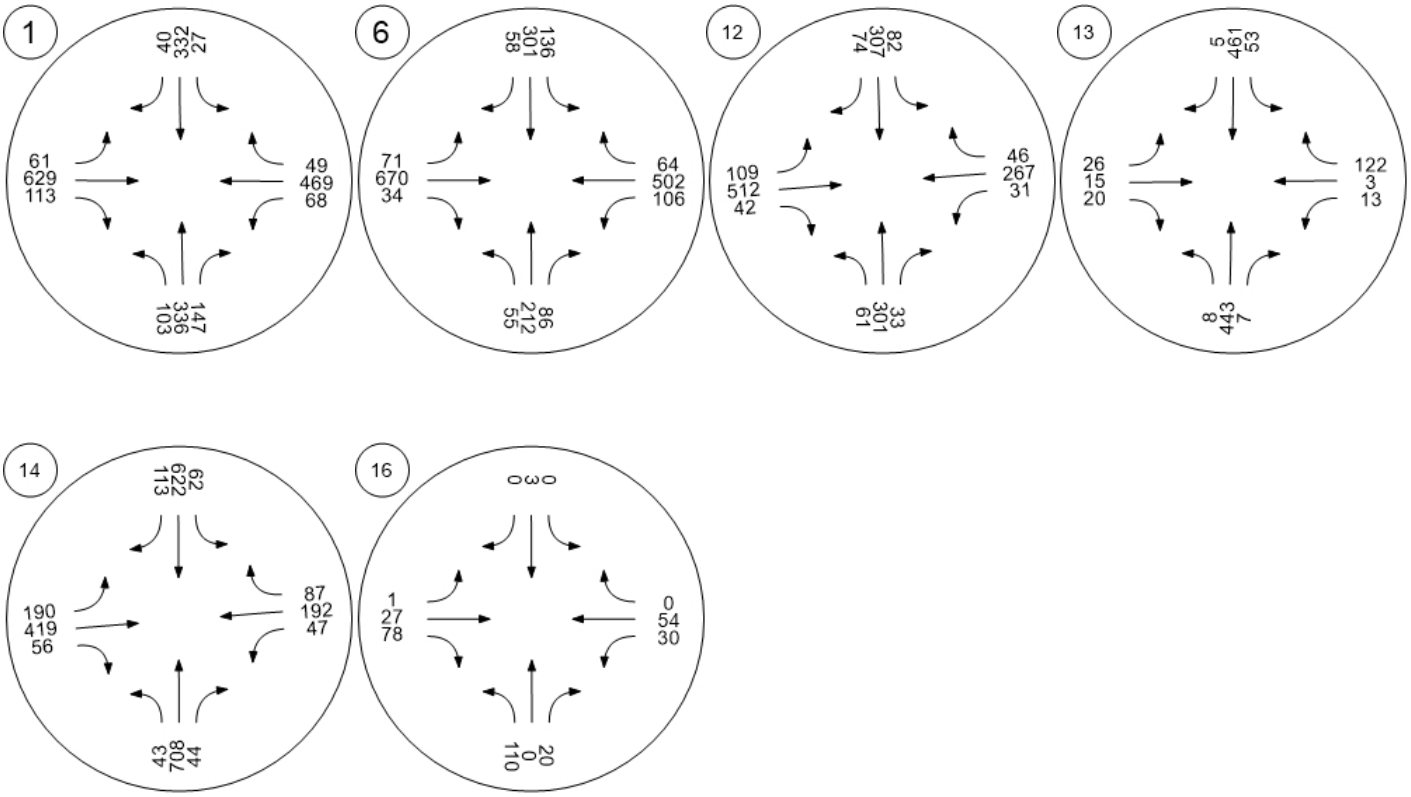
17: Gate	10.00	22	10.00	10
20: Gate	15.00	33	15.00	12
21: Gate	10.00	22	10.00	10
23: Gate	10.00	22	10.00	10
24: Gate	0.00	0	0.00	0
25: Gate	0.00	0	0.00	0
26: Gate	5.00	11	5.00	5
33: Gate	5.00	11	5.00	5
Total	**100.00**	**220**	**100.00**	**95**

