ATTACHMENT F

GENERAL PLAN ENVIRONMENTAL IMPACT REPORT AND APPENDICES (2015)

Please visit https://www.cityofpasadena.net/planning/general-plan-2015-draft-documents/ to view the General Plan Draft EIR and Appendices documents

Please visit https://www.cityofpasadena.net/planning/2015-final-documents/

to view the General Plan EIR and Appendices documents

Appendix A. TIA Current Practice and Guidelines

Appendix

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PASADENA
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION IMPACT ANALYSIS
CURRENT PRACTICE & GUIDELINES

Prepared by:

Transportation Complete Streets Division
Department of Transportation

20150120

For comments or additional questions regarding the Department's transportation review practice, please contact:

Pasadena Department of Transportation
Transportation Complete Streets Division
http://www.cityofpasadena.net/Transportation/

The Department's current review practice will be periodically updated and posted on:

http://www.cityofpasadena.net/Transportation/Transportation_Impact_Review/

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SECTION 1:

INTRODUCTION, BACKGROUND, AND PROCESS

SECTION 1: BACKGROUND, PURPOSE, & PROCESS

BACKGROUND

The following guidelines support Pasadena's vision of creating "a community where people can circulate without cars." The vision relies upon an integrated and multimodal transportation system that provides choices and accessibility for everyone living and working in the City. Key strategies to achieve this vision promote non-auto travel including public transit services, parking strategies, bicycle facilities, and pedestrian components that are well coordinated and connected with a larger regional transportation system.

PURPOSE

The ability of a community to balance and facilitate the different components of its transportation system is important to the creation and preservation of a quality living and business environment. The function of a community's transportation system is to provide for the movement of people and goods, including pedestrians, bicyclists, transit and other vehicle traffic flows within and through the community.

The Mobility Element of the City's General Plan sets forth goals and policies to improve overall transportation in Pasadena. The Mobility Element is based on approaches that address the needs of multimodal corridors and streets as well as community neighborhoods that are affected by traffic. These guidelines have been developed to ensure that transportation system improvements necessary to support new development while maintaining quality of life within the community are identified prior to project approval and funded prior to construction.

Transportation impact analyses are an integral part of the environmental review process that is required for all proposed projects that are not categorically exempt under the California Environmental Quality Act (CEQA). Under CEQA, jurisdictions have the right to categorically exempt projects consisting of less than five housing units and non-residential projects with less than 2,500 square feet of floor area (CEQA 15303). Projects exempt under this class are qualified by consideration of where the project is located. If a project may impact an environmental resource or the location may be of critical concern, the project cannot be categorically exempt. Projects characterized as

in-fill development may also be categorically exempt if they meet the conditions described in Section 15332 of the CEQA Guidelines as follows:

1. The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations
2. The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses
3. The project site has no value as habitat for endangered, rare, or threatened species
4. Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality
5. The site can be adequately served by all required utilities and public services

These guidelines have been developed to identify projects that may have transportation impacts and to provide step-by-step instructions for preparing a Transportation Impact Analysis.

PROCESS

Upon receipt of initial Project Plan Review (PPR) from city of Department of Planning and Community Development, the City of Pasadena Department of Transportation (PasDOT) will determine whether or not a transportation review is required relative to CEQA guidelines and City policies. If a review is required, the following steps describe the process for initiating the process:

1. Applicant contacts PasDOT with a request to commence the study
2. PasDOT will estimate the required fees for conducting the study.
3. Upon authorization to proceed and payment of fees, PasDOT will commence the analysis.

Traffic Counts

1. Traffic counts shall be collected in accordance with industry standards and established methodologies and at PasDOT's discretion.
2. Counts should be collected when schools and colleges are in session. Counts collected when schools and/or colleges are not in session shall be approved by the Director of Transportation.

3. Counts should be collected during AM (7 a.m. to 9 a.m.) and PM (4 p.m. to 6 p.m.) peak hours, unless otherwise specified. Midday and Weekend counts may also be required.

Trip Generation and Applicable Credits

Trip generation is determined by one or more of the following:

1. Institute of Transportation Engineers (ITE) Trip Generation, 9th Edition or most current edition.
    a. Rates should be calculated using the weighted average formula when applicable
    b. Special consideration should be given for ITE rates based on antiquated data or a small sample may require additional data collection to determine the appropriate trip generation
2. Counts conducted for existing projects that are relocating or expanding
3. New rates should be generated using community examples for uses not updated or included in the ITE Trip Generation publication
4. Trip credits are given to certain uses located on major corridors and/or within the Transit Oriented District (TOD). The trip discounts are determined on a case by case basis and must be consistent with the City's current practice
5. For new uses, parking demand should be based on ITE Parking Generation Handbook and/or parking demand analyses conducted for similar uses in the community

SECTION 2:

THRESHOLDS USED FOR DETERMINING TRANSPORTATION REVIEW OF PROJECTS

SECTION 2: THRESHOLDS

Thresholds for Determining Transportation Review

Pasadena's current practice for reviewing a project's transportation impact begins with the submittal to the Pasadena Planning & Community Development Department of either a Project Plan Review (PPR), or an application for a discretionary action, including but not limited to a master development plan, planned development, conditional use permit, variance, hillside development permit, design review, and/or a request to alter the assessor's map.

PasDOT reviews several types and sizes of projects that could be subject to environmental review under the California Environmental Quality Act. The Department has two processes for reviewing a proposed project's transportation impacts based on project size, consisting of **below or equal to communitywide significance thresholds, and above communitywide significance thresholds. Communitywide significance projects are defined as 50,000 square feet of new commercial use, 50 residential units, or any combination of the two.** The primary difference between the two types of transportation review is inclusion of street segment and Level of Service (LOS) analyses. Additionally, street segment analysis and LOS analysis may be required for smaller projects at the discretion of the Director of Transportation. The following table summarizes the thresholds of determination.

Table 1: Thresholds for Determining Transportation Review of Projects

TYPE OF PROJECT	EXEMPTION	Category 1: BELOW COMMUNITYWIDE SIGNIFICANCE	Category 2: COMMUNITYWIDE SIGNIFICANCE
Residential (Net # of units)	10 units or less	11 – 49 units	50+ units
Non-Residential Use (Net)	10,000 Sq Ft or less than 300 daily trips	10,001 to 49,999 Sq Ft	50,000+ Sq Ft

Thresholds for Determining Impacts

The guidelines apply to all projects that require environmental review in accordance with the California Environmental Quality Act and the City's established Environmental Policy Guidelines, significance thresholds, and transportation review guidelines. The thresholds contained herein determine a project's expected level of impact on the transportation system and identify appropriate types of mitigation.

Table 2- Metrics' CEQA Thresholds of Significance

	METRIC	DESCRIPTION	IMPACT THRESHOLD
1.	VMT Per Capita*	Vehicle Miles Traveled (VMT) in the City of Pasadena per service population (population + jobs).	CEQA Threshold: An increase over existing Citywide VMT per Capita of 22.6.
2.	VT Per Capita	Vehicle Trips (VT) in the City of Pasadena per service population (population + jobs).	CEQA Threshold: An increase over existing Citywide VT per Capita of 2.8.
3.	Proximity and Quality of Bicycle Network	Percent of service population (population + jobs) within a quarter mile of bicycle facility types.	CEQA Threshold: Any decrease in existing citywide 31.7% of service population (population + jobs) within a quarter mile of bike facilities.
4.	Proximity and Quality of Transit Network	Percent of service population (population + jobs) located within a quarter mile of transit facility types.	CEQA Threshold: Any decrease in existing citywide 66.6% of service population (population + jobs) within a quarter mile of transit facilities.
5.	Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations, and a network-based walk shed to evaluate walkability	CEQA Threshold: Any decrease in the Citywide Pedestrian Accessibility Score

Table 3- Metrics' Cap Outside of CEQA

	METRIC	DESCRIPTION	CAP
1.	Street Segment Analysis	The street segment analysis assesses traffic intrusion on local streets in residential neighborhoods	Increases of 10-15% above existing on streets with more than 1500 ADT would trigger conditions of approval to reduce project vehicular trips
2.	Auto Level of Service	Level of Service (LOS) as defined by the Transportation Research Board's *Highway Capacity Manual (HCM).*	A decrease beyond LOS D Citywide or LOS E within Transit Oriented Districts (TODs) would trigger conditions of approval to reduce project vehicular trips
3.	PEQI	Pedestrian Environmental Quality Index	Below average Conditions
4.	BEQI	Bicycle Environmental Quality Index	Below average conditions

All metrics in Tables 2 and 3 shall be analyzed for projects of "communitywide significance" under Category 2 in Table 1. All or any of the metrics in Table 3 might be required for analysis for Category 1 projects in Table 1 at the discretion of Director of Transportation.

Street Segment Analysis (Increase in Daily Traffic)

Street Segment Analysis to address impacts to neighborhoods from traffic intrusion. The Average Daily Traffic (ADT) caps in Table 4 below measure the relative change in daily traffic resulting from an increase in trips or a change in access that alters existing traffic patterns. The relative change in daily traffic is determined as follows:

Percentage of Increase = Net New Project Trips/Existing Daily Traffic

A Street Segment analysis is required for all Category 2 projects identified in Table 1, or smaller projects at the discretion of Director of Transportation. The following criteria will be used for street segment analysis:

- Applies to "Projects of Communitywide Significance" which are defined as 50,000 square feet of new commercial use, 50 residential units or more, or any combination of the two (Category 2 project in Table 1).
- May apply to smaller projects identified as Category 1 projects in Table 1 at discretion of Director of Transportation

- The analysis would be limited to “Access” and “Neighborhood Connector” street types within a residential context (Street Types Map below)

Table 4- ADT Caps for Requiring Neighborhood Traffic Calming Measures

Existing ADT	Project-Related Vehicular Increase In ADT
0 to 1500	150 or more
1,501 to 3,499	10 percent or more of final ADT
3,500 or more	8 percent or more of final ADT

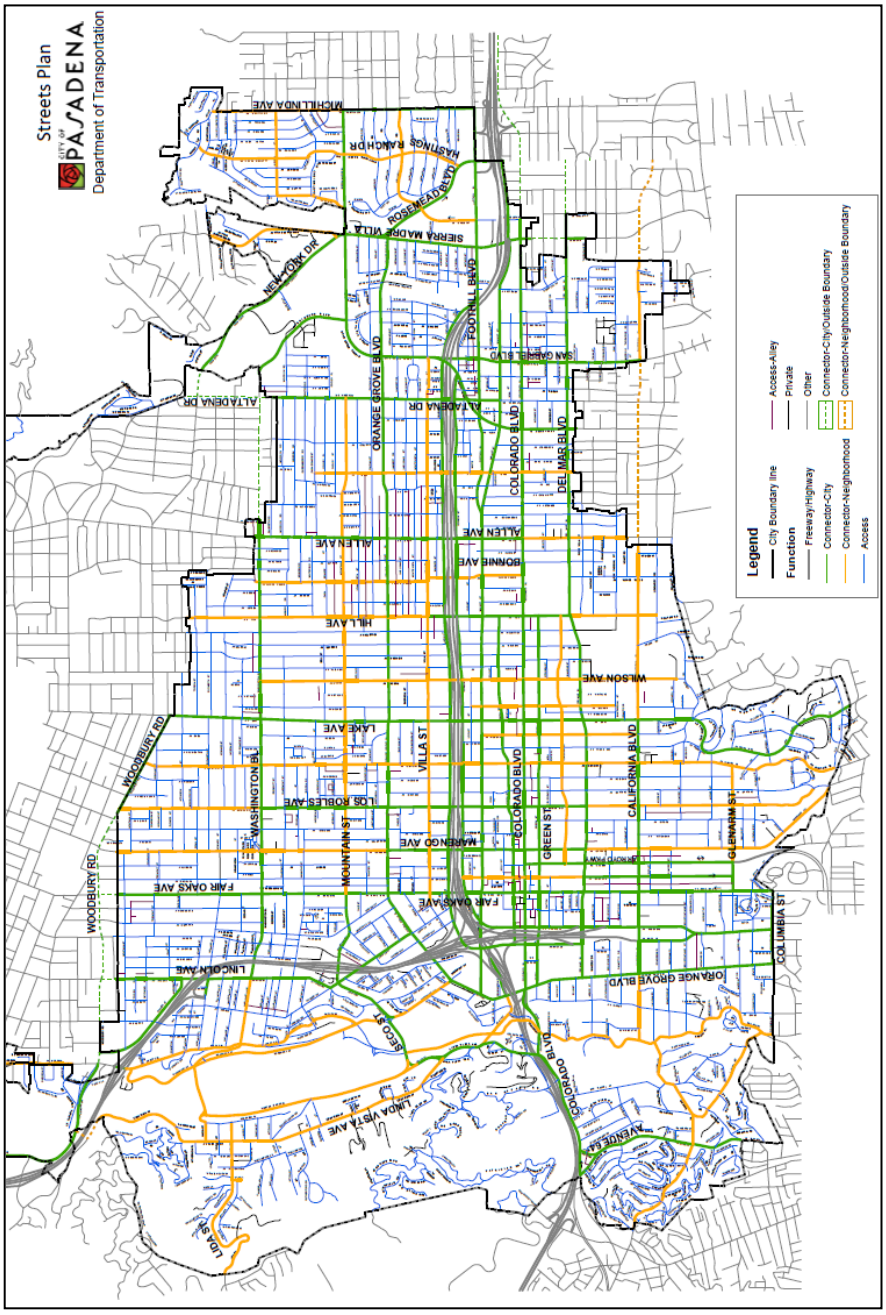
If project-related net trips exceed the caps in the table above conditions of approval would require the project applicant to develop and implement a targeted Complete Streets Plan with input from the affected residents, council districts and DOT to encourage use of non-vehicular modes by the project’s patrons, and implement measures to discourage use of residential streets to-and-from the project site. Below is a list of typical measures that would be included in a Complete Streets Plan.
Project specific measures:

- Establish a more aggressive Average Vehicle Occupancy (AVO) target that exceeds city’s AVO average by enhancing the required TDM plan under City’s Trip Reduction Ordinance (TRO)
- Project turn-restrictions
- Revised project access and circulation

Complete Streets measures

- Curb Extensions
- Pedestrian and Bike Traffic signal upgrades/enhancements
- Turn-restrictions
- Neighborhood Gateways (raised medians)
- Traffic circles
- Speed humps
- Signal metering

Map 1- City of Pasadena Adopted Street Types



Level of Service (LOS) Analysis

A *Highway Capacity Manual* (HCM) intersection Level of Service (LOS) analysis will be applied to proposed new development projects that meet or exceed the size thresholds to be Projects of Communitywide Significance, or smaller projects at the discretion of Director of Transportation. The LOS results will be measured for compliance with the intersection LOS caps in Table 5 below.