Study Intersections

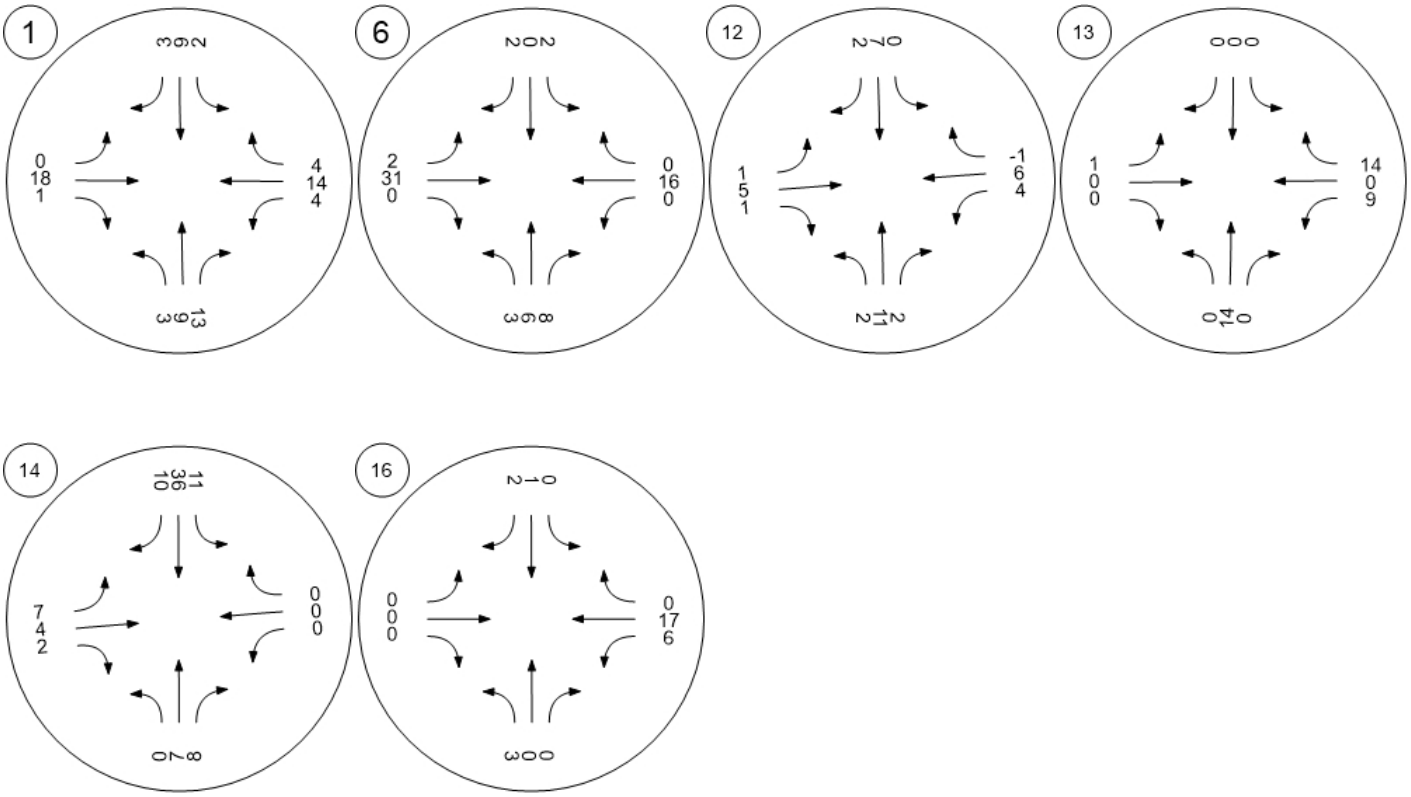
Lane Configuration and Traffic Control



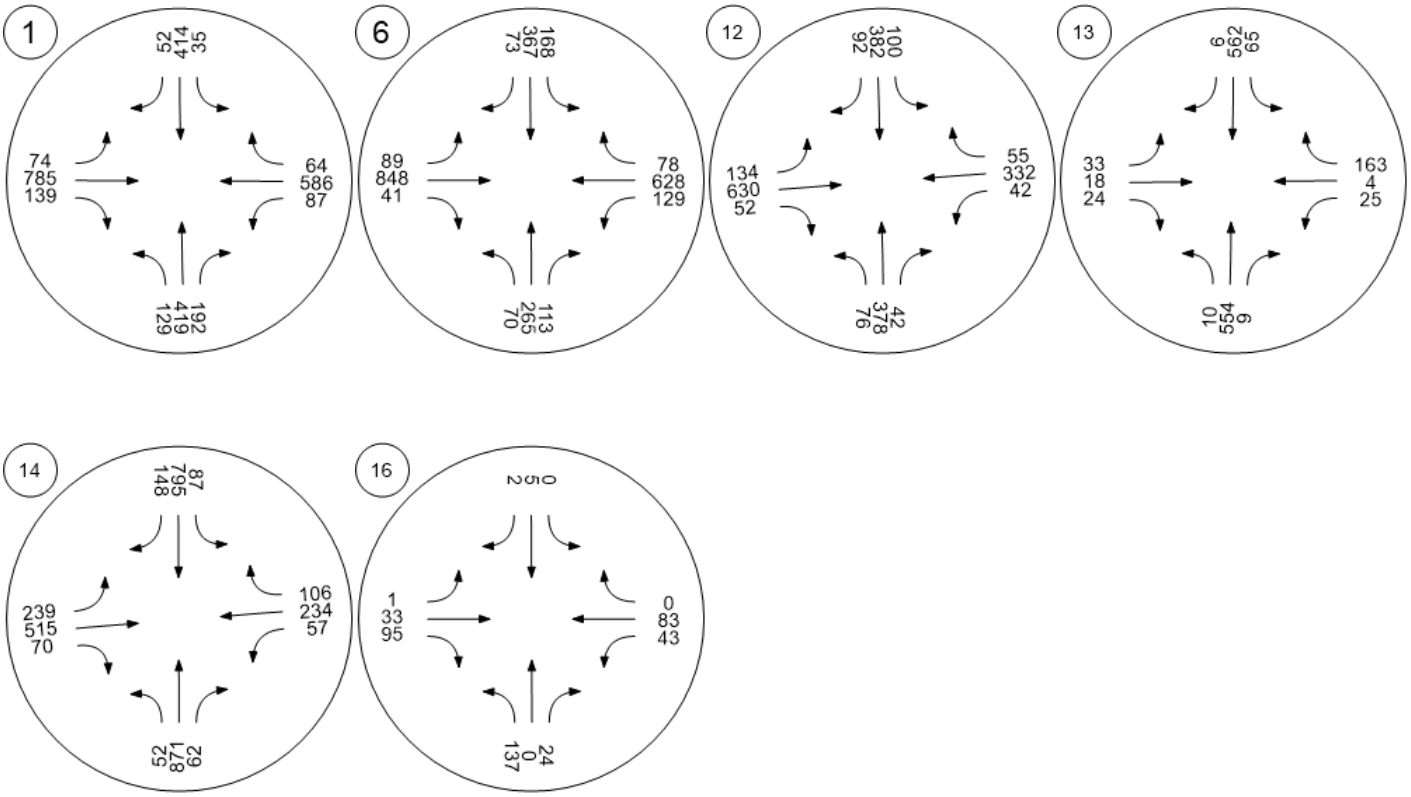
Traffic Volume - Base Volume



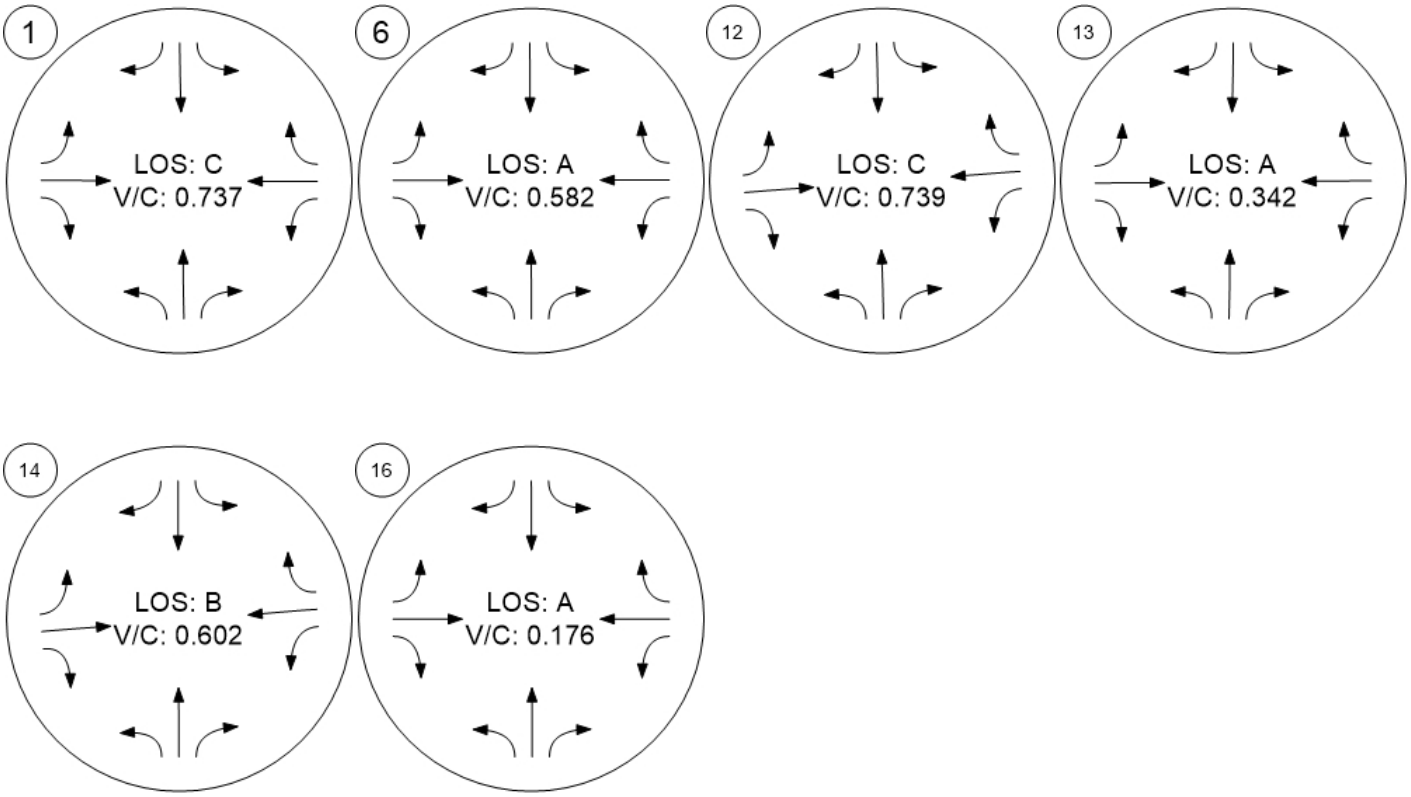
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Conditions



APPENDIX C

Traffic Impact Levels of Service

NELSON
NYGAARD

MEMORANDUM

To: Lisa Brownfield, MIG

From: Thomas Mericle, PE, TE

Date: May 23, 2018

Subject: City of Covina Town Center Plan – SB 743 Implementation Recommendations

As a part of the preparation of a Town Center Plan for the City of Covina, Nelson\Nygaard has prepared this memorandum describing recommendations for the implementation of SB 743. As a result of this legislation, cities across California will be changing their environmental review procedures in the coming years[1] to update the way they measure the transportation impacts of new development, plans, and infrastructure projects. Forthcoming state guidance will require that cities remove level of service (LOS) as an impact criterion under the California Environmental Quality Act (CEQA) and replace it with other metrics that better reflect environmental outcomes such as vehicle miles traveled (VMT). This memo gives an overview of the rationale for the shift, reviews how several early adoption cities have approached changing their procedures in anticipation of the new state guidance, and recommends next steps for the City of Covina as it prepares to comply with the new guidance and to move forward on its Downtown Specific Plan.

BACKGROUND

SB 743

CEQA defines how public agencies in California evaluate the environmental impacts of projects and plans. Historically, automobile level of service (LOS), the measurement of roadway-segment or intersection delay, has been the primary analysis used to determine transportation impacts. The LOS methodology looks at the performance of individual intersections and grading the performance of the intersection based on a narrow morning or afternoon peak period of delay to car drivers, but not the physical impact on the environment. Additionally, mitigations or changes made to improve LOS such as widening a road, have been shown to increase VMT over the long term and degrade the performance and experience of other modes of travel (transit, biking, and walking).

With the passage of Senate Bill 743 (SB 743) in 2013, the state of California established initial steps to remove LOS as the CEQA environmental traffic impact criterion and replace it with alternative measures such as vehicle miles traveled (VMT), directing the Governor's Office of Planning and Research to develop detailed recommendations and pursue final approval by the Natural Resources Agency. OPR released its final recommended new guidance, along with a

[1] Cities will be given two years from when the new state guidance is approved by the Natural Resources Agency, which is anticipated in the fall of 2018.

technical advisory offering detailed rationale and technical notes for local-agency implementation to the Natural Resources Agency in November 2017. The Natural Resources Agency is expected to adopt the OPR recommendations in summer or fall 2018 with a local agency mandatory adoption deadline of January 2020.

In their final guidelines OPR recommends replacing LOS with VMT. There are various methods of calculating VMT, lead agencies (the jurisdictions and agencies that manage CEQA analyses, including the City of Covina) have discretion in defining the precise methodology they will use to analyze transportation impacts and mitigation measures. OPR recommends that lead agencies using VMT define the threshold of environmental significance as a 15% reduction below existing per capita or per employee VMT.[2] OPR asserts that the recommended threshold is aligned with state greenhouse-gas-reduction goals, is generally achievable, and is supported by evidence that connects this level of reduction to statewide emissions goals.[3]

Agencies can use screening thresholds to quickly determine whether a project is likely to have a significant transportation impact, triggering more detailed analysis. Primary recommended screening thresholds are:

- Small projects: Projects smaller than approximately 110 trips per day
- Map-based screening: Projects that are 1) located in areas with estimated VMT below the threshold of significance and 2) consistent with or better than nearby development patterns in terms of likely VMT (e.g. similar or greater densities, similar or lower parking ratios, etc.)
- Transit Proximity: Projects within a half-mile of an existing major transit stop or high quality transit corridor[4]

As is the case for any analysis topic under state CEQA guidance, If the lead agency identifies a significant transportation impact, the agency must work with the project sponsor to identify feasible mitigation measures to avoid or substantially reduce the impact. The lead agency can select a limited set of preferred mitigation measures and alternatives appropriate to the local context. Mitigations that might best reduce vehicle miles traveled include implementing transportation demand management strategies; improving pedestrian, bicycle, and/or transit access; increasing density; and increasing the mix of uses. Also, because VMT is a largely regional impact, regional programs, including contributions to regional in-lieu fee programs, may be an appropriate form of mitigation,.

Vehicle Miles Traveled

CEQA defers to lead agencies on the choice of methodology to analyze impacts. As such, The City of Covina can determine its own methodology and define its VMT impact analysis. Note that VMT analysis should not end at city or other jurisdictional boundaries, but estimate the full extent of vehicle travel from a project, both short- and long-term impacts. Regardless of the method or methods used to estimate VMT, the same methods should be used when evaluating alternatives or other comparisons to ensure an “apples-to-apples” comparison.

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[2] Governor’s Office of Planning and Research, “Technical Advisory on Evaluating Transportation Impacts in CEQA,” November 2017, 8.

[3] Ibid., 9.

[4] High quality transit corridor is defined as having a transit service frequency of every 15 minutes or less during peak commute periods.

Factors that influence the methodology for VMT calculation are: applicability of existing models, availability of data, and capacity of agencies. The following methods can be used to estimate VMT:

- *Trip-based estimate* counts VMT from individual trips to and from the project and is the most basic method of counting VMT.
- *Tour-based assessment* counts VMT from the entire tour that includes the project, capturing a more complete characterization of a project's effect on VMT by include travel behavior beyond the first destination.
- *Estimating change in total VMT* can evaluate whether a project is likely to divert existing trips, and the effect of those diversions on total VMT. This is typically used for retail projects.

Tour- and trip-based assessment of VMT are used for residential and office projects, using denominators such as per capita, per employee, or per person-trip. Models of different types can be used to estimate the change in VMT and should have sensitivity to features of the project that affect VMT.

City of Covina

The City of Covina currently requires traffic impact studies to be completed in compliance with the County of Los Angeles guidelines. These guidelines use a standard volume to capacity (V/C) ratio method to determine the intersection level of service. For instance, if the V/C ratio is greater than 1.0, the intersection is considered overcapacity. The City of Covina's threshold for identifying an impact is 0.8. If this ratio is exceeded by traffic from a development, that development is required to fix the intersection in order for their project to be approved.

CASE STUDIES

Several California cities have made changes to their environmental review processes since the passage of SB 743. This section reviews how San Jose, Oakland, and Pasadena approached the changes they have each made in recent years. Like Covina, each city is largely built out and has goals related to increasing infill development, improving conditions for pedestrians and people riding bicycles, and reducing VMT.

Pasadena

Pasadena was the first city in the state to implement changes to its CEQA transportation performance metrics in anticipation of new state guidance after SB 743. Pasadena's experience may be a useful example for Covina because of the similarities in context: both cities' downtowns have become important transit nodes (Pasadena connected to the Gold Line and Covina to Metrolink) in a mostly auto-oriented portion of the Los Angeles region.

In 2004, the City of Pasadena updated the land use and mobility elements of its General Plan to reflect principles that favored increasing density in the city's downtown. In 2009, the City began the process of updating its General Plan again, and in so doing, began exploring how to make its CEQA impact review procedures more consistent with the policy direction laid out in the General Plan as well as other planning documents. This process was accompanied by an extensive community engagement effort. Pasadena's use of VMT as the primary transportation impact evaluation metric is consistent with the city's overall policy direction. This metric allows the city to focus on strategies for managing congestion, traffic volumes and signal operations, whereas,

mitigating LOS impacts with additional road capacity would not be feasible within the built-out road network.