Table 5- Signalized Intersections LOS Cap

Study Intersections	Existing + Project LOS Cap
Citywide	D
Transit Oriented District (TOD)-see Map 2	E

Intersection LOS analysis using HCM criteria shown in Table 6 is conducted for peak hour conditions (morning, mid-day or evening or combination, depending upon size and location of the proposed project). The number of intersections to be analyzed will vary also depending upon size and location of the proposed project. Where the evaluated intersections exceed the LOS caps, conditions of approval will be recommended consistent with the City's Guiding Principles to encourage walking, biking and transit to-and-from the project site to reduce project-related vehicular trips. Below is a list of typical measures that would be included in trip reduction programs:

- Project specific measures:
  - Establish an Average Vehicle Occupancy (AVO) Cap or more aggressive AVO target that exceeds the City's AVO average by enhancing the required TDM plan under the City's Trip Reduction Ordinance (TRO)
  - Parking strategies to share parking or reduce on-site parking
  - Transit passes and/or transit cash-out
  - Bikeshare program with 10 or more bikes
  - Carshare program with two or more vehicles
  - Shuttle service to major transit stops
  - On-site transit kiosk
- Complete Streets measures
  - Pedestrian lighting to and from major transit stops
  - Pedestrian and Bike Traffic signal upgrades/enhancements
  - Installation of non-vehicular improvements at studied intersections

Level of Service analysis should be developed in a table form as follows:

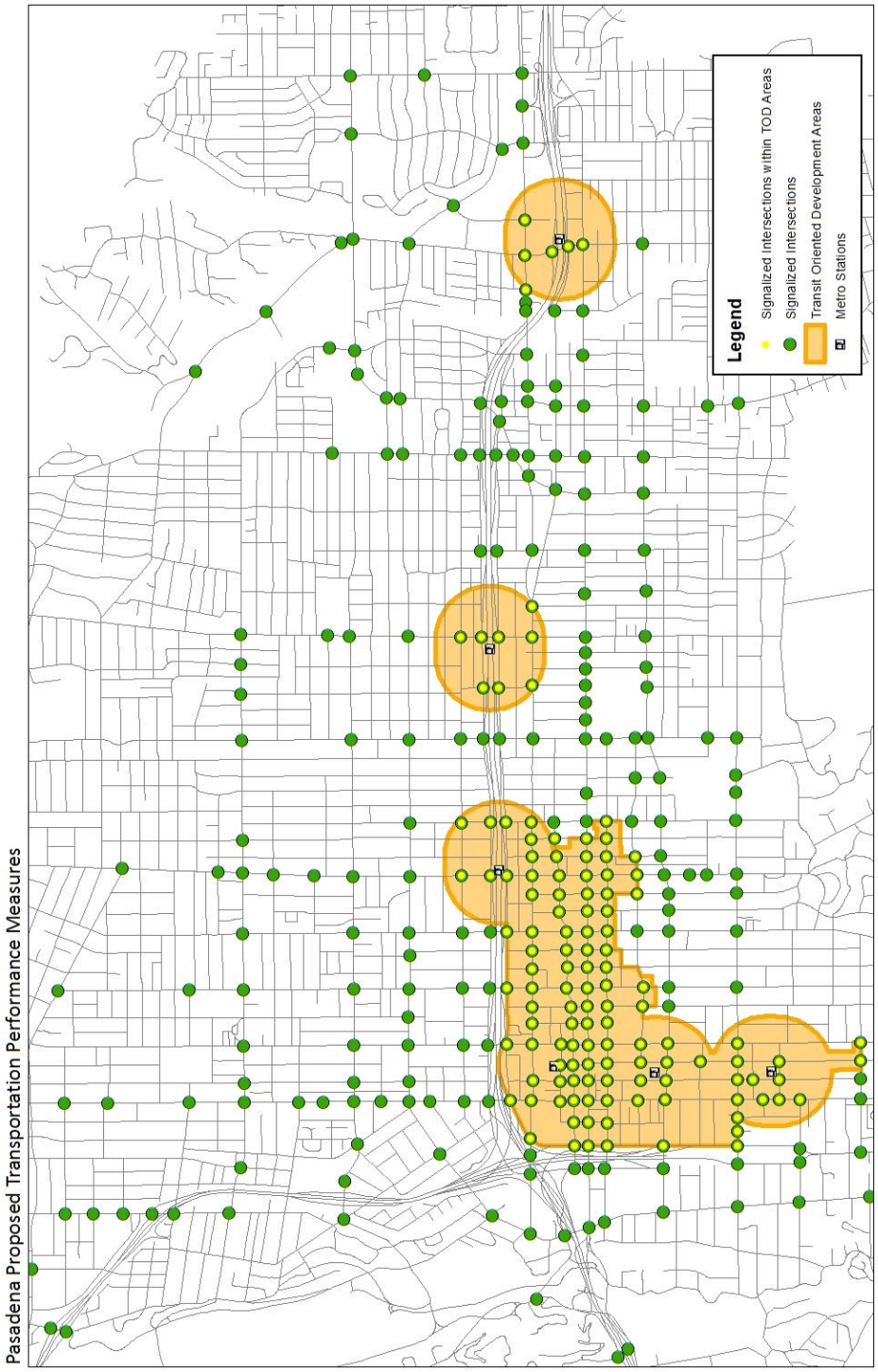
Intersection	Peak Hour	Existing		Existing w/Project		Exceeds LOS Cap?
		Delay	LOS	Delay	LOS	Yes/No

TABLE 6- HIGHWAY CAPACITY LEVEL OF SERVICE CRITERIA

LEVEL OF SERVICE	DESCRIPTION	DELAY IN SECONDS
A	Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	< 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor (vehicle) progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	This level is considered oversaturation, which is when arrival flow rates exceed the capacity of the intersection. This level may also occur at high V/C ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0

Source: 2010 *Highway Capacity Manual.*

Map 2- City of Pasadena Adopted Transit Oriented Districts



SECTION 3:

PROCEDURES FOR PREPARING A TRANSPORTATION IMPACT ANALYSIS (TIA)

SECTION 3: PROCEDURES FOR PREPARING A TRANSPORTATION IMPACT ANALYSIS

The following procedures have been established for the preparation of a Transportation Impact Analysis (TIA). A TIA is intended to focus on an accurate field inventory of existing circulation elements, and provide recommendations for incorporating existing and/or recommended circulation elements into the design of the proposed project to ensure safety and compatibility. Approval of a TIA generally occurs **six (6) to eight (8) weeks** after the City receives the authorization to proceed and the deposit to fund the analysis from the applicant.

I. Overall Process of a Transportation Impact Analysis (TIA)

a. The Department of Transportation reviews applications for Project Plan Review (PPR) and other discretionary approvals to determine what types of analysis must be prepared in accordance with the City's established thresholds in Section 2.

b. Based on the project scope provided in the application, DOT staff will prepare a draft Memorandum of Understanding (MOU) for review and approval by the applicant or applicant representative and Planning & Community Development Department staff.

c. The applicant shall submit the signed authorization to proceed along with a deposit for preparing the TIA. The fee amount will be based on city's "fee schedule" adopted by Council at the time of submittal. The deposited fee will be subject to additional billing or refund.

d. Staff will develop, examine, and recommend feasible transportation improvements. The recommendations will be incorporated into the report based on their consistency with the Mobility Element, Neighborhood Traffic Management Program, adopted specific plans, and the Capital Improvement Program.

e. The Department of Transportation case manager may forward the preliminary recommended transportation improvements to the applicant for information.

f. Based on the Transportation Impact Analysis findings, the Department of Transportation will notify the Planning & Community Development Department with a list of transportation improvements pertaining to the

proposed project as part of the approval process.

II. Transportation Impact Analysis- Report Format

Cover Page

A cover page containing the project address and name (if applicable), as well as the date, and consultant contact information.

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Section 1: PROJECT DESCRIPTION

1. Type, size, and number of parking spaces
2. Vehicular trip generation estimates
3. Circulation Plan

SECTION 2: FIELD SURVEY, DOCUMENT AND/OR IDENTIFY POTENTIAL IMPROVEMENTS FOR THE FOLLOWING:

1. Digital photo documentary of the project site, key street features, inventory of transportation elements.
2. Existing site (use, access, pedestrian walkways, etc.)
3. Adjacent intersections (both signalized and non-signalized), including lane configurations, type of controls, and any special traffic-related features/conditions (grade, curvature, raised medians, etc.);
4. Residential neighborhoods near the project;
5. General land uses on the same and adjacent blocks of the project;
6. On-street parking restrictions and utilization on the adjacent street and nearby street(s);
7. Transit facilities within 800 feet of the project, including the service provider(s) (Pasadena ARTS, MTA, Foothill Transit,) and location, amenities, and condition of existing bus stops;

8. Ingress/egress of proposed use, such as sight visibility, potential need for parking restrictions, location of access gate, etc.;
9. Bicycle facilities, including bike lane/route designations on adjacent streets, existing bike racks/parking on or adjacent to site, and proposed on-site bicycle amenities; and,
10. Pedestrian amenities, such as sidewalk widths adjacent to the project and pedestrian indicators at the nearest signalized intersection.

SECTION 3: IDENTIFY PROJECT IMPACTS

1. Vehicle Miles Travelled (VMT) per Capita: Estimate project's incremental change in VMT per service population using City's Travel Demand Forecasting Model
2. Vehicle Trips (VT): Estimate project's incremental change in VT per service population using City's Travel Demand Forecasting Model
3. Bicycle and Transit Facilities: Assess proximity and quality of bicycle and transit networks by estimating project's change in percent of service population within a quarter mile of bicycle and transit facilities.
4. Pedestrians Accessibility: Estimate Project's change in Citywide Pedestrian Accessibility Score.
5. Trip Generation: Estimate project's vehicular trip generation using the Trip Generation Manual, current edition, published by the Institute of Transportation Engineers as the primary document. Other trip production rates can be used if approved by the Department of Transportation. Any adjustments to standard rates, such as for special uses, mixed uses, high transit use, or pass-by trips must be approved by the City Traffic Engineer.
6. Study Street Segments and Intersections: The Department of Transportation will identify study street segments and intersections within the primary influence area of the proposed development.

    A. Traffic Count Data:

        a. The Department of Transportation will require evaluation of all critical time periods based on the proposed uses and site location.

        b. Unless otherwise specified, peak hours occur between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. Pedestrian and bicycle counts must be collected.

    B. Study street segments

a. Describe speed limits, stop control, pedestrian crossings, and parking restrictions)

b. Street segment analysis

C. Study intersections

a. Describe speed limits, stop control, pedestrian crossings, and parking restrictions, and include a diagram of existing lane configurations

b. Display existing peak hour traffic volumes

c. Distribute project trips (include distributions for each peak hour in percentages and volumes). The traffic distribution is a prediction of the future travel paths of site users. It is generally based on population distribution and significant travel paths in the study area. The trip distribution is to be approved by the Department of Transportation prior to preparation of the report.

d. Analyze intersection impacts

e. Conduct CMP analysis (if applicable)

f. Identify potential construction impacts

g. Recommend mitigation measures. Developments must mitigate the increase in traffic caused by their development. Mitigation measures are required when level of service at any study intersection or on any street segment exceeds the thresholds contained in Section 2. If mitigation reflects trip reductions predicted as a result of implementing required Transportation Demand Management (TDM) measures, an approved report must be submitted substantiating such mitigation. All proposed roadway mitigation must be illustrated and a preliminary cost estimate provided to show the new intersection configuration, including lane widths, assignments, widenings, and trip reduction attributed to required TDM strategies.

7. Study Pedestrian and Bike Impacts

The Department of Transportation will identify study street segments within the primary influence area of the proposed development.

a. Collect data elements that directly impact pedestrians, bicyclists, and transit operations along the street segment(s),

b. Analyze the project impacts on pedestrians and bicyclists using industry standard methodologies such as PEQI, BEQI.

c. Require measures to improve the environmental quality of non-vehicular modes when the findings reveal less than average conditions (Please see Section 2, Table 3).

SECTION 4: IDENTIFY TRANSPORTATION IMPACTS

Summarize the transportation impact based on data collected for Section 3 and recommend prioritization for appropriate improvements that address increases in traffic on analyzed street segments.

SECTION 5: GENERAL PLAN MOBILITY ELEMENT CONSISTENCY CHECK

Identify and incorporate specific transportation-related elements that support the City's goal of becoming a city where people can circulate without cars. Also identify and incorporate improvements that will protect nearby residential streets by encouraging project-related traffic to utilize multimodal corridors and/or through neighborhood traffic calming measures.

SECTION 6: CONCLUSION & RECOMMENDATIONS

Summarize key findings and elements to be incorporated into the development of the project, such as changes in access and recommended locations for bicycle amenities.

ATTACHMENTS

Transportation Impact Analysis (TIA)-Sample MOU

CITY OF PASADENA
SCOPING FOR A TRANSPORTATION IMPACT ANALYSIS

This Memorandum of Understanding (MOU) acknowledges City of Pasadena Department of Transportation requirements of traffic impact analysis for the following project.

Project Name	
Project Address	
Project Description	
Traffic Analysis Category	

Principal Analyst:
E-Mail:
Tel/Fax

Project Description Approved By Planning Department:

Name:	Signature:
Title:	
Date:	

Metric	Impact Threshold/CAP	Required?
VMT Per Capita	CEQA Threshold: An increase over existing Citywide VMT per Capita of 22.6.	
VT Per Capita	CEQA Threshold: An increase over existing Citywide VT per Capita of 2.8.	
Proximity and Quality of Bicycle Network	CEQA Threshold: Any decrease in % of units or employment within a ¼ mile of Level 1 or 2 Bike Facility	
Proximity and Quality of Transit Network	CEQA Threshold: Any decrease in % of units or employment within a ¼ mile of Level 1 or 2 Transit Facility	
Pedestrian Accessibility	CEQA Threshold: Any decrease in the Citywide Pedestrian Accessibility Score	
Street Segment Analysis	Increases of 10-15% above existing on streets with more than 1500 ADT would trigger conditions of approval to reduce project vehicular trips	
Auto Level of Service	A decrease beyond LOS D Citywide or LOS E within Transit Oriented Districts (TODs) would trigger conditions of approval to reduce vehicular trips	
PEQI	Below average Conditions	
BEQI	Below average conditions	

PROJECT TRIP GENERATION

Trip Generation Rate Source: ITE "Trip Generation," 9th Edition, 2012
[Others, please specify]

Project Land Use 1		ITE Land Use Code	
Project Land Use 2		ITE Land Use Code	
Project Land Use 3		ITE Land Use Code	

Project Daily Trips	

Trip Credits: Exact amount of credit subject to acceptance by City of Pasadena Department of Transportation

	Yes	*No*
Transportation Demand Management (TDM)		
Existing Active Land Use		
Previous Land Use		
Internal Trip Capture		
Pass-by Trip		

Trip Generation Approved By Department of Transportation:

Name:	Signature:
Title:	
Date:	

Insert of Transportation *Page 1*

CITY OF PASADENA
SCOPING FOR A TRANSPORTATION IMPACT ANALYSIS

PROJECT BUILD-OUT YEAR
Project Build-Out Year: _____

Project Build-Out Year Accepted By Planning Department:

Name:	Signature:
Title:	
Date:	

STUDY INTERSECTIONS (if applicable)
**** All new traffic counts shall be digitally submitted to the City in Excel or ASCI format.**

Please indicate type of counts for each intersection:	New	Available
No. 1		
No. 2		
No. 3		
No. 4		

STUDY STREET SEGMENTS (if applicable)
**** All new traffic counts shall be digitally submitted to the City in Excel or ASCI format.**

Please indicate type of counts for each street segment:	New	Available
No. 1		
No. 2		
No. 3		
No. 4		

Study Street Segments Approved By Department of Transportation:

Name:	Signature:
Title:	
Date:	

TRANSIT

Proximity metric applicable? _____
Location(s) of bus and/or Gold Line stop(s) within 1300 feet of the project

PROJECT CIRCULATION & PARKING
PROVIDE A PROJECT SITE PALN SHOWING PEDESTRAIN & VEHICULAR CIRCULATION
Number of Existing Off-Street Parking Spaces:
Number of Parking Spaces Required by Code:
Number of Off-Street Parking Spaces Proposed:

PEDESTRIAN/BICYCLE
Proximity metrics or PEQNBEQI analysis?
Bicycle Parking Spaces Required by Code:
Bicycle Parking Spaces Proposed:

Include a detailed description of existing bikeways, bike signage, and bicycle racks within 1000 feet of the site.

Signalized intersection(s) within 1300 feet of the site: (Add rows if necessary)
Type of Pedestrian Push Buttons: (Add rows if necessary)
Type of Pedestrian Indicator: (Add rows if necessary)
ADA Compliant Wheelchair Ramps? (Add rows if necessary)

GENERAL PLAN CONSISTENCY
The Project Site is (check one):

	Yes	*No*
On a Multi-Modal Corridor		
On/near a De-Emphasized Street(s)		
In/Near a Residential Neighborhood		

OTHER PROJECT CONSIDERATIONS

Description of Transportation Performance Metrics

1. VMT PER CAPITA
The Vehicle Miles Traveled (VMT) per Capita measure sums the miles traveled for trips within the City of Pasadena Travel Demand Model. The VMT total considers only trips that begin inside the Pasadena and 50% of the distance travelled along roads outside of Pasadena. The City's VMT is then divided by the City's total service population, defined as the population plus the number of jobs.