The City Council adopted the new metrics in November 2014, and Pasadena became the first city in California to adopt VMT as an impact metric under CEQA. In order to incorporate standards that measure multimodal networks more effectively and reflect the General Plan's expanded emphasis on sustainability and walkability, Pasadena requires that the following metrics, in addition to VMT per capita, also be analyzed when assessing new developments[5]:

- *vehicle trips per capita*
- *the proximity and quality of the local bicycle network*, determined by the percentage of dwelling units and jobs within a quarter-mile of bike path or protected bike lane
- *the proximity and quality of the transit network*, determined by the percentage of dwelling units and jobs within a quarter-mile of a transit station or high-frequency bus route
- *the quality of pedestrian accessibility*, determined by a Pedestrian Accessibility Score which measures the number of different land-use types within a five-minute walk

Although the city discontinued the use of LOS as a CEQA threshold, it retains modified forms of LOS analysis for "Projects of Communitywide Significance," defined as 50,000 square feet of new commercial use, 50 or more residential units, or any combination of the two. This is still consistent with SB743, which allows jurisdictions to continue using traffic congestion performance metrics in their review procedures outside CEQA. For projects of this magnitude that exceed predetermined LOS thresholds, the City will recommend certain conditions of approval that encourage walking, biking, and using transit to reduce development-related vehicle trips. In addition, the City's street segment analysis looks at streets adjacent to a proposed development in order to protect neighborhood streets from increased traffic associated new developments. In this way, the conditions of approval are specific to a project's land use context.[6]

Oakland

The City of Oakland established new transportation performance metrics in September 2016, removing LOS significance criteria from CEQA analysis and replacing them with criteria centered on VMT. In contrast to Pasadena or San Jose, Oakland provides an example of making the change through the Planning Commission rather than City Council. The analysis procedures the City implemented are also simpler than those established in San Jose and Pasadena.

While the regional grant used to fund the overhaul of Oakland's transportation impact analysis guidelines was tied in some ways to the passage of SB 743, Oakland was already looking at replacing LOS in the Transportation Impact Review (TIR). For example, the 2012 Energy and Climate Action Plan and the 2013 Complete Streets Policy each called for a move away from LOS and defined goals for multimodal priorities. When OPR recommended that lead CEQA agencies replace LOS with VMT, the City of Oakland moved forward with an effort to update its CEQA Guidelines accordingly ahead of final approval of the OPR guidance. City and consultant team

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[5] City of Pasadena Department of Transportation. *Memo to City Council on New Transportation Performance Measures for Transportation Impact Analysis and Thresholds of Significance for CEQA*. November 2014; interviews with City staff, December 2014.

[6] Ibid.

staff collaborated on a set of internal and external stakeholder engagement and outreach activities, followed by a formal motion by the Planning Commission.[7] The Planning Commission directed staff to formalize the details of the shift in updated transportation impact analysis guidelines without further action from the body.

Oakland's analysis procedures rely on a map-based approach. The city developed maps by land use category (residential and office/retail) that show estimated current-year and 2040 VMT in each regionally-defined transportation analysis zone. Data for the maps were generated by the Metropolitan Transportation Commission (the Bay Area's metropolitan planning organization, or MPO) and its Travel Model One travel demand forecasting tool. Projects are first assessed on whether they are consistent with (or better than) the built-environment context in the rest of the TAZ in which they are located. A residential project is considered to have a significant transportation impact if its TAZ exceeds the regional household VMT per capita minus 15 percent or if it has potential to generate significantly more VMT than its TAZ because of project characteristics. For office and retail projects, the threshold of significance is the existing regional VMT per employee minus 15 percent.[8]

The city also recently adopted a transportation impact fee to support broad improvements rather than piecemeal project-specific mitigations. This replaces developer-funded LOS mitigations at specific intersections with an impact fee for citywide multimodal transportation network beyond the immediate vicinity of development projects to maintenance of the existing system and support VMT reduction.

San Jose

In February 2018, San José City Council adopted updates to Transportation Analysis Policy 5-1, establishing VMT as the metric to measure transportation impacts under CEQA. San Jose was the fourth City to change its Transportation Analysis to use VMT instead of LOS after the passage of SB 743. Additionally, San Jose's built environment context includes large areas that are low-density and suburban, similar to many other California cities such as Covina.

In 2011 San José adopted a General Plan that attempts to advance growth management and sustainability by transitioning away from the low-density development patterns that marked the prior 50 years and instead encouraging growth in the downtown core and in mixed-use, transit-oriented areas called Urban Villages. Updating the transportation analysis processes to measure VMT rather than LOS is a key part of achieving the City's 2040 vision along with environmental goals such as reducing greenhouse gas emissions.

Despite this forward-looking vision, the city's transportation analysis procedures, codified in Policy 5-1, centered on LOS until the 2018 updates. San José's process to update to the Transportation Analysis started with an analysis of existing planning documents to inventory their transportation-related values; an internal working group with representatives from the DOT, long-range planning, traffic engineering, and environmental planning; and some internal and stakeholder meetings to discuss the potential policy changes. To update the Transportation Analysis Policy, there we multiple work sessions with the City Council before the final unanimous vote to replace LOS with VMT.

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[7] http://www2.oaklandnet.com/government/o/PBN/OurOrganization/PlanningZoning/OAK060501

[8] City of Oakland Transportation Impact Review Guidelines, April 2017.

The new policy uses screening criteria to exempt certain projects that will further City goals and policies and will not result in significant transportation impacts. These excluded project types include:

- Small infill projects
- Local-serving retail
- Local-serving public facilities
- Transit-oriented projects in Urban Villages
- Affordable housing, transit-oriented residential projects in planned growth areas with low VMT and high quality transit
- Transportation projects that are presumed to either reduce or not increase VMT (e.g. projects that enhance pedestrian, bike, or transit infrastructure)

Projects that do not meet the screening criteria required to evaluate VMT with specific thresholds based on use.

Figure 1 Project Type and VMT Thresholds of Significance[9]

Project Type	Threshold for Determination of Significant Impact
Residential uses	VMT per resident greater than the more stringent of the following thresholds: 1) 15 percent below the Citywide per resident VMT, OR 2) 15 percent below regional VMT per resident
General Employment Uses (e.g. office, R&D)	VMT per employee greater than 15 percent below existing regional VMT per employee
Industrial Employment Uses (e.g. warehouse, manufacturing)	VMT per employee greater than 15 percent below existing regional VMT per employee
Retail Uses (Including Hotel)	A net increase in the total existing VMT for the region
Public/Quasi-Public Uses	Public/Quasi-Public land use projects will be analyzed using the most relevant threshold as determined by Public Works Director for the proposed use on the site from the enumerated project types in this table
Mixed-Uses	Each land use component of a mixed-use project will be analyzed independently, applying the significance threshold for each land use component from the enumerated project types in this table
Change of Use or Additions to Existing Development	Changes of use of additions to existing development will be analyzed applying the significance threshold for each land use component from the enumerated project types in this table
Urban Village, Station Area Plans, Development Policy, Specific Strategy or Other Area Plans	Each land use component will be analyzed independently, applying the significance threshold for each land use component from the enumerated project types in this table
General Plan Amendments	General Plan Amendments will be analyzed in conformance with the General Plan's definition of VMT. An increase in City total VMT is a significant transportation impact
Transportation Projects	Net increase in VMT greater than that consistent with the Regional Sustainable Communities Strategy

[9] City of San José, Transportation Analysis Policy 5-1, February 27, 2018.

San José developed a new Transportation Analysis Handbook as well as an Excel-based VMT Evaluation Tool[10] that evaluates propose residential and general/industrial employment land use projects' VMT impacts. The VMT tool uses per capita and per employee VMT for the half-mile radius surrounding the project site, and calculates parcel level VMT using the City's travel demand model. Projects that would trigger a significant impact can then evaluate various strategies to reduce VMT impacts[11].

RECOMMENDED PATH FORWARD

There are several paths forward for the City of Covina:

1. Adopt the OPR recommended guidelines to replace the City's existing criteria. While this may be the easiest path to take, the community may lose the ability to get transportation system improvements they want from new development.
2. Wait for the County of Los Angeles to adopt new criterial meeting the requirements of SB 743 and adopt those for the City as has been previously done. However, similar to option 1, the LA County criterial may not meet the City's needs and goals.
3. Create a City of Covina-specific set of guidelines that meet community needs and goals.

We recommend that the City of Covina explore potential performance metrics that might be reflective of their community transportation values, engage stakeholders (inside and outside government) in the process of narrowing in on the most appropriate performance metrics, and strategically establish impact review procedures inside and outside the CEQA process.

It is possible to simply make the adjustment to CEQA procedures called for in SB 743 and the forthcoming associated regulatory guidance from the Natural Resources Agency. The very direct policy guidance from state lawmakers and OPR's detailed technical documentation together create a strong justification for procedural changes by lead agencies, and, in fact, San Francisco, Oakland, and San Jose all explicitly referenced that state guidance in their legal justifications for moving forward before final guidance is approved by the Resources Agency.

However, if the City of Covina has the time and budget to engage in a more comprehensive process, it might be well served to do so. Many cities have for many years relied on LOS-based CEQA mitigations to fund important transportation-network improvements, albeit in ways that have been exclusively focused on improving conditions for automobiles and executed in a piecemeal fashion. To ensure that the City still has methods for ensuring that developers pay for their fair share of transportation-system improvements, and that the improvements selected are truly reflective of community values, the City would be wise to engage in a more deliberative process.

This section discusses the work that may be involved in that more deliberative process. The section concludes with a potential implementation roadmap and timeline.

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[10] San José VMT Evaluation Tool can be downloaded from the City's VMT project page: http://www.sanjoseca.gov/vmt

[11] *San José VMT Evaluation Tool: User Guide*, 2018.

1. Identify Transportation-Related Values and Policy Goals

Community values should be the bedrock of any impact-analysis framework. However, for decades, impact-analysis procedures have generally ignored many community values in favor of a single-minded focus on reducing vehicle congestion and delay. Vehicle-congestion mitigations like road-expansion projects often run directly counter to certain important values such as pedestrian and cyclist safety, town-center economic vitality, and environmental sustainability. While state guidance recommends that cities simply replace LOS with VMT, cities like the ones reviewed above have taken stock of the full range of community values before settling on final impact-analysis procedures. Values that are not represented in CEQA-related analysis procedures are represented in other parts of the development-review process, including in discretionary review procedures, impact-fee-setting, and development requirements (e.g. TDM-related requirements).

Every planning study and policy discussion begins with local values. As such, documenting community values often does not require a full public-engagement process. It should be possible to find volumes of evidence of community values in documents like the City's General Plan and the Bicycle Master Plan, as well as through public engagement processes that are ongoing as part of the Town Center Specific Plan process. As a first step in identifying appropriate metrics to replace Level of Service in impact-review procedures, staff should review these documents and the results of past outreach efforts to develop a synthesized list of community values. Often, themes often quickly emerge across documents, allowing staff to settle on a final list of five to seven key values that should have a bearing on decisions that affect the transportation system.

***Action:* Review planning documents and policy guidance to create a synthesized list of transportation-related community values**

2. Identify Evaluation Criteria and Metrics that Align to those Values and Goals

There is an important saying; what gets measured, gets built. As such, to ensure that projects reflecting community values are the ones that move forward, all transportation-related analysis procedures and metrics should align directly to one or more of the values identified in step 1.

The need to ensure that criteria and metrics align to unique local values should not constrain the City to onerous or opaque analysis procedures. Over decades, and especially in recent years, planners and engineers – many in partnership with federal and state governments and/or research institutions – have developed a wide range of metrics and methodologies to estimate transportation performance across all manner of criteria. For instance, the Florida Department of Transportation sponsored an effort to inventory transportation-related performance metrics and align them to potential community values.[12] The research effort was an explicit attempt to supply localities with alternatives to LOS, in hopes of helping local analysis procedures better reflect community values. The report matches more than 200 potential performance metrics to seven broad goal areas: minimizing ecological impact, increasing accessibility, increasing non-single-

[12] Elefteriadou, Lily, Sivaramakrishnan Srinivasan, Ruth Steiner, Patricia Tice, and Kwangkyun Lim (2012). *Expanded Transportation Performance Measures to Supplement LOS for Growth Management and Transportation Impact Analysis.* University of Florida Transportation Research Center.

occupant-vehicle travel, reducing congestion, optimizing freight movement, enhancing safety, and reducing air pollution.

However, not all metrics are created equal. Some have prohibitive data-collection requirements. Others are best suited to *monitoring* the performance of *existing* facilities, rather than *projecting* the performance of *future* facilities. The wide selection of potential metrics should make it possible to identify a few candidate metrics that are well aligned with each community value and that carry analysis costs that are appropriate to community resources. As in any planning process, it is helpful to develop alternatives and explore the relative benefits and drawbacks of each potential approach before making a final decision.

***Action:* Identify candidate criteria and metrics that align to identified values**

3. Engage Key Stakeholders in Selecting Final Metrics

Transportation performance metrics can be an exceedingly wonky topic. However, decades of community concerns about traffic congestion documented in environmental impact review (EIR) public comments show that the general public *can* care deeply about this topic and can be motivated to engage in the details when the details are made personal and meaningful.

The City should consider engaging with stakeholders and the general public in a few main ways:

- **City Staff Interviews and Briefings:** A range of City staff will be affected by changes in transportation-analysis procedures, including long-range, development-review, and environmental planners, traffic engineers, transit agency service and long-range planners, and economic development officials. As a first step, project staff could interview each of these groups to develop a complete understanding of how transportation analysis works (or does not work) across functions today, how the development-review and project-development processes work today, and initial perspectives on what it might be valuable to measure. Soliciting input and/or briefing these same staff members later in the process can help ensure that they are bought-in to any procedural changes. San Francisco, Oakland, and San Jose all found value in engaging with staff across the City team throughout the process, and they each had cross-functional steering committees that guided the process more directly.
- **Small-Group Public Stakeholder Meetings:** The leaders of neighborhood groups and advocacy organizations are likely most tuned into and invested in the way transportation analysis works today, and as such, it is critical to help them understand the downsides of existing procedures and the potential benefits of new approaches. These stakeholders can also help the City staff validate community values that were identified in step 1. Developers and transportation consultants who most closely engage with the process should also be engaged at this stage. If stakeholders express deep reservations about eliminating traffic-delay considerations from the process, they can also help find a compromise in which traffic-delay is a criterion helps the City improve network operations without triggering significant negative effects on other values and/or dominating the environmental process. Pasadena identified the need for such a compromise through its efforts to engage active community members in certain parts of that city.
- **Public Workshops:** Helping the public understand how transportation performance metrics affect their daily lives can help a range of community members engage

thoughtfully in the process of adjusting existing procedures. Doing so can also help make policy makers more comfortable with approving proposed changes to the process.

At the end of this stage in the process, it should be possible to narrow in on a final set of criteria and performance metrics.

***Action:* Engage the general public and key stakeholders, both inside and outside government, to educate and solicit input.**

4. Select Thresholds of Significance and Test Analysis Procedures

Once final metrics are selected, thresholds of significance must be established. These thresholds determine the point at which a project will be flagged as having a significant negative impact on a particular transportation criterion. As noted earlier, the State's recommended threshold of significance for VMT is 15% below the regional average, which OPR deemed both achievable and in-line with State greenhouse-gas-reduction policies.