Although VMT itself will likely increase with the addition of new residents, the City can reduce VMT on a per-capita basis with land use policies that help Pasadena residents meet their daily needs within a short distance of home, reducing trip lengths, and by encouraging development in areas with access to various modes of transportation other than auto.

2. VT PER CAPITA
Vehicle Trips (VT) per Capita is a measure of motor vehicle trips associated with the City. The measure sums the trips with origins and destination within the City of Pasadena, as generated by the 2013 Trip-based citywide Travel Demand Model. The regional VT is calculated by adding the VT associated with trips generated and attracted within City of Pasadena boundaries, and 50% of the VT associated with trips that either begin or end in the City, but have one trip end outside of the City. The City's VT is then divided by the City's total service population, defined as the population plus the number of jobs.

As with VMT, VT itself will likely increase with the addition of new residents, but the City can reduce VT on a per-capita basis with land use policies that help Pasadena residents meet their daily needs within a short distance of home, reducing trip lengths, and by encouraging development in areas with access to various modes of transportation other than auto.

3. PROXIMITY AND QUALITY OF BICYCLE NETWORK
The Proximity and Quality of Bicycle Network provides a measure of the percent of the City's service population (population + jobs) within a quarter mile of each of three bicycle facility types. The facility types are aggregated into three hierarchy levels, obtained from the City's 2012 (Draft) Bicycle Transportation Plan categories as shown in Table 1.

TABLE 1 – BIKE FACILITIES HIERARCHY

LEVEL	DESCRIPTION	FACILITIES INCLUDED
1 (A)	Advanced Facilities	Bike Paths (P1) Multipurpose Paths (PP) Cycle Tracks/Protected Bike Lanes
2 (B)	Dedicated Facilities	Buffered Bike Lanes Bike Lanes (2, P2) Bike Boulevards (BB)
3 (C)	Basic Facilities	Bike Routes (3, P3) Enhanced Bike Routes (E3, PE3) Emphasized Bikeways (PEB)

Source: City of Pasadena Bicycle Transportation Plan, 2012.

For each bike facility level, a quarter-mile network distance buffer is calculated and the total service population (population + jobs) within the buffer are added.

The City can improve measures of Bike Facility Access by improving and expanding existing bike facilities and by encouraging residential and commercial development in areas with high-quality bike facilities.

4. PROXIMITY AND QUALITY OF TRANSIT NETWORK

The Proximity and Quality of Transit Network provides a measure of the percent of the City's service population (population + jobs) within a quarter mile of each of each of three transit facility types, as defined in the *Streets Types Plan* and in Table 2.

TABLE 2 – TRANSIT FACILITIES HIERARCHY

LEVEL	FACILITIES INCLUDED
1 (A)	Includes all Gold Line stops as well as corridors with transit service, whether it be a single route or multiple routes combined, with headways of five minutes or less during the peak periods.
2 (B)	Includes corridors with transit headways of between six and 15 minutes in peak periods.
3 (C)	Includes corridors with transit headways of 16 minutes or more at peak periods.

Source: *Draft Streets Types Plan,* Pasadena Department of Transportation, March 2013.

For each facility level, a quarter-mile network distance buffer is calculated and the total service population (population + jobs) within the buffer are added.

The City can improve the measures of Transit Proximity and Quality by reducing headways on existing transit routes, by expanding transit routes to cover new areas, and by encouraging residential and commercial development to occur in areas with an already high-quality transit service.

5. PEDESTRIAN ACCESIBILITY

The Proximity and Quality of Pedestrian Environment provides a measure of the average walkability in the TAZ surrounding Pasadena residents, based on a Pedestrian Accessibility metric. The Pedestrian proximity metric is a simple count of the number of land use types accessible to a Pasadena resident or employee in a given TAZ within a 5-minute walk. The ten categories of land uses are:

- Retail
- Personal Services
- Restaurant

- Entertainment
- Office (including private sector and government offices)
- Medical (including medical office and hospital uses)
- Culture (including churches, religious and other cultural uses)
- Park and Open Space
- School (including elementary and high schools)
- College

The resulting count of land use types is then assigned a letter grade from A to D based on the following structure:

- **A** – greater than or equal to 8 land use types
- **B** – greater than or equal to 5 land use types and less than 8 land use types
- **C** – greater than or equal to 2 land use types and less than 5 land use types
- **D** – greater than or equal to 0 land use types and less than 2 land use types

The City can improve the Resident and Employment Pedestrian Accessibility Scores by:

- Encouraging residential development in areas with high existing Pedestrian Accessibility Scores;
- Encouraging commercial development in areas with high existing Pedestrian Accessibility Scores; and
- Attracting mixed development and new land use types to increase the Pedestrian Accessibility metric values of other areas.

Appendix B. Caltrans Correspondence

Appendix

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DEPARTMENT OF TRANSPORTATION

June 2, 2015

Dianna Watson
Branch Chief
Community Planning & LD IGR Review
Department of Transportation
District 7 – Office of Transportation Planning
100 S. Main Street, MS 16
Los Angeles, CA 90012

Re: Follow-Up to Meeting to Discuss Pasadena General Plan Update Draft EIR
Ref. IGR/CEQA No. 150144AL

Dear Ms. Watson:

We received your letter dated March 23, 2015 with your comments on Pasadena's General Plan Update Draft Environmental Impact Report (DEIR) which included a request to meet with Pasadena staff and consultant. Thank you for meeting with us on May 13th at your offices to discuss the issues identified in your comment letter.

This letter summarizes the items discussed at the meeting and our responses.

The Land Use and Mobility Elements of the Pasadena General Plan include goals to encourage walking, bicycling, transit and other alternatives to motor vehicles and explicit policies to enhance and expand the pedestrian and bicycling infrastructure. The Land Use Element is a future land use plan that complements Pasadena's commitment to focusing growth in Transit Oriented Districts and supports the type of local trip making best served by active transportation modes and reduce impacts from increased auto travel.

With the City of Pasadena being the first to adopt CEQA thresholds that do not include Auto Level of Service (LOS) the Draft General Plan review provides an opportunity to demonstrate how local agencies and Caltrans will collaboratively work together to address mobility (or addressing impacts to State transportation facilities) in a "Post SB 743" world.

During the May 13th meeting, Caltrans questioned the City's choice of CEQA VMT/cap Threshold and expressed concern that the citywide VMT/cap threshold may be "higher" than what may be ultimately adopted by SCAG as a regional VMT/cap threshold. Caltrans staff acknowledged that under SB 743 cities are able to adopt CEQA thresholds as long as they are

technically supported. Pasadena staff raised the issue of consistency in calculation of the VMT/cap and that depending on how either the VMT or the per capita is calculated the thresholds may not be comparable. Caltrans also raised the issue that future transportation impact fees could be an important opportunity to improve Caltrans owned intersections at freeway ramp termini. The City did commit at the meeting to developing additional policies in the Mobility Element that would address these concerns raised by Caltrans. The following are proposed new policies:

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As discussed at the meeting the City of Pasadena and Caltrans are currently cooperating on the development of the I-210 Connected Corridors project to address congestion relief due to incidents on either freeway or city arterial streets. The goal of the future phases of the project is to also address recurring traffic congestion on freeway and adjacent arterial streets. The City is proposing to introduce the following policy into the Mobility Element to further respond to Caltrans' concern:

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Additionally, the City committed to amending the Transportation Analysis Guidelines in addition to introducing new policies, as a more appropriate mechanism to respond to certain issues raised by Caltrans at the May 13th meeting. In response to Caltrans' concern that future developments should assess any impacts to increased queueing on freeway off-ramps, the City will administratively amend the Transportation Analysis Guidelines as follows:

> If a project of "community significance" is within the close proximity of a freeway off-ramp, the City of Pasadena will include freeway off-ramp queuing analysis as part of any traffic impact study being prepared for the project.

We believe these responses along with the new Mobility Element Policies and the amendment to our Transportation Analysis Guidelines address the resolutions discussed at our meeting. Given the community interest in the adoption of the General Plan Update and our desire to release the Final EIR we would greatly appreciate a letter from you confirming the adequacy of our addressing the issues you and your colleagues have raised.

If you have any questions please contact Mark Yamarone, Transportation Administrator, at (626) 744-7474 myamarone@cityofpasadena.net.

Sincerely,

F. C. Dock

Frederick C. Dock, P.E., PTOE
Director of Transportation

FCD: my

c: Alan Lin, Project Coordinator, Caltrans – District 7
Mark Yamarone, Transportation Administrator, Pasadena DOT

DEPARTMENT OF TRANSPORTATION

June 29, 2015

Dianna Watson
Branch Chief
Community Planning & LD IGR Review
Department of Transportation
District 7 – Office of Transportation Planning
100 S. Main Street, MS 16
Los Angeles, CA 90012

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Ref. IGR/CEQA No. 150144AL

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> All projects of "communitywide significance" (communitywide significance projects are defined as 50,000 square feet of new commercial use, 50 residential units, or any combination of the two**)** will require consultation with Caltrans to determine whether or not additional analysis is needed regarding off-ramp queueing conditions. The analysis

> may lead to conditions of approval being placed on the project to reduce the queuing length on the off-ramps.

To ensure all projects adjacent to State right-of-way are obtaining the proper encroachment permits from Caltrans the following statement will be added to the City's Transportation Analysis Guidelines:

> A Caltrans encroachment permit is required for all projects requesting access to State right-of-way.

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If you have any questions please contact Mark Yamarone, Transportation Administrator, at (626) 744-7474 myamarone@cityofpasadena.net.

Sincerely,

F. C. Dock

Frederick C. Dock, P.E., PTOE
Director of Transportation

FCD: my

Attachment: Revised Section 2 – Pasadena Transportation Analysis Guidelines

c: Alan Lin, Project Coordinator, Caltrans – District 7
Mark Yamarone, Transportation Administrator, Pasadena DOT

SECTION 2: THRESHOLDS

Thresholds for Determining Impacts

The guidelines apply to all projects that require environmental review in accordance with the California Environmental Quality Act and the City's established Environmental Policy Guidelines, significance thresholds, and transportation review guidelines. The thresholds contained herein determine a project's expected level of impact on the transportation system and identify appropriate types of mitigation.

Table 2- Metrics' CEQA Thresholds of Significance

	METRIC	DESCRIPTION	IMPACT THRESHOLD
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2.	VT Per Capita	Vehicle Trips (VT) in the City of Pasadena per service population (population + jobs).	CEQA Threshold: An increase over existing Citywide VT per Capita of 2.8.
3.	Proximity and Quality of Bicycle Network	Percent of service population (population + jobs) within a quarter mile of bicycle facility types.	CEQA Threshold: Any decrease in existing citywide 31.7% of service population (population + jobs) within a quarter mile of bike facilities.
4.	Proximity and Quality of Transit Network	Percent of service population (population + jobs) located within a quarter mile of transit facility types.	CEQA Threshold: Any decrease in existing citywide 66.6% of service population (population + jobs) within a quarter mile of transit facilities.
5.	Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations, and a network-based walk shed to evaluate walkability	CEQA Threshold: Any decrease in the Citywide Pedestrian Accessibility Score

Table 3- Metrics' Cap Outside of CEQA

	METRIC	DESCRIPTION	CAP
1.	Street Segment Analysis	The street segment analysis assesses traffic intrusion on local streets in residential neighborhoods	Increases of 10-15% above existing on streets with more than 1500 ADT would trigger conditions of approval to reduce project vehicular trips
2.	Auto Level of Service	Level of Service (LOS) as defined by the Transportation Research Board's *Highway Capacity Manual (HCM).*	A decrease beyond LOS D Citywide or LOS E within Transit Oriented Districts (TODs) would trigger conditions of approval to reduce project vehicular trips
3.	PEQI	Pedestrian Environmental Quality Index	Below average Conditions
4.	BEQI	Bicycle Environmental Quality Index	Below average conditions

All metrics in Tables 2 and 3 shall be analyzed for projects of "communitywide significance" under Category 2 in Table 1. All or any of the metrics in Table 3 might be required for analysis for Category 1 projects in Table 1 at the discretion of Director of Transportation. In addition to metrics in Table 3, all projects of "communitywide significance" will require consultation with Caltrans to determine whether or not additional analysis is needed regarding off-ramp queueing conditions. The analysis may lead to conditions of approval being placed on the project to reduce the queuing length on the off-ramps.

Street Segment Analysis (Increase in Daily Traffic)

Street Segment Analysis to address impacts to neighborhoods from traffic intrusion. The Average Daily Traffic (ADT) caps in Table 4 below measure the relative change in daily traffic resulting from an increase in trips or a change in access that alters existing traffic patterns. The relative change in daily traffic is determined as follows:

Percentage of Increase = Net New Project Trips/Existing Daily Traffic

A Street Segment analysis is required for all Category 2 projects identified in Table 1, or smaller projects at the discretion of Director of Transportation. The following criteria will be used for street segment analysis:

- Applies to "Projects of Communitywide Significance" which are defined as 50,000 square feet of new commercial use, 50 residential units or more, or any combination of the two (Category 2 project in Table 1).
- May apply to smaller projects identified as Category 1 projects in Table 1 at discretion of Director of Transportation
- The analysis would be limited to "Access" and "Neighborhood Connector" street types within a residential context (Street Types Map below)

Table 4- ADT Caps for Requiring Neighborhood Traffic Calming Measures

Existing ADT	Project-Related Vehicular Increase In ADT
0 to 1500	150 or more
1,501 to 3,499	10 percent or more of final ADT
3,500 or more	8 percent or more of final ADT

If project-related net trips exceed the caps in the table above conditions of approval would require the project applicant to develop and implement a targeted Complete Streets Plan with input from the affected residents, council districts and DOT to encourage use of non-vehicular modes by the project's patrons, and implement measures to discourage use of residential streets to-and-from the project site. Below is a list of typical measures that would be included in a Complete Streets Plan.
Project specific measures:

- Establish a more aggressive Average Vehicle Occupancy (AVO) target that exceeds city's AVO average by enhancing the required TDM plan under City's Trip Reduction Ordinance (TRO)
- Project turn-restrictions
- Revised project access and circulation

Complete Streets measures

- Curb Extensions
- Pedestrian and Bike Traffic signal upgrades/enhancements
- Turn-restrictions
- Neighborhood Gateways (raised medians)
- Traffic circles
- Speed humps
- Signal metering

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-9140
FAX (213) 897-1337
www.dot.ca.gov

Serious drought.
Help save water!

July 2, 2015

Mr. Vicrim Chima
Planner, General Plan Manager
City of Pasadena
Planning & Community Development Department
175 North Garfield Avenue
Pasadena, CA 91109-7125

RE: Draft Land Use Element, and Draft Mobility Element for the Pasadena General Plan Update-Draft Environmental Impact Report
Vic. LA-210, LA -134, LA-110 Citywide
SCH # 2013091009
Ref. IGR/CEQA No. 130909AL-NOP
Ref. IGR/CEQA No. 150144AL-DEIR
IGR/CEQA No. 150558AL-DEIR2

Dear Mr. Chima:

This letter is a follow up to Caltrans comment letter dated March 23, 2015. After meeting with the City staff on May 13, 2015 at Caltrans District 07 building, working closely with the City staff, and reviewing the City's response letter dated June 29, 2015 (attached), we have the following comments.

Caltrans concurs with the following new policies in the Mobility Element:

- **New Policy #1**

  City of Pasadena will monitor and evaluate the development and adoption of future VMT/cap thresholds for the SCAG region and Los Angeles County.

- **New Policy #2**

  City of Pasadena will involve Caltrans in the revision and update of the existing Transportation Impact Fee.

- **New Policy #3**

  City of Pasadena will consider improvement to ITS projects involving Caltrans owned intersections at freeway ramp termini in the development of the future transportation impact fee, including but not limited to the I-210 Connected Corridors project.