At this point, it is critical to test the new metrics and methodologies to ensure that analysis tools appropriately represent conditions in Covina and that City staff and/or the transportation consultants who will be running the analyses feel comfortable with the methodologies and tools. Testing can also help ensure that the new metrics (and associated thresholds) do not introduce unintended outcomes that run counter to the overarching goals identified in step 1. This step can consist of selecting several past projects, running all analysis procedures on them, and observing which projects fare best and which fare worst.

***Action:* Select thresholds of significance for each proposed metric and test proposed methodologies to both check for unintended consequences and ensure staff/consultant comfort with tools and procedures.**

5. Strategically Insert Metrics in Development-Review Process

The CEQA process is inherently a blunt instrument, requiring projects to disclose the results of each required analysis in deep detail and subjecting them to legal challenges, supported by reams of case law. While CEQA requirements are appropriate for a wide range of criteria that are directly aligned to environmental outcomes, there are other ways in which cities can more efficiently ensure that developments and infrastructure projects adhere to certain standards that are less closely related to the environment (e.g. the finer points of context-sensitive design and the function of certain aspects of the transportation system). New CEQA VMT requirements will only be using the VMT metric, but other metrics identified in step 4 above can be used. to subject projects to additional review criteria outside the CEQA process. To understand the full scope of existing development-review and project-development processes, staff can start this step by documenting the existing process through interviews with City planners and stakeholders who most directly engage with it.

Staff can then recommend places in the development-review and project-development timelines for each of the final transportation criteria, performance metrics, and analysis procedures. Certain types of transportation analyses can be used as a project screening procedure at the beginning of the process, while others are more appropriate closer to final approval, once the key contours of a project are well defined. Of course, any additional analysis procedure should be subject to a critical examination of the nature and scale of additional burdens on project sponsors.

***Action:* Document existing procedures and identify appropriate points for any new transportation-related analyses.**

6. Pursue Adoption of New Guidelines

Every City has different established practices for adopting changes to CEQA procedures or other elements of development-review and project-development processes. City attorneys can advise on the most sensible approach based on their understanding of state law and of how such changes have been adopted in the past.

Each of the cities discussed earlier adopted updates to CEQA procedures in slightly different ways. Pasadena did so as part of a larger General Plan update process and ultimately secured City Council approval. San Jose did so as a separate process and ultimately engaged its City Council in a series of working sessions and meetings before securing official approval. Oakland simply secured approval from its Planning Commission. The City of Covina should identify an approach that is appropriate to policy-maker and community expectations, as well as legal guidance.

***Action:* Identify an adoption strategy and pursue adoption.**

Implementation Plan Summary

Figure 2 summarizes the adoption steps detailed above.

Figure 2 Implementation Plan

Step	Detail	Time Required	Deliverables
1. Identify Transportation-Related Values and Policy Goals	• Review relevant planning documents and other relevant policies • Engage with public and stakeholders as needed	2 months	Synthesized list of transportation-related community values
2. Identify Evaluation Criteria and Metrics that Align to those Values and Goals	• Review relevant literature on performance metrics and connections to commonly held values • Develop understanding of data requirements and analysis procedures associated with individual metrics • Narrow to two or three potential metrics per value	2-4 months	Matrix detailing potential performance metrics, review procedures, data requirements, and connections to identified values
3. Engage Key Stakeholders in Selecting Final Metrics	• Interview and update key City staff • Meet with key community stakeholders, including leaders of neighborhood and advocacy groups,	2-4 months	Final list of performance metrics

Step	Detail	Time Required	Deliverables
	developers, and technical consultants • Conduct educational workshops with the general public • Synthesize input and select final metrics		
4. Select Thresholds of Significance and Test Analysis Procedures	• Identify the point at which projects will be deemed to have a significant negative impact for each final metric • Test analysis tools and procedures on a few past projects to gain comfort with the procedures and identify unintended consequences	4 months	Thresholds of significance
5. Strategically Insert Metrics in Development-Review Process	• Document complete development-review and project-development procedures • Identify points in processes for additional transportation analysis	2 months	Proposed updates to development-review and project-development processes
6. Pursue Adoption	• Work with City attorneys to identify adoption strategy • Pursue adoption	2 months	Adopted updates to procedures

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Summary		
Filename	LxT_Data.017	
Serial Number	5065	
Model	SoundTrack LxT®	
Firmware Version	2.301	
User	jkanlund	
Location	Covina Town Center SP EIR Update LT 1	
Job Description	Long Term 1	
Note	Curtis and Front	
Measurement Description	Noise meter 2 - LT - Covina Town Center SP EIR Update	
Start	2018/10/25 13:00:00	
Stop	2018/10/26 13:00:00	
Duration	1 Day 00:00:00.0	
Run Time	1 Day 00:00:00.0	
Pause	0:00:00.0	
Pre Calibration	2018/10/24 14:03:04	
Post Calibration	None	
Results		
LASeq	59.9	
Community Noise	**Ldn**	**Lden**
	63.3	63.7
Statistics		
LAS5.00	65.1	
LAS10.00	61.7	
LAS25.00	55.3	
LAS50.00	50.3	
LAS75.00	45.1	
LAS90.00	41.8	

Covina Town Center Specific Plan
Covina, California
Appendix: Ambient Noise Monitoring Data
Prepared by MIG, April 2019

Table: Summary of Site LT1 Noise Monitoring Data

Site LT1												
Date	Time	Duration	Leq	LDN	Lmin	Lmax	L(5)	L(10)	L(25)	L(50)	L(75)	L(90)
10/26/2018	7:00 AM	1-hour	60.1	60.1	48.9	77.7	67.2	63.9	57.5	53.8	52.3	51.3
10/26/2018	8:00 AM	1-hour	62.8	62.8	48.4	78.1	69.6	66.7	62.9	57.3	53.1	51.4
10/26/2018	9:00 AM	1-hour	58.9	58.9	44.4	80.8	64.1	61.4	58.4	52.8	50.6	49.8
10/26/2018	10:00 AM	1-hour	61.5	61.5	44.0	81.9	67.8	65.8	60.7	57.1	54.1	52.8
10/26/2018	11:00 AM	1-hour	60.9	60.9	43.2	80.4	66.4	64.6	61.3	54.8	51.3	49.8
10/26/2018	12:00 PM	1-hour	60.3	60.3	39.2	84.7	65.7	62.6	56.5	50.7	47.5	46.1
10/25/2018	1:00 PM	1-hour	57.5	57.5	41.4	79.4	62.8	60.1	56.3	52.7	50.2	48.4
10/25/2018	2:00 PM	1-hour	61.1	61.1	43.8	83.0	66.2	64.4	60.4	54.1	51.2	49.3
10/25/2018	3:00 PM	1-hour	62.6	62.6	45.7	83.5	69.1	64.3	60.8	57.4	54.9	53.7
10/25/2018	4:00 PM	1-hour	62.4	62.4	44.1	79.1	68.2	65.5	62.3	58.6	54.7	51.4
10/25/2018	5:00 PM	1-hour	63.2	63.2	45.1	90.9	66.8	64.5	59.7	55.4	52.8	50.1
10/25/2018	6:00 PM	1-hour	65.3	65.3	42.8	95.0	66.3	64.0	57.0	51.8	48.9	47.0
10/25/2018	7:00 PM	1-hour	56.9	56.9	41.8	77.3	63.5	60.0	54.3	50.7	48.0	46.2
10/25/2018	8:00 PM	1-hour	59.6	59.6	40.1	89.5	62.9	58.6	51.1	47.2	45.1	44.0
10/25/2018	9:00 PM	1-hour	58.8	58.8	40.0	84.1	61.5	55.5	49.5	45.6	44.1	43.3
10/25/2018	10:00 PM	1-hour	56.0	66.0	39.8	81.8	57.1	52.0	47.4	44.3	43.2	42.6
10/25/2018	11:00 PM	1-hour	49.9	59.9	38.4	78.0	49.0	46.3	43.6	42.1	41.1	40.5
10/26/2018	12:00 AM	1-hour	52.1	62.1	38.0	78.1	55.2	50.1	43.7	41.3	40.6	40.0
10/26/2018	1:00 AM	1-hour	46.6	56.6	38.6	68.9	52.2	46.2	42.8	41.4	40.7	40.3
10/26/2018	2:00 AM	1-hour	45.1	55.1	39.5	65.0	49.6	47.6	44.0	42.4	41.6	41.1
10/26/2018	3:00 AM	1-hour	45.2	55.2	40.6	66.4	47.5	45.9	44.4	43.5	42.9	42.3
10/26/2018	4:00 AM	1-hour	51.7	61.7	43.0	73.4	55.7	51.4	48.3	47.1	46.0	45.4
10/26/2018	5:00 AM	1-hour	57.9	67.9	45.0	78.3	63.9	60.2	54.5	49.9	48.3	47.5
10/26/2018	6:00 AM	1-hour	61.9	71.9	47.1	85.0	67.7	64.0	57.8	52.5	50.4	49.4
		Daytime (7 AM to 7 PM)	*61.8*	*--*	*39.2*	*95.0*	*67.1*	*64.3*	*60.0*	*55.3*	*52.3*	*50.6*
		Evening (7 PM to 10 PM)	*58.6*	*--*	*40.0*	*89.5*	*62.7*	*58.4*	*52.1*	*48.4*	*46.1*	*44.7*
		Nighttime (10 PM to 7 AM)	*55.4*	*--*	*38.0*	*85.0*	*60.5*	*56.6*	*51.0*	*46.9*	*45.3*	*44.6*
		24-Hour	*--*	*63.3*	*38.0*	*95.0*	*65.0*	*62.1*	*57.5*	*52.9*	*50.1*	*48.6*