- **New Policy #4**

  City of Pasadena will work with Caltrans to evaluate access management needs and strategies to better manage traffic operations on arterial streets located within close proximity of freeway on/off-ramps in an effort to reduce traffic backups and frictions at Caltrans ramp signals.

Caltrans concurs with the new amendment in Section 2 of the City's Transportation Analysis Guidelines:

- **Amendment # 1**

  All projects of "communitywide significance" (communitywide significance projects are defined as 50,000 square feet of new commercial use, 50 residential units, or any combination of the two) will require consultation with Caltrans to determine whether or not additional analysis is need regarding off-ramp queuing conditions. The analysis may lead to conditions of approval being placed on the project to reduce the queuing length on the off-ramps.

- **Amendment # 2**

  A Caltrans encroachment permit is required for all projects requesting access to State right-of-way.

When Caltrans Guide for the Preparation of Traffic Impact Studies is updated or California Office of Planning and Research (OPR) develop guidance regarding SB 743, we would like to invite the City meet with Caltrans staff to discuss and potentially update the policies in the Mobility Element and related amendments.

Caltrans would like to thank the City staff for working closely with Caltrans staff and this letter serves as confirmation that Caltrans traffic concerns have been adequately addressed. We will continue to work with the City to minimize any future congestion on the State facilities. If you

have any questions, please feel free to contact Mr. Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 150558AL.

Sincerely,

DIANNA WATSON
Branch Chief
Community Planning & LD IGR Review

cc: Scott Morgan, State Clearinghouse

DEPARTMENT OF TRANSPORTATION

June 29, 2015

Dianna Watson
Branch Chief
Community Planning & LD IGR Review
Department of Transportation
District 7 – Office of Transportation Planning
100 S. Main Street, MS 16
Los Angeles, CA 90012

Re: Responses to Meeting and Discussions Regarding the Pasadena General Plan Update Draft EIR
Ref. IGR/CEQA No. 150144AL

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F. C. Dock

Frederick C. Dock, P.E., PTOE
Director of Transportation

FCD: my

Attachment: Revised Section 2 – Pasadena Transportation Analysis Guidelines

c: Alan Lin, Project Coordinator, Caltrans – District 7
Mark Yamarone, Transportation Administrator, Pasadena DOT

SECTION 2: THRESHOLDS

Thresholds for Determining Impacts

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Project specific measures:

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- Traffic circles
- Speed humps
- Signal metering

Appendix C. Community Forum Comments

Appendix

This page intentionally left blank.

COMMUNITY MEETING

PLEASE FILL OUT AND GIVE TO CITY STAFF

DATE: 2-19-2015

NAME: GARTH GARRETT
PLEASE PRINT

ADDRESS: 1269 N MENTOR AVE

TELEPHONE: 818-389-3117

EMAIL: GARTHGARRETT@YAHOO.COM
PLEASE PRINT

COMMENT CARD

If you have any comments that you would like to be formally addressed in the final documents, please write them legibly on the space below. Please turn in your comment card to the staff at the comment table.

MIXED-USE ALONG N. LAKE HAS NOT WORKED. A NEW APPROACH IS NEEDED, PREFERABLY WITH NO MIXED-USE NEXT TO HISTORIC SINGLE FAMILY RESIDENCES

The comment being provided is related to which topic? Please check all applicable boxes and complete the reference information.

- [x] Draft Land Use Element
  Reference: Page #____ and/or Topic Area _____
- [ ] Draft Mobility Element
  Reference: Page #____ and/or Topic Area _____
- [ ] Draft Environmental Impact Report
  Reference: Page #____ and/or Topic Area _____

COMMUNITY MEETING

PLEASE FILL OUT AND GIVE TO CITY STAFF

DATE: 2/19/15

NAME: Richard Luczyski
PLEASE PRINT

ADDRESS: 942 N. Chester Ave.

TELEPHONE: 626-798-2030

EMAIL: rluczyski@Hotmail.com
PLEASE PRINT

COMMENT CARD

If you have any comments that you would like to be formally addressed in the final documents, please write them legibly on the space below. Please turn in your comment card to the staff at the comment table.

Health Issues need to be addressed in the Land use element Concerning Air Quality monitoring along the 210 Freeway and close Parallel Streets. Lets People know what the Quality of Air we are breathing. If it is good wonderful if not then Stop letting people move into Housing Units with Certain Health Risk to Air Quality

The comment being provided is related to which topic? Please check all applicable boxes and complete the reference information.

- [x] Draft Land Use Element
  - Reference: Page #____ and/or Topic Area _____
- [ ] Draft Mobility Element
  - Reference: Page #____ and/or Topic Area _____
- [ ] Draft Environmental Impact Report
  - Reference: Page #____ and/or Topic Area _____

COMMUNITY MEETING

PLEASE FILL OUT AND GIVE TO CITY STAFF

DATE: 2-21-2015

NAME: CHRISTOPHER SUTTON
PLEASE PRINT

ADDRESS: 586 LA LOMA ROAD
PASADENIA, CA 91105

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PLEASE PRINT

COMMENT CARD

If you have any comments that you would like to be formally addressed in the final documents, please write them legibly on the space below. Please turn in your comment card to the staff at the comment table.

The requirement that residential properties move their fences, walls and hedge 18 inches back from the front property line will have costly long term impacts. The Land Use Element needs to provide a Homeowners Bill of Rights to delineate rights that homeowners have to use their property without city intrusions.

The comment being provided is related to which topic? Please check all applicable boxes and complete the reference information.

- [x] Draft Land Use Element
  Reference: Page #____ and/or Topic Area _____
- [ ] Draft Mobility Element
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Community Forum
General Plan Update (LUE, ME, DEIR) – February 2015

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The Land Use and Mobility Elements need to actively encourage home-based businesses in all zoning areas. For the past 30 years policies on home-based businesses have become more strictive. This needs to be reversed. Clean home-based businesses should be allowed greater square footage and allow a few employees.

The comment being provided is related to which topic? Please check all applicable boxes and complete the reference information.

- [x] Draft Land Use Element
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(1) The draft EIR fails to address the impacts of eliminating the thousands of non-conforming uses in Pasadena. The EIR needs to list them and examine how residences, businesses and non-profit entities will be required to remove structures, eliminate residential units, change operations, and eliminate or shift employment opportunities.

The comment being provided is related to which topic? Please check all applicable boxes and complete the reference information.

☐ Draft Land Use Element

Reference: Page #____ and/or Topic Area _____

☐ Draft Mobility Element

Reference: Page #____ and/or Topic Area _____

☒ Draft Environmental Impact Report

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The Land Use and Mobility Elements need to recognize the reality of peer-to-peer services and facilitate the expansion and legitimization of such services — AirBNB, Uber, Lyft, and other services whereby underutilized assets are brought into economic use, and traffic and pollution are reduced.

The comment being provided is related to which topic? Please check all applicable boxes and complete the reference information.

- [x] Draft Land Use Element
  - Reference: Page #____ and/or Topic Area _____
- [x] Draft Mobility Element
  - Reference: Page #____ and/or Topic Area _____
- [ ] Draft Environmental Impact Report
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COMMENT CARD

If you have any comments that you would like to be formally addressed in the final documents, please write them legibly on the space below. Please turn in your comment card to the staff at the comment table.

Granny Flats and Second Units should be encouraged in all residential areas. In the past this goal was included in the Land Use and Housing Elements. Without this goal housing segregation is encouraged and affordable housing opportunities are prevented.

The comment being provided is related to which topic? Please check all applicable boxes and complete the reference information.

- [x] Draft Land Use Element
  Reference: Page #____ and/or Topic Area _____
- [ ] Draft Mobility Element
  Reference: Page #____ and/or Topic Area _____
- [ ] Draft Environmental Impact Report
  Reference: Page #____ and/or Topic Area _____

Community Forum
General Plan Update (LUE, ME, DEIR) – February 2015

COMMUNITY MEETING

PLEASE FILL OUT AND GIVE TO CITY STAFF

DATE: 2-21-15

NAME: AUDREY O'KELLEY
PLEASE PRINT

ADDRESS: _____

TELEPHONE: _____

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PLEASE PRINT

COMMENT CARD

If you have any comments that you would like to be formally addressed in the final documents, please write them legibly on the space below. Please turn in your comment card to the staff at the comment table.

ALT: CENTRAL DISTRICT SOUTH FAIR OAKS LINCOLN AVE IT IS THE MOST CONDUCIVE TO COMFORTABLE ABSORPTION OF ADDITIONAL PEOPLE/CARS, THERE IS A TIPPING POINT WHERE TOO MANY PEOPLE REDUCES QUALITY OF LIFE

The comment being provided is related to which topic? Please check all applicable boxes and complete the reference information.

☐ Draft Land Use Element

Reference: Page #____ and/or Topic Area _____

☐ Draft Mobility Element

Reference: Page #____ and/or Topic Area _____

☐ Draft Environmental Impact Report

Reference: Page #____ and/or Topic Area _____

COMMUNITY MEETING

PLEASE FILL OUT AND GIVE TO CITY STAFF

DATE: 2/21/15

NAME: Philip Burns
PLEASE PRINT

ADDRESS: 77 Glen Summer Rd.

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EMAIL: PhilipBurns77@gmail.com
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COMMENT CARD

If you have any comments that you would like to be formally addressed in the final documents, please write them legibly on the space below. Please turn in your comment card to the staff at the comment table.

I support density increases in the Central District. I need more housing options. It is too expensive to live in Pasadena, and I can't afford anything.

I support Class I bike facility on Union. But better would be on Colorado. Union 8 Green for cars. Colorado for bikes/peds.

The comment being provided is related to which topic? Please check all applicable boxes and complete the reference information.

- [x] Draft Land Use Element
  Reference: Page #____ and/or Topic Area _____
- [x] Draft Mobility Element
  Reference: Page #____ and/or Topic Area _____
- [ ] Draft Environmental Impact Report
  Reference: Page #____ and/or Topic Area _____

Community Forum
General Plan Update (LUE, ME, DEIR) – February 2015

Appendix D. Transportation Analysis Report

Appendix

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City of Pasadena

Transportation Analysis Report: **Pasadena General Plan Update**

Submitted by

FEHR & PEERS

600 Wilshire Blvd., Suite 1050
Los Angeles, CA 90017
213.261.3050

TABLE OF CONTENTS

APPENDICES

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1. Introduction

This report documents the transportation analysis conducted for the Pasadena General Plan Update on a series of four future land use alternatives identified by the City of Pasadena. Including an analysis of existing conditions and a "No Project" scenario that follows the currently adopted (2004) General Plan, the six scenarios are:

1. Existing
2. No Project Alternative
3. Preferred General Plan
4. Central District, South Fair Oaks, Lincoln Avenue Alternative
5. Efficient Transportation Alternative
6. Reduced Air Quality and Noise Impact Alternative

Chapter 4 – Analysis Scenarios describes the scenarios in more detail.

In November 2014, the Pasadena City Council adopted by resolution Staff's recommendation to replace two existing transportation performance measures, focused entirely on automobile travel, with five new transportation measures that include measures of automobile, transit, bicycle, and pedestrian travel, in support of the Mobility Element's three main policy objectives:

- Enhance livability
- Encourage walking, biking, transit, and other alternatives to motor vehicles
- Create a supportive climate for economic viability

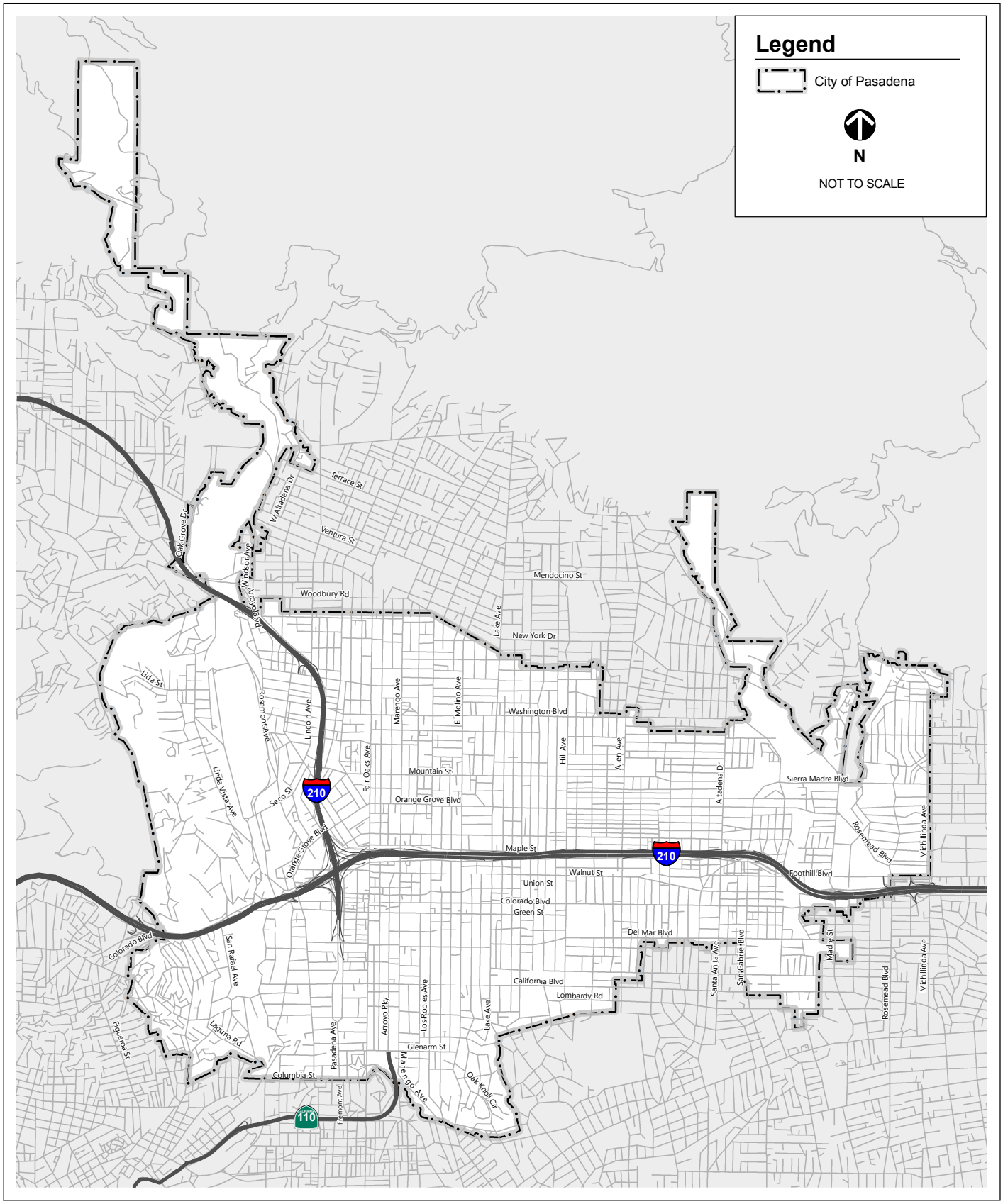
The five adopted transportation performance measures are:

1. Vehicle Miles Traveled per Capita
2. Vehicle Trips per Capita
3. Proximity and Quality of Bike Facilities
4. Proximity and Quality of Transit Facilities
5. Pedestrian Accessibility

This report presents the methodology, results, and recommendations from the application of the five approved transportation measures to the Pasadena General Plan Update land use scenarios identified by the City.

An analysis of mainline freeway and arterial intersection monitoring locations was conducted to comply with the Los Angeles County Congestion Management Program (CMP) requirements.