Summary	
Filename	LxT_Data.156
Serial Number	3790
Model	SoundExpert™ LxT
Firmware Version	2.206
User	jkanlund
Location	Covina TC SP EIR
Job Description	Short Term Monitoring
Note	Short Term Points 1-7
Measurement Description	Noise meter 1 - ST - Covina Town Center EIR Update
Start	25/10/2018 13:00:00
Stop	25/10/2018 15:43:00
Duration	2:43:00.1
Run Time	2:43:00.1
Pause	0:00:00.0
Pre Calibration	24/10/2018 15:37:12
Post Calibration	None
Results	
LASeq	69.6
Statistics	
LAS1.60	76.8
LAS8.00	72.6
LAS25.00	68.7
LAS50.00	63.5
LAS90.00	46.6

Covina Town Center Specific Plan
Covina, CA
Appendix: Ambient Noise Monitoring Data
Prepared by MIG,April 2019

Table: Summary of Site ST-1 Noise Monitoring Data

Site ST-1 (Southeast corner of San Bernardino Road and North Citrus Avenue)										
Date	Time Start	Duration	Leq	Lmin	Lmax	L(1.6)	L(05)	L(25)	L(50)	L(90)
10/25/2018	1:10 PM	10 mins	69.0	55.5	82.7	76.5	72.0	69.3	67.5	62.7
10/25/2018	1:20 PM	10 mins	68.2	52.9	78.9	75.2	71.6	69.0	66.8	60.7
10/25/2018	1:30 PM	10 mins	75.9	55.6	95.0	89.5	72.2	69.3	67.0	61.3
		Average:	*72.5*	*52.9*	*95.0*	*85.1*	*71.9*	*69.2*	*67.1*	*61.6*

Table: Summary of Site ST-2 Noise Monitoring Data

Site ST-2 (Northwest corner of West College Street and North 1st Avenue)										
Date	Time Start	Duration	Leq	Lmin	Lmax	L(1.6)	L(05)	L(25)	L(50)	L(90)
10/25/2018	1:50 PM	10 mins	58.2	40.9	80.6	69.7	60.8	52.5	48.1	43.4
10/25/2018	2:00 PM	10 mins	51.9	42.5	68.2	63.0	54.9	48.3	46.1	43.5
10/25/2018	2:10 PM	10 mins	55.6	42.7	71.3	66.9	59.1	52.6	48.6	45.7
		Average:	*56.0*	*40.9*	*80.6*	*67.3*	*58.9*	*51.5*	*47.7*	*44.3*

Table: Summary of Site ST-3 Noise Monitoring Data

Site ST-3 (Southwest corner of East Center Street and South 2nd Avenue)										
Date	Time Start	Duration	Leq	Lmin	Lmax	L(1.6)	L(05)	L(25)	L(50)	L(90)
10/25/2018	2:30 PM	10 mins	64.8	49.0	74.9	71.9	70.2	65.3	61.1	54.1
10/25/2018	2:40 PM	10 mins	65.1	52.3	77.1	72.7	69.7	65.4	62.3	57.0
10/25/2018	2:50 PM	10 mins	66.3	49.3	83.4	73.3	70.2	66.7	62.4	52.9
		Average:	*65.4*	*49.0*	*83.4*	*72.7*	*70.0*	*65.8*	*62.0*	*55.0*

Table: Summary of Site ST-4 Noise Monitoring Data

Site ST-4 (Northwest Corner of Badillo Street and North Citrus Avenue)										
Date	Time Start	Duration	Leq	Lmin	Lmax	L(1.6)	L(05)	L(25)	L(50)	L(90)
10/25/2018	3:10 PM	10 mins	71.9	60.3	85.0	78.1	75.0	72.9	70.0	66.3
10/25/2018	3:20 PM	10 mins	71.2	62.3	80.6	76.1	74.0	72.4	70.4	66.5
10/25/2018	3:30 PM	10 mins	71.4	61.7	85.5	77.4	74.9	72.6	69.7	65.4
		Average:	*71.5*	*60.3*	*85.5*	*77.3*	*74.7*	*72.6*	*70.0*	*66.1*

MIG 25 March 2019
P Gleason TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Covina TC SP
RUN: 13_Exist_Citrus_NO-Front
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			Ldn	Ldn		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	Ldn	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
50 feet	1	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0
100 feet	2	1	0.0	65.5	66	65.5	10	----	65.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

MIG 25 March 2019
P Gleason TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Covina TC SP
RUN: 13_Future_Citrus_NO-Font
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			Ldn	Ldn		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	Ldn	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
50 feet	1	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
100 feet	2	1	0.0	66.5	66	66.5	10	Snd Lvl	66.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

MIG 25 March 2019
P Gleason TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Covina TC SP
RUN: 14_Exist_Barranca_NO-SanBernardino
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			Ldn	Ldn		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	Ldn	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
50 feet	1	1	0.0	72.6	66	72.6	10	Snd Lvl	72.6	0.0	8	-8.0
100 feet	2	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

MIG 25 March 2019
P Gleason TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Covina TC SP
RUN: 14_Future_Barranca_NO-SanBernardino
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

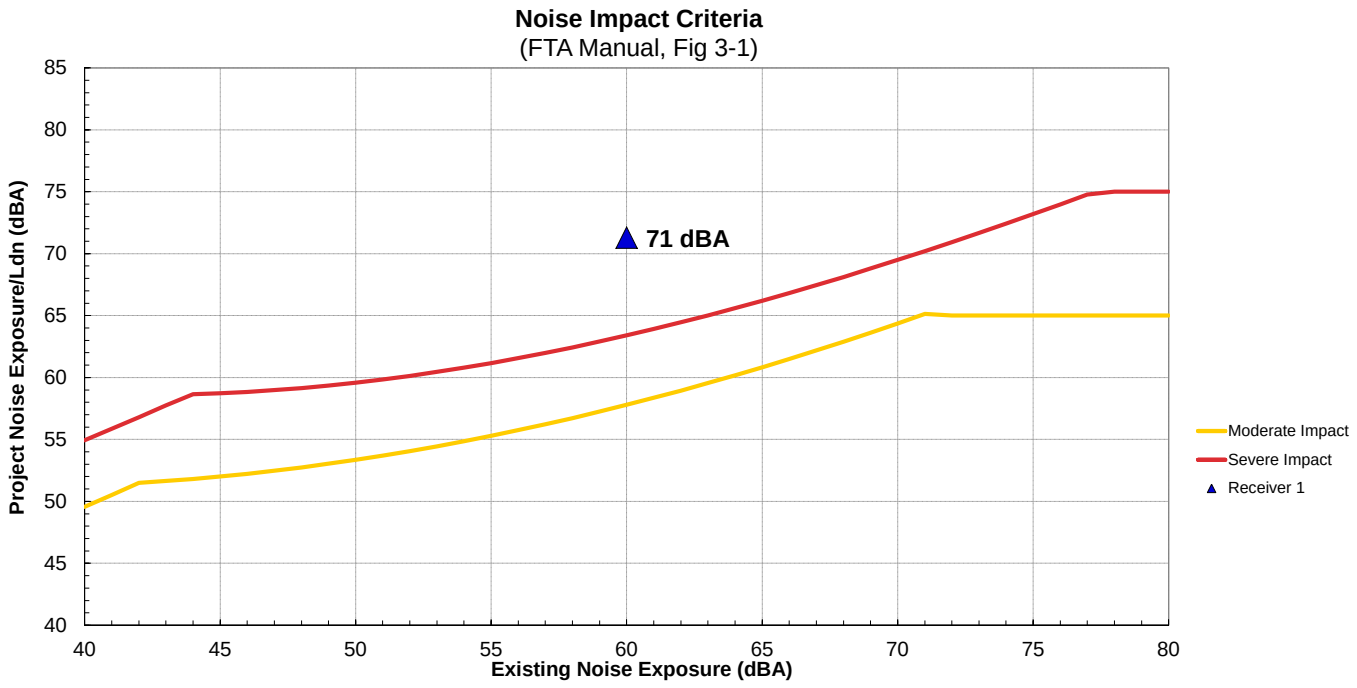
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

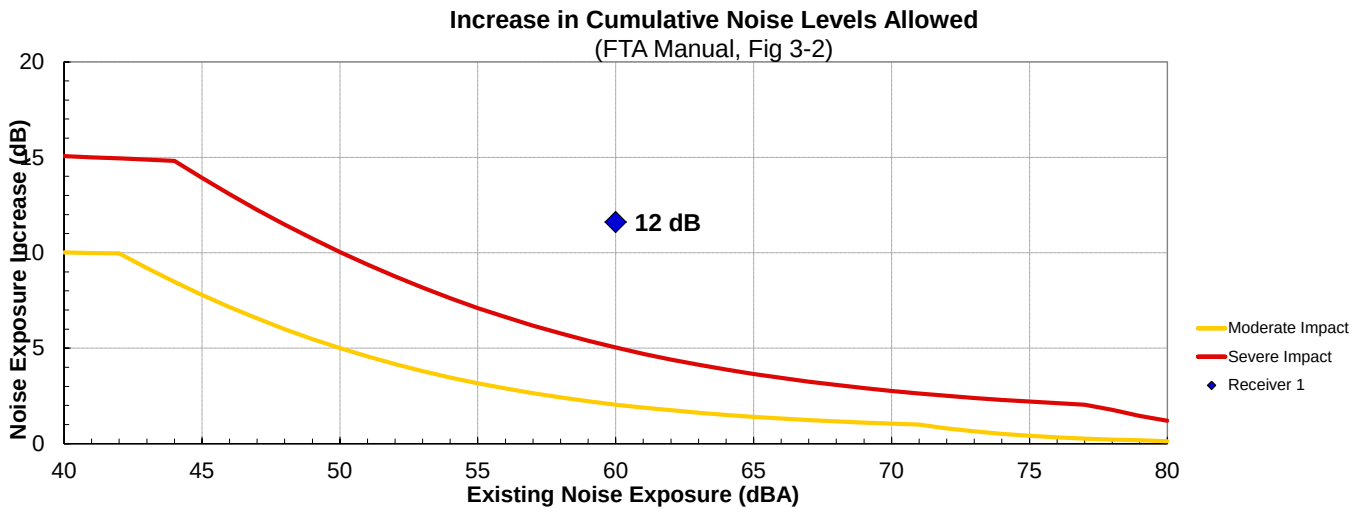
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			Ldn	Ldn		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	Ldn	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
50 feet	1	1	0.0	73.4	66	73.4	10	Snd Lvl	73.4	0.0	8	-8.0
100 feet	2	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Project: Covina TC SP
Receiver: Receiver 1

	Source	Distance	Project Ldn	Existing Ldn	Noise Criteria Mod. Impact	Noise Criteria Sev. Impact	Impact?
1	Diesel Multiple Unit (DMU)	10 ft	70.0 dBA	60 dBA	58 dBA	63 dBA	Severe Impact
2	Rail Car	10 ft	63.8 dBA	60 dBA	58 dBA	63 dBA	Severe Impact
3	Crossing Signals	50 ft	60.3 dBA	60 dBA	58 dBA	63 dBA	Moderate Impact
4	--	70 ft		60 dBA	58 dBA	63 dBA	
5	--	ft		60 dBA	58 dBA	63 dBA	
6	--	ft		60 dBA	58 dBA	63 dBA	
	Combined Sources		**71 dBA**	**60 dBA**	**58 dBA**	**63 dBA**	**Severe Impact**


Noise Impact Criteria
(FTA Manual, Fig 3-1)
Project Noise Exposure/Ldn (dBA)
85
80
75
70
65
60
55
50
45
40
71 dBA
40
45
50
55
60
65
70
75
80
Existing Noise Exposure (dBA)
Moderate Impact
Severe Impact
Receiver 1


Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)
Noise Exposure Increase (dB)
20
15
10
5
0
12 dB
40
45
50
55
60
65
70
75
80
Existing Noise Exposure (dBA)
Moderate Impact
Severe Impact
Receiver 1

Covina Town Center Specific Plan
Covina, California
Appendix: Rail Vibration Estimate
Prepared by MIG, April 2019

Generalized Ground Surface Vibration Equation

Locomotive Powered Passenger or Freight

$$Lv = 92.28 + 14.81 \log(D) - 14.17 \log(D)^2 + 1.62 \log(D)^3$$

Where

D = Distance from track centerline (ft)
Lv = Velocity Level (VdB)
v = RMS Velocity Amplitude (in/sec)

D_1 =	10		
D_2 =	40		
D_3 =	60		
Lv_1 =	94.5	v_1 =	0.0533
Lv_2 =	86.3	v_2 =	0.0207
Lv_3 =	82.9	v_3 =	0.0140

Adjustments

Vibration level is approximately proporational to:

$20\log(speed/speed_{ref})$

Where

speed = Analyzed Speed (mph)
$speed_{ref}$= Reference Speed (mph)

Speed =	20		
$Lv_{1, Adj}$ =	86.6	$v_{1, Adj}$ =	0.0213
$Lv_{2, Adj}$ =	78.3	$v_{2, Adj}$ =	0.0083
$Lv_{3, Adj}$ =	75.0	$v_{3, Adj}$ =	0.0056

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