A review of current transit facilities and existing bicycle routes and paths throughout the city is also included in the document. Finally, an evaluation of the existing pedestrian network including sidewalks, pedestrian corridors, and areas of high pedestrian activity are described. The general plan area is illustrated in **Figure 1.**



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FEHR PEERS

GENERAL PLAN AREA

FIGURE 1

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2. Existing Conditions

This chapter documents the City's existing transportation system. A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions in the study area. The assessment of conditions relevant to this study includes an inventory of existing arterial, freeway, transit, bicycle, and pedestrian facilities throughout the City of Pasadena. Existing values of the performance metrics are provided in **Chapter 5 – Performance Metric Results.** Existing results of the Los Angeles County Congestion Management Program (CMP) Analyses are provided in **Chapter 6 – CMP Analysis.**

OVERVIEW OF PASADENA

The City of Pasadena is located in the western part of the San Gabriel Valley, approximately 10 miles northeast of Downtown Los Angeles. Geographically, the City is bordered by seven cities – South Pasadena, Glendale, La Canada Flintridge, Arcadia, Sierra Madre, Los Angeles, San Marino – and unincorporated Altadena. It lies south of the San Gabriel Mountains. The City is fully developed, with a population of 137,122 people according to the 2010 U.S. Census, and contains a wide array of existing residential, commercial, and industrial land uses. Two main freeways cross the City: the Foothill Freeway (I-210) and the Ventura Freeway (SR 134); the Arroyo Seco Parkway (SR 110) begins in the southern part of the City. In addition, residents of Pasadena are served by a well-developed transportation network of streets, sidewalks, bicycle facilities, and transit services such as the Metro Gold Line, Pasadena Area Rapid Transit System (ARTS), and Foothill Transit.

REGIONAL STREET SYSTEM

Interstate 210 (I-210), or the Foothill Freeway, is a twelve-lane (including carpool lanes), limited-access freeway that operates in an east/west direction through Southern California. The freeway provides regional access between the San Gabriel Valley and the San Fernando Valley, linking up to Interstate 5 north of the city of Pacoima and continuing east before connecting with Interstate 10 in Redlands.

Interstate 710 (I-710), or the Long Beach Freeway, includes a short (less than one mile), unsigned segment operating in a north/south direction between California Boulevard and the Foothill Freeway.

State Route 134 (SR 134), or the Ventura Freeway, is a 10-lane (including carpool lanes) limited access freeway that operates in an east/west direction and begins in Pasadena. The freeway provides regional access among the cities of Pasadena, Burbank, Glendale, and Los Angeles. It extends to Los Angeles in the west, terminating at the junction of US Route 101 and State Route 170.

State Route 110 (SR 110), or the Arroyo Seco Parkway, is a five-lane, limited-access freeway that operates in the north/south direction and terminates in the southern part of the City of Pasadena. The Arroyo Seco Parkway runs from Pasadena to Downtown Los Angeles, where it transitions into Interstate 110 (Harbor Freeway), which runs to San Pedro near the Ports of Los Angeles and Long Beach.

LOCAL CITY STREETS

The City of Pasadena categorizes local streets by their use for mobility (the ability to move travelers along the street) and access (the ability to reach uses along the street) while considering the balance of travel modes using the street and the speed at which vehicular traffic travels along it. Using these considerations,

the City has categorized local streets into two broad categories: Connector Streets and Access Streets. Connector Streets are further differentiated between Connector-City and Connector-Neighborhood, while Access Streets are subdivided into Access-Street, Access-Yield, Access-Alley, and Access-Shared. **Figure 2** shows the locations of each of the street functions described below.

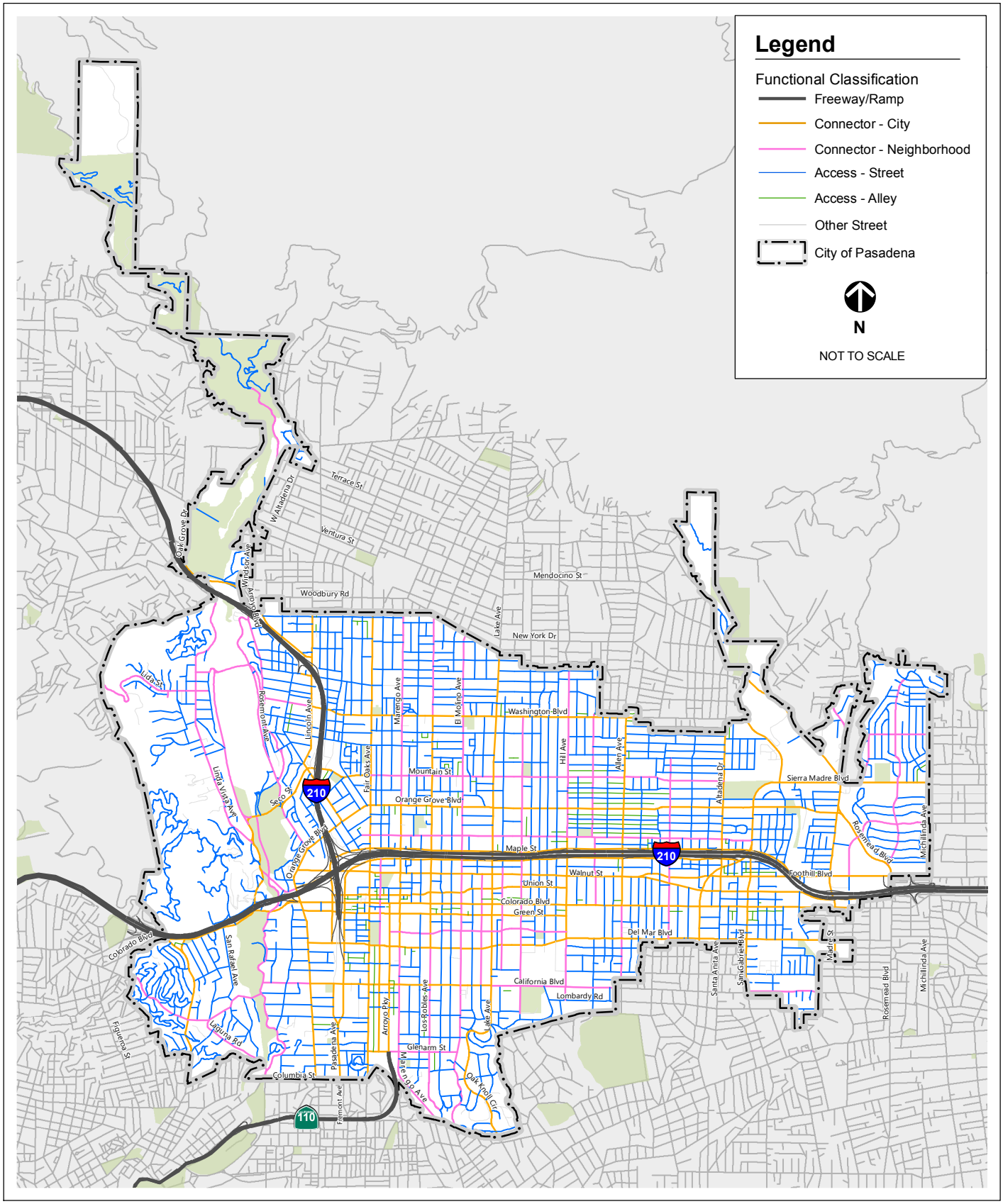
Connector Streets

Connectors provide mobility for people who are traveling from one part of Pasadena to another, between adjacent communities and Pasadena, and between neighborhoods and districts within Pasadena. They are typically the most time-efficient routes to connect between one location and another location beyond an immediate neighborhood, without using the freeway. Connector streets have destinations on them, but access to those destinations needs to be balanced with their function of moving all modes efficiently between Pasadena's districts or neighborhoods. **Table 1** provides further detail on Connector-City and Connector-Neighborhood streets.

Access Streets

Access streets serve the local access needs of Pasadena's neighborhoods and districts. They are the majority of streets in the City. Their primary purpose is to efficiently connect people walking, bicycling, and driving to destinations on that same street. In some circumstances they serve transit and trucks as well. Through trips on these streets are typically possible, but less time-efficient than on connectors or freeways. Access streets can also provide a lower-speed environment that is attractive to some bicyclists for connecting or through trips. **Table 1** provides further detail on Access-Street, Access-Yield, Access-Alley and Access-Shared streets.

Access-Street, Access-Yield, and some Access-Shared streets have been consolidated into a single Access-Street category for mapping. Some Access-Shared streets may currently fall under Access-Alley.



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STUDY AREA AND STREET FUNCTION

FIGURE 2

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TABLE 1 – STREET FUNCTIONS

Function	Description
Connector-City (4 lanes)	Connector-City streets serve "crosstown" trips connecting between a neighborhood or district and destinations in the City that are not in close proximity. Examples include Walnut and Orange Grove.
Connector-Neighborhood (2 or 3 lanes)	Connector-Neighborhood streets connect between neighborhoods and districts in Pasadena that are adjacent or in close proximity to each other. Examples include Linda Vista, Wilson, and Glenarm.
Access-Street (2 lanes)	Access-Streets are typical local destination-serving streets with enough width that 18 or more feet is available for travel lanes between parked cars. This width allows cars to pass in opposite directions without having to yield. They are the majority of streets in the City.
Access-Yield	Access-Yield streets are local destination-serving streets with curb-to-curb widths less than 30 feet, where there is parking on two sides, or less than 22 feet where there is parking on only one side, resulting in the need of passing vehicles to yield to one another.
Access-Alley	Access-Alleys are streets that provide access predominantly to the rear of adjacent buildings for service purposes such as parking access, delivery, and trash collection. They typically do not provide the most desirable route for pedestrians, bicycles, private automobiles or trucks except when directly accessing a destination on that street.
Access-Shared	Access-Shared are shared streets, such as Mercantile Alley, where the street is designed to intentionally mix bike, pedestrian, delivery and local vehicular traffic in the same right-of-way in a shared condition in which bicycles and vehicles travel at a low speed and yield to pedestrians.

Source: City of Pasadena Draft Streets Types Plan.

EXISTING TRANSIT NETWORK

The City of Pasadena includes a wide-ranging public transportation system, including local bus services, regional bus routes, and light rail. **Figure 3** illustrates the existing transit network.

Pasadena Area Rapid Transit System

The Pasadena Area Rapid Transit System (ARTS) is the City's local transit service, which provides service around Pasadena and local connections to the Metro Gold Line, Metro bus lines, LADOT Commuter Express lines, and Foothill Transit. It connects major destinations and employment centers in Pasadena, including Old Pasadena, the Art Center College of Design, California Institute of Technology, Pasadena City College, Huntington Hospital, and the Jet Propulsion Laboratory. ARTS operates six fixed-route public transit bus routes; these are summarized in **Table 2.**

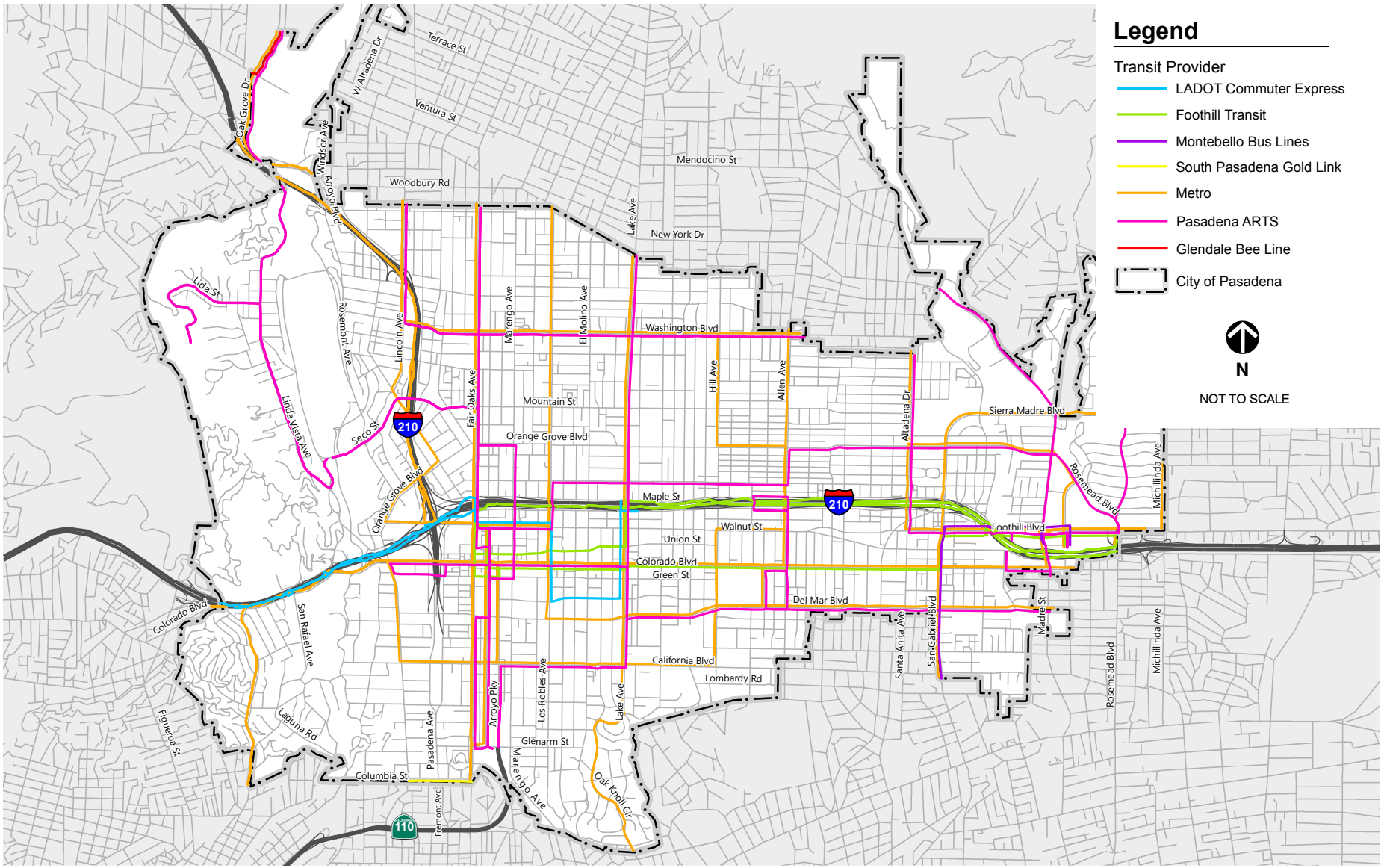
TABLE 2 – ARTS ROUTES

Route Number	Origin	Destination	Average Peak Headways
10	Old Pasadena	Allen Station	25 minutes
20	Fair Oaks (loop route)	Lake (loop route)	22 minutes
31/32	Northwest Pasadena	Sierra Madre Villa Station	26 minutes
40	Old Pasadena	Sierra Madre Villa Station	23 minutes
51/52	Linda Vista/Jet Propulsion Lab	Art Center South Campus	42 minutes
60	Pasadena City College	Hastings Ranch	47 minutes
Source: Pasadena ARTS 2013			

The City of Pasadena also provides a paratransit service, Pasadena Dial-A-Ride, for seniors and passengers with disabilities. Dial-A-Ride provides service within Pasadena, San Marino, Altadena, and the nearby unincorporated areas in Los Angeles County.

Los Angeles County Metropolitan Transportation Authority (Metro)

Metro operates thirteen bus routes that service local destinations in Pasadena. Metro operates nine local or shuttle bus routes, two local/express routes to Downtown Los Angeles, and two rapid routes. One of the local routes (#180/181) connects directly to the Red Line at Hollywood/Vine, one of the rapid routes (#780) connects to the Red Line in Hollywood, and seven of the routes connect to the Gold Line in Pasadena. The Metro routes that serve Pasadena are summarized in **Table 3** below.



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EXISTING (2013) TRANSIT NETWORK

FIGURE 3

TABLE 3 – METRO BUS ROUTES

Route	Service	Dir.	Service Route	Avg. Peak Headway
177	Local	E-W	Jet Propulsion Lab, Arroyo Parkway/Del Mar, Pasadena City College	30 min
180/181	Local	E-W	Hollywood/Vine Red Line Station, Glendale, Eagle Rock, Old Pasadena, Sierra Madre Villa Gold Line Station, Altadena	36 min
256	Local	N-S	Commerce, East Los Angeles, CSULA, El Sereno, Highland Park, Old Pasadena, Allen Station, Altadena	43 min
260	Local	N-S	Compton, Lynwood, Maywood, East Los Angeles, Alhambra, Old Pasadena, Altadena	17 min
264	Local	E-W	Altadena, Sierra Madre Villa Station, Arcadia, Duarte	51 min
267	Local	N-S	Altadena, Old Pasadena, Arcadia, El Monte	30 min
266	Local	N-S	Lakewood, Bellflower, Downey, Pico Rivera, South El Monte, Temple City, Sierra Madre Villa Station	37 min
268	Local	N-S	La Canada Flintridge, Altadena, Sierra Madre Villa Station, Arcadia, El Monte	31 min
485	Local / Express	N-S	Downtown Los Angeles, Alhambra, South Pasadena, Old Pasadena, Altadena	40 min
487	Local / Express	E-W	Los Angeles, San Gabriel, San Marino, Sierra Madre Villa Station, Arcadia, El Monte	23 min
686/687	Shuttle	N-S	Old Pasadena, Altadena, via Los Robles Ave (687) or Allen Ave (686)	40 min
762	Rapid	N-S	Compton, Lynwood, East Los Angeles, Alhambra, Old Pasadena	23 min
780	Rapid	E-W	Los Angeles, West Hollywood, Hollywood, Glendale, Eagle Rock, Pasadena City College, California Institute of Technology	13 min

LADOT Commuter Express

The Los Angeles Department of Transportation (LADOT) Commuter Express provides one bus route that connects Downtown Pasadena to several neighborhoods within Los Angeles and additional communities. Commuter Express Route 549 provides express bus transit connection from Pasadena to cities to the west, including Glendale, Burbank, North Hollywood, Sherman Oaks, and Encino. The bus route operates during the morning and evening peak commute periods with 33 minute headways.

South Pasadena Gold Link

The City of South Pasadena operates a shuttle, Gold Link, as part of their Community Transit services. The North Route connects the Gold Line station in South Pasadena to the City of Pasadena during weekday peak hours, with headways of 28 minutes.

Montebello Bus Lines

Montebello Bus Lines operates transit service within the City of Montebello and in the cities surrounding it, to the south of Pasadena. One bus line connects Pasadena to San Gabriel, Rosemead, South San Gabriel, Montebello, and Commerce. Line 20 operates on weekdays and weekends, with peak headways of 31 minutes.

Foothill Transit

Foothill Transit primarily operates transit service east of Pasadena. Two bus lines connect the City of Pasadena to the cities east of Pasadena: Arcadia, Duarte, Azusa, Glendora, San Dimas, La Verne, Pomona, Claremont, and Montclair. Line 187 runs on weekdays and weekends with peak headways of 24 minutes. Line 690 is an express service that runs only on weekdays, westbound to Pasadena during the morning peak and eastbound from Pasadena during the evening peak, with headways of 20 minutes.

Glendale Beeline

The Glendale Beeline provides transit options throughout Glendale, near Pasadena. The Glendale Beeline operates one bus line that connects to Pasadena – Route 3 – which originates in Downtown Glendale and terminates at the Jet Propulsion Lab within the City of Pasadena. This bus route operates on weekdays and Saturdays, with peak headways of 20 minutes.

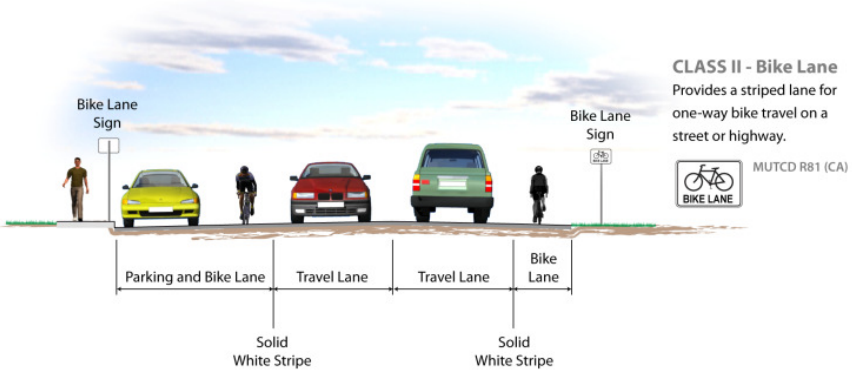
BICYCLE NETWORK

The City of Pasadena has 18.6 miles of Class II bikeways, 25.1 miles of Class III bike routes, and 37.7 miles of enhanced bike routes, totaling an existing bikeway mileage of 81.4 miles.[1]

According to City of Pasadena Bicycle Transportation Plan (2012), Pasadena has five categories of bicycle facilities, each with their own design and operational components. Brief descriptions of each type of bicycle facility are provided below:

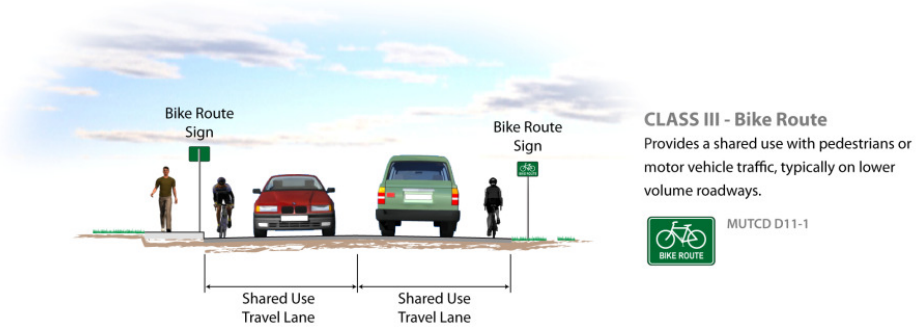
- Class I Bikeway – Referred to as a bike path, shared-use path, or multi-purpose trail, this bikeway provides a paved right-of-way that is completely separate from any street or highway. This facility may be shared with other non-motorized users.

- Class II Bikeway – Often referred to as a "bike lane," this facility provides a striped and stenciled lane for one-way travel on a street or highway.



- Class III Bikeway – Often referred to as a "bike route," this facility provides for shared use with pedestrian or motor vehicle traffic and is identified only by signage.

[1] The information in this section is sourced from the City of Pasadena 2012 Bicycle Transportation Plan.



- Enhanced Bike Route – Class III bike routes with "Share the Road" signs. Many of these enhanced bicycle routes also include a parking stripe at 9 feet which narrows the travel lane.

- Emphasized Bikeways – Streets that serve as through-streets for bicycles, but not for motor vehicles. These bikeways often include diverters to maintain a quiet setting for bicyclists.

In addition, Pasadena's first bicycle boulevard opened on Marengo Boulevard in January 2013. Special bicycle signals at the intersections with Orange Grove Boulevard and Washington Boulevard alert bicyclists when it is their turn to enter the bicycle boulevard, while posted signs divert motorists from entering. The street is closed to vehicular through traffic, but still permits vehicular traffic that enters from side streets.

Table 4 provides an inventory of existing bikeways in Pasadena. These bike facilities are shown in **Figure 4.**

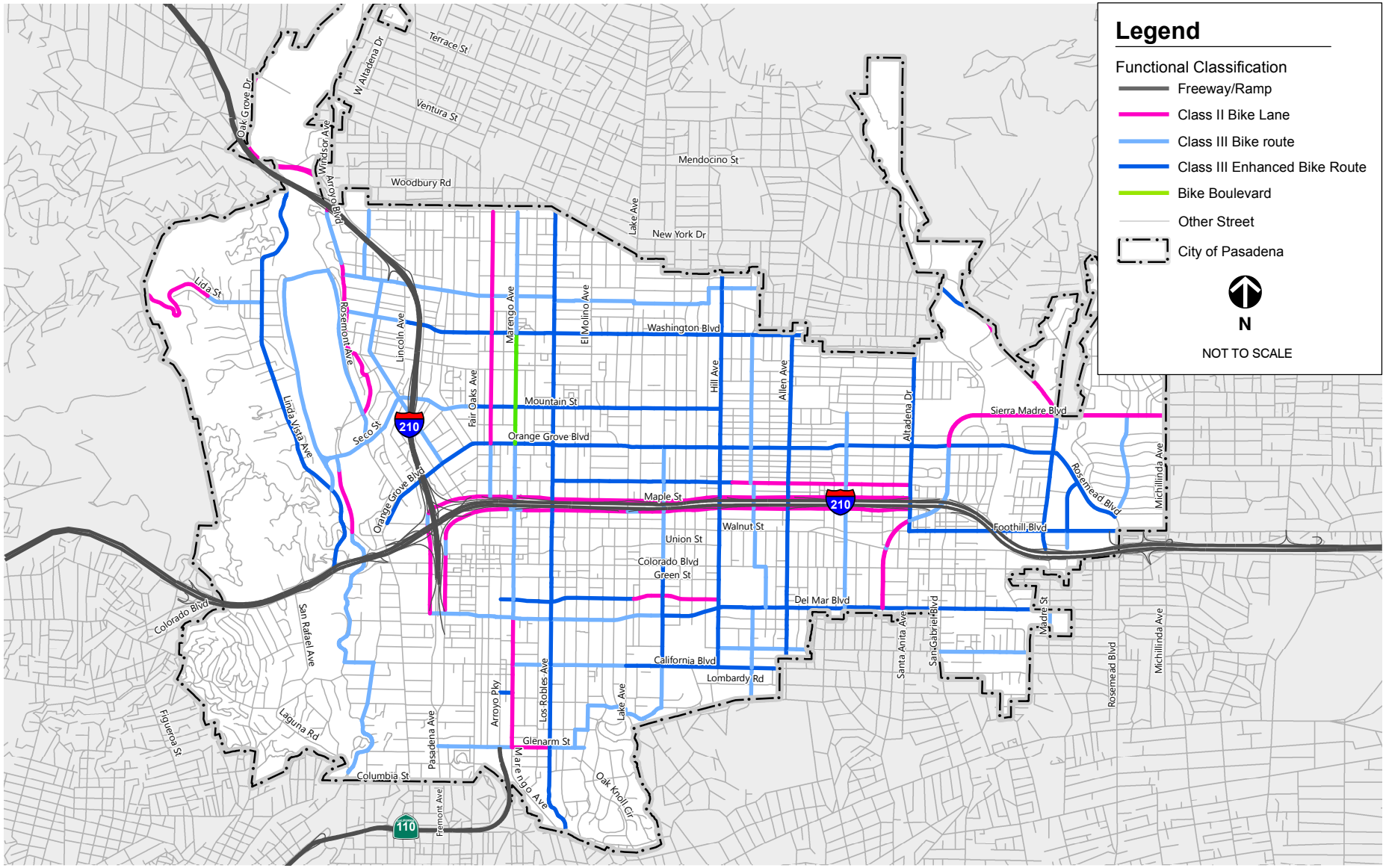
The City of Pasadena has been improving detection of bicycles at signalized intersections by adjusting the sensitivity of the vehicle detection equipment, and, where possible, installing video detection instead of loop detectors. A citywide bicycle parking effort is underway, with the installation of 300 bicycle parking racks and lockers at 235 locations including train stations, parks, libraries, along city streets, and near civic buildings. The City adds bicycle racks upon request.

To provide connections to other transportation modes, Metro buses, ARTS buses, and LADOT buses have bicycle racks on the front of each bus. Bicyclists are permitted to bring their bicycle on the Metro Gold Line. At each of the six Gold Line stations in Pasadena, bicycle racks exist to for bicyclists who wish to lock up their bicycle instead of bringing it on the train. Bicycle lockers or a locked bicycle room exist at two of the six stations. At the Sierra Madre Villa Gold Line Station, bicyclists may join with carpools or vanpools at the park-and-ride facility.

TABLE 4 – PASADENA BICYCLE FACILITIES

Street	Origin	Destination	Facility Type
Howard Street/Elizabeth Street	West Washington Boulevard	Eastern City Limit	Class III
Lida Street	Western City Limit/Art Center College of Design	Linda Vista Avenue	Class II, Class III
Washington Boulevard	Rosemont Avenue	Eastern City Limit	Class III, Enhanced bike route
Mountain Street	Lincoln Avenue	Altadena Drive	Class III
Orange Grove Boulevard	Columbia St	Sierra Madre Villa Avenue	Enhanced bike route
Villa Street	Lincoln Avenue	Sierra Madre Boulevard	Enhanced bike route
St. John Avenue/Maple Street	Sierra Madre Boulevard	Del Mar Boulevard	Class II, some gaps
Pasadena Avenue/Corson Street	Glenarm Street	Sierra Madre Boulevard	Class II, some gaps
Foothill Boulevard	Altadena Drive	Rosemead Boulevard	Enhanced bike route
Cordova Street	Arroyo Parkway	Hill Avenue	Enhanced bike route
Del Mar Boulevard	Orange Grove Boulevard	Madre Street	Class III, Enhanced bike route
Holliston Street/San Pasqual Street	Lake Avenue	Eastern City Limit	Class III
California Boulevard	Arroyo Boulevard	Allen Avenue	Class III, Enhanced bike route
Fillmore Street/ Arden Road	Fillmore Gold Line Station	Wilson Avenue	Enhanced bike route
Glenarm Street	Pasadena Avenue	El Molino Avenue	Class II, Class III
Linda Vista Avenue	Northern City Limits	SR 134	Enhanced bike route
Rose Bowl Loop	Rosemont Avenue/W. Washington Boulevard	West Drive/Seco Street	Class II, Class III
Oak Grove Drive	Berkshire Avenue	Unincorporated County Line	Class II
Arroyo Boulevard	I-210	Rosemont Avenue	Class II, Class III
Arroyo Boulevard/California Boulevard/Grand Avenue	Rosemont Avenue	Columbia Street	Class III
Casitas Avenue/Howard Street/Forest Avenue/Lincoln Avenue	Northern City Limit	Maple Street	Class III
Raymond Avenue	Montana Street	Maple Street	Class II, Class III

Street	Origin	Destination	Facility Type
Marengo Avenue	Howard Street	Glenarm Street	Class II, Class III
Los Robles Avenue	Northern City Limit	Southern City Limit	Class III
El Molino Avenue/Madison Avenue	Howard Street	Fillmore Street	Class III
Lake Avenue	Northern City Limit	Arden Road	Sharrows (Class III)
Wilson Avenue	Washington Boulevard	Arden Road	Enhanced bike route, Class III
Hill Avenue	Northern City Limit	California Boulevard	Enhanced bike route
Sierra Bonita Avenue	Washington Boulevard	Southern City Limit	Class III
Allen Avenue	Northern City Limit	California Boulevard	Enhanced bike route
Craig Street	Mountain Avenue	Southern City Limit	Class III
Altadena Drive/Santa Anita Avenue	Northern City Limit	Del Mar Boulevard	Enhanced bike route
Sierra Madre Boulevard	Eastern City Limit	Del Mar Boulevard	Class II
New York Drive	Western City Limit	Sierra Madre Boulevard	Class II
Sierra Madre Villa Avenue	Sierra Madre Boulevard	I-210	Enhanced bike route
Halstead Street	Rosemead Boulevard	End of street south of Foothill Boulevard	Enhanced bike route, Class III
Rosemead Boulevard	Sierra Madre Boulevard	Foothill Boulevard	Enhanced bike route
Hastings Ranch Drive	Sierra Madre Boulevard	Rosemead Boulevard	Class III



Not to Scale

FEHR PEERS

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EXISTING (2013) BICYCLE NETWORK

FIGURE 4

PEDESTRIAN NETWORK

The City of Pasadena adopted a Pedestrian Plan in 2006 which guides the preservation of pedestrian areas, the design and development of pedestrian-friendly projects, and the integration of pedestrian improvements into street maintenance and traffic management programs.[2] The existing conditions within the City include a connected network of pedestrian facilities, designated pedestrian-friendly zones, and upgraded traffic signal technology that better addresses the needs of pedestrians.

Pasadena's connected network of pedestrian facilities includes sidewalk coverage, curb cuts, crosswalks, street lighting, landscaping, and signalized intersections. As of 2005, most intersections had curb cuts within the City of Pasadena, with the exception of some areas to the northwest and southwest where the topography is steeper. Similarly, most of the 296 signalized intersections exist in the central part of Pasadena, particularly in the downtown and Old Pasadena areas. Fewer signalized intersections are located to the west of downtown Pasadena. Over 57,000 trees line the streets of Pasadena, providing shade and a pleasant walking environment.

Designated pedestrian-friendly zones, such as the Transit Oriented Districts, cater to pedestrians and improve the walkability of the space around Metro Gold Line stations. Buildings, sidewalk lighting, and landscaping are designed to encourage walking between the transit stations and housing, shopping, employment, and recreation nearby. Six other specific plans also provide specific pedestrian-oriented guidelines for certain areas within the City of Pasadena. For example, sidewalk widths in the Central District are set at a minimum of 10-15 feet.

As part of the Pedestrian Plan, Pasadena is working to upgrade the traffic signals to address the needs of pedestrians, including older pedestrians and pedestrians with disabilities. These upgrades include setting the timing of the pedestrian phase to accommodate slower-than-average walking speeds, placing the activation buttons in an easy-to-reach location, and installing pedestrian heads, countdown pedestrian signals, and leading pedestrian phasing.

Pasadena also has a Suggested Routes to School program which focuses on the safety of children walking and biking to school. The 2006 Pedestrian Plan specifies the range of improvements that are prioritized around schools: in-pavement lighted crosswalks, new sidewalks, and new curb ramps.

[2] The information in this section is sourced from the City of Pasadena 2006 Pedestrian Plan.

3. Transportation Performance Measures – Definition and Methodology

Table 5 summarizes the transportation performance measures adopted by City Council, including the threshold established for determining a CEQA impact and the existing value of the metric. The following section provides a description of the methodology used for their calculation.

TABLE 5 – SUMMARY OF TRANSPORTATION PERFORMANCE MEASURES

METRIC	DESCRIPTION	IMPACT THRESHOLD	EXISTING VALUE
VMT Per Capita	Vehicle Miles Traveled (VMT) in the City of Pasadena per service population (population + jobs)	Any increase over existing Citywide VMT per Capita	**22.6** VMT per capita
VT Per Capita	Vehicle Trips (VT) in the City of Pasadena per service population (population + jobs)	Any increase over existing Citywide VT per Capita	**2.8** VT per capita
Proximity and Quality of Bicycle Network	Percent of service population (population plus jobs) located within a quarter mile of each of three bicycle facility types	Any decrease in the percent of service population (population plus jobs) located within a quarter mile of a Level 1 or Level 2 Bike Facility	**31.7%** of population and jobs
Proximity and Quality of Transit Network	Percent of service population (population plus jobs) located within a quarter mile of each of three transit facility types	Any decrease in the percent of service population (population plus jobs) located within a quarter mile of a Level 1 or Level 2 Transit Facility	**66.6%** of population and jobs
Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations and a network-based walk-shed to evaluate walkability	Any decrease from the existing Citywide Pedestrian Accessibility Score	**C** – 3.9 land use types

Source: Fehr & Peers, 2013

DESCRIPTIONS OF NEW TRANSPORTATION PERFORMANCE MEASURES

1. VMT per Capita

The Vehicle Miles Traveled (VMT) per Capita measure sums the miles traveled for trips within the City of Pasadena citywide model. The Citywide VMT is calculated by adding: 1) 100 percent of the VMT traveled within the City of Pasadena boundaries associated with trips that are generated and/or attracted by the land uses within the City, and 2) 50 percent of the VMT traveled outside the City of Pasadena boundaries and associated with trips with one trip end (origin or destination) inside the City and one trip end outside

the City. The City's VMT is then divided by the City's total service population, defined as the population plus the number of jobs, to calculate VMT per Capita. **Appendices A and B** provide additional detail on the City's Travel Demand Forecasting Model, used to calculate VMT per Capita and VT per Capita (below).

Although VMT itself will likely increase with the addition of new residents and workers, the City can reduce VMT on a per-capita basis with land use policies that help Pasadena residents meet their daily needs within a short distance of home, reducing trip lengths, and by encouraging development in areas with access to various modes of transportation other than auto.

2. VT per Capita

Vehicle Trips (VT) per Capita is a measure of motor vehicle trips associated with the City. The measure sums the trips with origins and destinations within the City of Pasadena, as generated by the trip-based citywide model. The regional VT is calculated by adding the VT associated with trips generated and attracted within the City of Pasadena boundaries and 50 percent of the VT associated with trips that either begin or end in the City, but have one trip end outside of the City. The City's VT is then divided by the City's total service population, defined as the population plus the number of jobs, to calculate VT per Capita.

As with VMT, VT itself will likely increase with the addition of new residents and workers, but the City can reduce VT on a per-capita basis with land use policies that help Pasadena residents meet their daily needs within a short distance of home, reducing trip lengths, and by encouraging development in areas with access to various modes of transportation other than auto.

3. Proximity and Quality of Bicycle Network

The Proximity and Quality of Bicycle Network provides a measure of the percent of the City's service population (population plus jobs) within a quarter mile of each of three bicycle facility types. The facility types are aggregated into three hierarchy levels, obtained from the City's 2012 Bicycle Transportation Plan categories as shown in **Table 6.**

TABLE 6 – BIKE FACILITIES HIERARCHY

LEVEL	DESCRIPTION	FACILITIES INCLUDED
1	Advanced Facilities	Bike Paths (P1) Multipurpose Paths (PP) Cycle Tracks / Protected Bike Lanes
2	Dedicated Facilities	Buffered Bike Lanes Bike Lanes (2, P2) Bike Boulevards (BB)
3	Basic Facilities	Bike Routes (3, P3) Enhanced Bike Routes (E3, PE3) Emphasized Bikeways (PEB)

Source: City of Pasadena Bicycle Transportation Plan, 2012.

For each facility level, a quarter-mile network distance buffer is calculated and the total population and jobs within the buffer are added.

The City can improve measures of bike facility access by improving and expanding existing bike facilities and encouraging residential and commercial development in areas with high-quality bike facilities.

4. Proximity and Quality of Transit Network

The Proximity and Quality of Transit Network provides a measure of the percent of the City's population and jobs within a quarter mile of each of three transit facility types, as defined in the *Draft Streets Types Plan* and in **Table 7.**

TABLE 7 – TRANSIT FACILITIES HIERARCHY

LEVEL	FACILITIES INCLUDED
1	Includes all **Gold Line stops** as well as corridors with transit service, whether it be a single route or multiple routes combined, with **headways of five minutes or less** during the peak periods.
2	Includes corridors with transit **headways of between six and fifteen minutes** in peak periods.
3	Includes corridors with transit **headways of sixteen minutes or more** in peak periods.

Source: *Draft Streets Types Plan,* Pasadena Department of Transportation, March 2013.

For each facility level, a quarter-mile network distance buffer is calculated and the total population and jobs within the buffer are added.

The City can improve the measures of Transit Proximity and Quality by reducing headways on existing transit routes, by expanding transit routes to cover new areas, and by encouraging residential and commercial development to occur in areas with an already high-quality transit service.

5. Pedestrian Accessibility

The Proximity and Quality of Pedestrian Environment provides a measure of the average walkability in the TAZ surrounding Pasadena residents, based on a Pedestrian Accessibility Score. The Pedestrian Accessibility Score is a simple count of the number of land use types accessible to a Pasadena resident or worker in a given TAZ within a 5-minute walk. The ten categories of land uses are:

- Retail
- Personal Services
- Restaurant
- Entertainment
- Office (including private sector and government offices)
- Medical (including medical office and hospital uses)
- Culture (including religious and other cultural uses)
- Park
- School (including elementary and high schools)
- College

The resulting count of land use types is then assigned a letter grade from A to D based on the following structure:

- **A** – greater than or equal to 8 land use types
- **B** – greater than or equal to 5 land use types and less than 8 land use types
- **C** – greater than or equal to 2 land use types and less than 5 land use types
- **D** – greater than or equal to 0 land use types and less than 2 land use types

The City can improve the Proximity and Quality of Pedestrian Environment scores by:

- Encouraging residential development in areas with high existing Pedestrian Accessibility Scores;
- Encouraging commercial development in areas with high existing Pedestrian Accessibility Scores; and
- Attracting mixed development and new land use types to increase the Pedestrian Accessibility metric values of adjacent areas.

4. Analysis Scenarios

The Pasadena General Plan Update explores a Preferred General Plan and four land use alternatives, including a No Project Alternative. This report also compares these scenarios to existing conditions. **Table 8** presents a comparison of land use, population, and employment totals. The six analysis scenarios are described below.

TABLE 8 – LAND USE DATA SCENARIO COMPARISON

Land Use	Units[1]	Scenario 1 Existing	Scenario 2 No Project	Scenario 3 Preferred General Plan	Scenario 4 Central District, South Fair Oaks, Lincoln Avenue	Scenario 5 Efficient Transportation	Scenario 6 Reduced Air Quality and Noise Impact
Single Family	DU	21,438	21,441	21,166	21,150	21,166	21,166
Multi Family	DU	36,000	42,167	48,815	47,019	48,775	48,940
Senior DU	DU	2,203	2,508	1,972	1,972	1,972	1,972
Total DU	DU	59,641	66,116	71,953	70,141	71,913	72,078
Lodging	KSF	1,185	1,203	1,525	1,525	1,525	1,525
Retail	KSF	7,178	13,667	10,577	10,062	10,167	11,050
Personal Services	KSF	578	505	779	723	747	836
Restaurant	KSF	849	1,992	1,029	975	1,001	1,096
Entertainment	KSF	1,340	1,180	1,186	1,186	1,186	1,186
Automotive Related	KSF	1,432	470	904	904	904	904
Office	KSF	13,624	22,055	22,440	21,412	22,161	22,734
Medical Office	KSF	1,078	523	2,081	1,937	2,054	1,503
Government Office	KSF	1,012	1,183	1,026	1,026	1,026	1,026
Hospital	KSF	2,092	2,051	2,284	2,284	2,284	2,284
Religious Facilities	KSF	1,966	1,796	1,796	1,796	1,796	1,796
Cultural	KSF	703	783	783	783	783	783
Police and Fire	KSF	130	88	88	88	88	88
Park & Recreational	Acres	833	832	836	836	836	836
Industrial	KSF	4,569	2,567	2,226	2,260	2,119	2,117
Utility Facilities	Acres	125	110	110	110	110	110
Population	**People**	**135,938**	**153,463**	**163,411**	**159,628**	**163,456**	**163,561**
Employment	**Jobs**	**111,348**	**148,532**	**151,671**	**146,023**	**149,345**	**151,444**
Service Population[2]	**People**	**247,286**	**301,996**	**315,082**	**305,651**	**312,801**	**315,005**

Note: [1] DU – Dwelling Units; KSF – Thousand Square Feet; [2] Service Population = Population + Employment

SCENARIO DESCRIPTIONS

Future Transportation Network and Service Assumptions

In addition to the land use differences described below, all future scenarios (Scenarios 2 through 6) assume the following transportation network and service changes within the City of Pasadena:

- Roadway – Programmed improvements to the roadway network include projects of regional significance as well as local roadway improvements within the City. The only regional project in the model area is the completion of the I-710 Corridor Project, an eight-lane, tunneled extension of the I-710 freeway that connects with I-210. Within the City of Pasadena, three bike lanes will be installed, each of which will remove one lane of vehicle capacity in each direction:
    - Washington Boulevard between Altadena Drive and Sierra Madre Boulevard
    - Orange Grove Boulevard between Allen Avenue and Sierra Madre Villa Avenue
    - Cordova Street between Marengo Avenue and Hudson Avenue
- Bikeways – **Figure 5** illustrates the future bike network assumptions.
- Travel Demand Management – The City of Pasadena has a TDM ordinance that requires some new developments to implement strategies to reduce the number of vehicle trips generated. Multi-family residential developments of 100 units or more, mixed-use developments with 50 or more residential units or 50,000 square feet or more of non-residential development, and nonresidential projects which exceed 75,000 square feet require TDM measures. Since the ordinance allows for a wide range of TDM strategies, a set of generic TDM measures have been assumed in all future scenarios to reflect the implementation of various programs. These strategies are implemented through the Mode Shift Analysis Tool (MSAT) which is described in detail in the model development reports in **Appendices A and B**. The following strategies are applied to new development trips to reduce the number of vehicle trips:
    - Employer vanpool and shuttle programs to encourage shift from single occupancy vehicles (SOVs) to high occupancy vehicles (HOVs)
    - Employee ride share programs to further increase HOV mode share
    - Limiting parking supply citywide
    - Continuing to increase on-street parking prices in Downtown Pasadena to competitively price parking supply
- Transit – The MSAT tool also quantifies the benefits of enhancement to the transit network and calculates the decrease in vehicle travel due to additional transit ridership. The following improvements are coded into all future scenarios:
    - All Pasadena ARTS buses (see **Table 2**) will run at 10-minute headways during peak periods.
    - Expansion of the Gold Line Phase 2 from Pasadena to Azsuza and Montclair

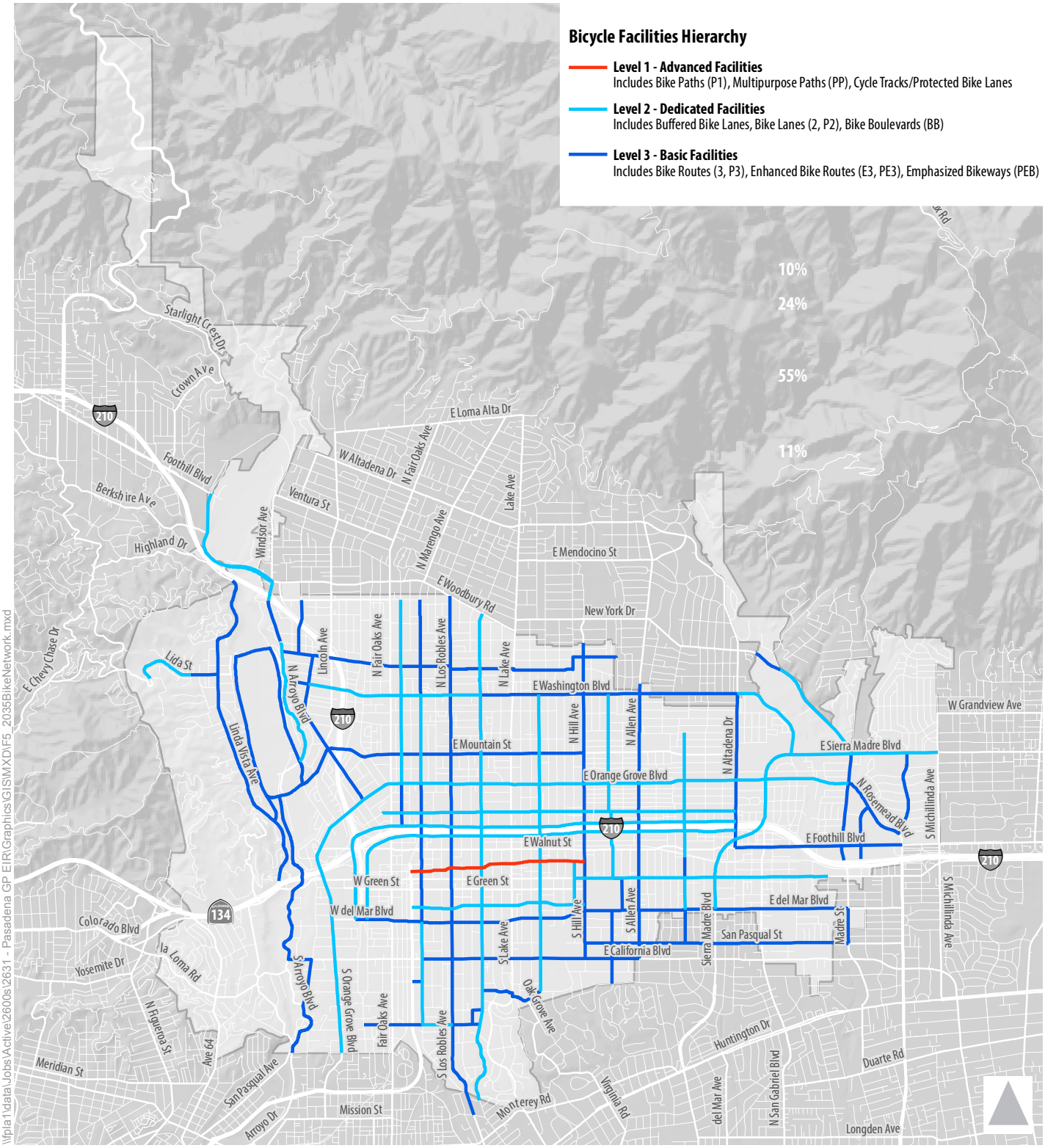


Figure 5

2035 Bicycle Network

Buildout of the Circulation network assumes the transportation network and service changes described above. All improvements within the City are funded through the City's transportation fee program with the exception of bicycle and pedestrian improvements. However, policies have been included in the General Plan Update to ensure adequate funding of the City's circulation network. Proposed General Plan Policy 1.30 requires the City to pursue funding opportunities such as grants, impact fees or fair share contributions from development to implement programs and projects that contribute to the City's Mobility Element objectives. Additionally, the funding of pedestrian and bicycle improvements would be accomplished with Policy 2.10 which requires the City to amend the existing transportation impact fee to include pedestrian and bicycle improvements. Without full funding of citywide circulation improvements there would be a significant impact.

Scenario 1 – Existing Conditions

Scenario 1 represents existing conditions in the City of Pasadena according to year 2013 land use data maintained by the City. These land use data include an estimated 111,300 jobs and a population of 135,900, a total service population of 247,300 within the City boundaries.

Scenario 2 – No Project Alternative

Scenario 2, the No Project Alternative, represents the build out of the City's existing (2004) General Plan in year 2035. This scenario includes 148,500 jobs (33 percent more than Existing Conditions) and a population of 153,500 (13 percent more than Existing Conditions), a total service population of 302,000 (22 percent more than Existing Conditions) within the City boundaries.

Scenario 3 – Preferred General Plan

Scenario 3 represents the build out of the Preferred General Plan in year 2035. The General Plan was developed based on a set of guiding principles that were established through a process of over 100 meetings and events held to identify community concerns and issues. This scenario includes 151,700 jobs (6 percent more than the existing General Plan) and a population of 163,400 (2 percent more than the existing General Plan), a total service population of 315,100 (4 percent more than the existing General Plan) within the City boundaries.

Scenario 4 – Central District, South Fair Oaks, Lincoln Avenue Alternative

Based on direction from City Council, Staff prepared an alternative that reduced the development caps for the Central District, South Fair Oaks, and Lincoln Avenue Specific Plans to the level recommended by the Planning Commission. This scenario includes 146,000 jobs (2 percent less than the existing General Plan) and a population of 159,600 (4 percent more than the existing General Plan), a total service population of 305,600 (1 percent more than the existing General Plan) within the City boundaries.

Scenario 5 – Efficient Transportation Alternative

Based on direction from the Transportation Advisory Commission and the Planning Commission, Staff prepared an Efficient Transportation Alternative to look at ways of improving the efficiency of the transportation network by reducing VMT per capita. This scenario includes 149,300 jobs (1 percent more than the existing General Plan) and a population of 163,500 (7 percent more than the existing General Plan),

a total service population of 312,800 (4 percent more than the existing General Plan) within the City boundaries.

Scenario 6 – Reduced Air Quality and Noise Impact Alternative

Staff prepared the Reduced Air Quality and Noise Impact Alternative to address concerns that air quality and noise impacts are higher adjacent to freeways and increase significantly when freeways are above ground. The Alternative modifies land use designations within approximately 350 feet of above-ground freeways by changing multi-family designations to single-family and changing mixed-use designations to a similarly dense and exclusively commercial designation. This scenario includes 151,400 jobs (2 percent more than the existing General Plan) and a population of 163,600 (7 percent more than the existing General Plan), a total service population of 315,000 (4 percent more than the existing General Plan) within the City boundaries.

5. Performance Measure Results

This chapter summarizes the results of the five performance measures defined in Chapter 3 for the six scenarios defined in Chapter 4.

VEHICLE MILES TRAVELED (VMT) PER CAPITA AND VEHICLE TRIPS (VT) PER CAPITA

Under existing conditions, the City's service population (population plus jobs) of 247,00 drives 5,591,000 vehicle miles (VMT) and makes 687,000 vehicle trips (VT), equivalent to 22.6 VMT per capita and 2.8 VT per capita. Under Scenario 2 (No Project) conditions, service population increases by 22 percent to 302,000; VMT increases by an even higher 25 percent to 7,005,000, while VT increases by a lower-than-proportional rate of 20 percent to 821,000. As a result, VMT per capita under Scenario 2 conditions is higher than under Scenario 1 conditions, while VT per capita is lower. Because its VMT per capita would be higher than the value for existing conditions, Scenario 2 (No Project) would result in a **significant impact** under the VMT per capita measure.

In all other future scenarios, including the Preferred General Plan, both VMT per capita and VT per capita are lower than under Existing conditions. Under Scenario 3 (Preferred General Plan) conditions, service population increases by 27 percent, while VMT and VT increase by only 25 percent and 19 percent, respectively. **No impact** is anticipated in Scenarios 3 through 6.

Table 9 summarizes the citywide per-capita VMT and VT results by scenario.

TABLE 9 – VMT AND VT PER CAPITA

Scenario	Population	Employment	Service Population	VMT	VT	VMT per Capita	VT per Capita
Scenario 1 Existing	135,938	111,348	247,286	5,591,328	686,619	22.6	2.8
Scenario 2 No Project	153,463	148,532	301,996	7,004,912	755,006	**23.2***	2.5
Scenario 3 Preferred General Plan	163,411	151,671	315,082	6,963,476	764,869	22.1	2.4
Scenario 4 Central District, South Fair Oaks, Lincoln Avenue	159,628	146,023	305,651	6,780,985	749,000	22.2	2.5
Scenario 5 Efficient Transportation	163,456	149,345	312,801	6,893,934	759,044	22.0	2.4
Scenario 6 Reduced Air Quality and Noise Impact	163,561	151,444	315,005	6,988,992	764,129	22.2	2.4

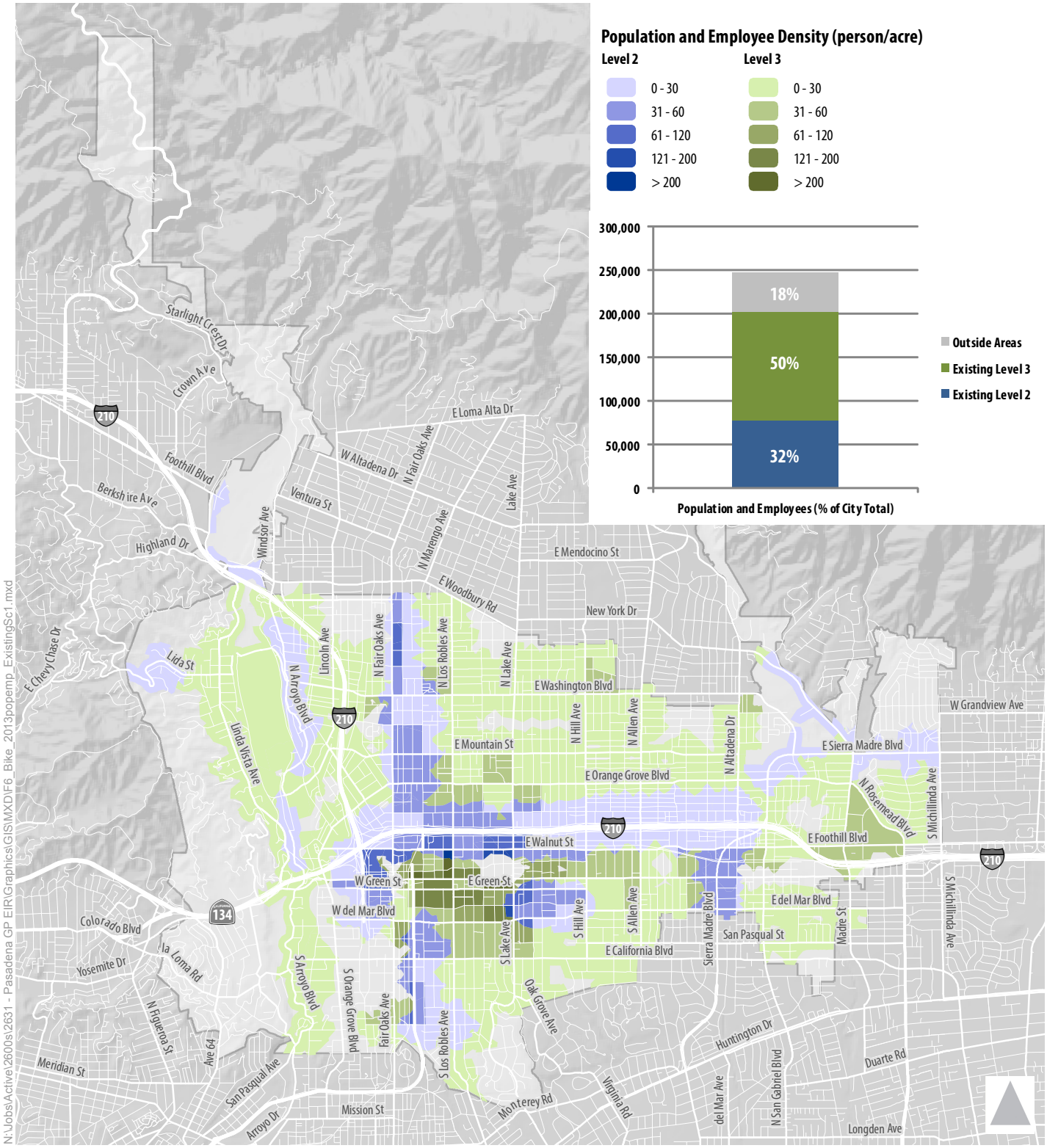
***Impact** is indicated in bold.

PROXIMITY AND QUALITY OF BICYCLE NETWORK

All future scenarios (Scenarios 2 through 6) experience a substantial increase in higher-quality bicycle facility coverage relative to Existing Conditions, resulting from the future improvements illustrated in Figure 5. Primarily due to this increase in bicycle facilities, but also due to increased land use densities near existing bicycle facilities, the percent of total service population within a quarter mile of Level 1 or 2 bicycle facilities increases in all future scenarios relative to Existing Conditions. **No impact** is anticipated in Scenarios 2 through 6. **Table 10** summarizes the service population and percent of total service population within a quarter mile of Level 1, Level 2, and Level 3 bicycle facilities. **Figures 6 through 11** illustrate the quarter mile facility coverage and service population density for each scenario.

TABLE 10 – PROXIMITY AND QUALITY OF BICYCLE NETWORK

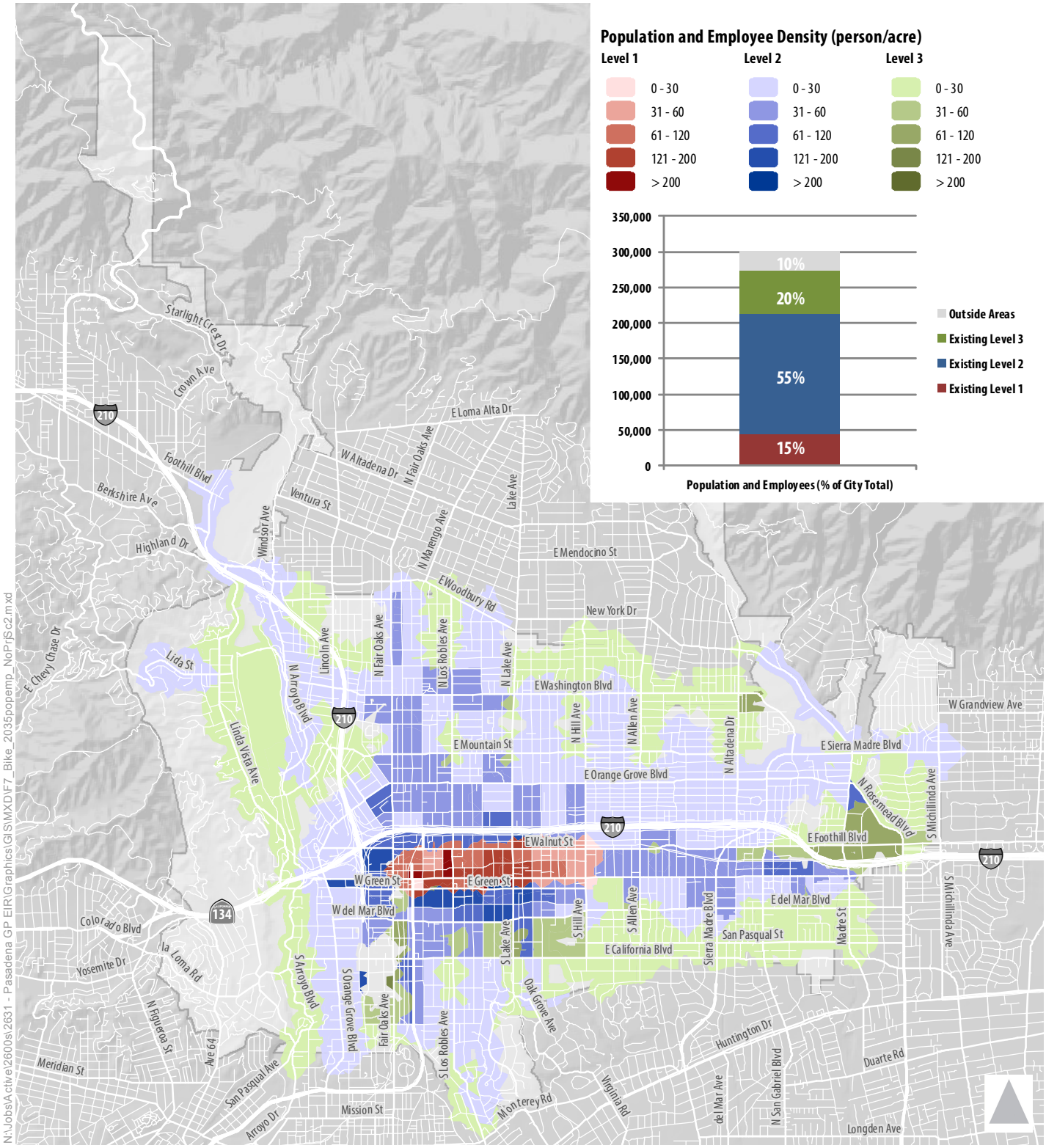
Scenario	Total Service Population	*Level 1*		*Level 2*		*Level 3*	
		Service Population	Percent of Total	Service Population	Percent of Total	Service Population	Percent of Total
Scenario 1 Existing	247,286	0	0.0%	78,415	31.7%	123,670	50.0%
Scenario 2 No Project	301,996	45,415	15.0%	166,596	55.2%	61,018	20.2%
Scenario 3 Preferred General Plan	315,082	48,043	15.2%	172,756	54.8%	64,216	20.4%
Scenario 4 Central District, South Fair Oaks, Lincoln Avenue	305,651	44,982	14.7%	169,525	55.5%	61,606	20.2%
Scenario 5 Efficient Transportation	312,801	47,958	15.3%	170,772	54.6%	64,076	20.5%
Scenario 6 Reduced Air Quality and Noise Impact	315,005	48,363	15.4%	173,011	54.9%	63,257	20.1%



Note: Level 1 facilities are bike paths, multipurpose paths, cycle tracks/protected bike lanes.
Level 2 facilities are buffered bike lanes, bike lanes, and bike boulevards.
Level 3 facilities are bike routes, enhanced bike routes, and emphasized bikeways.

Figure 6

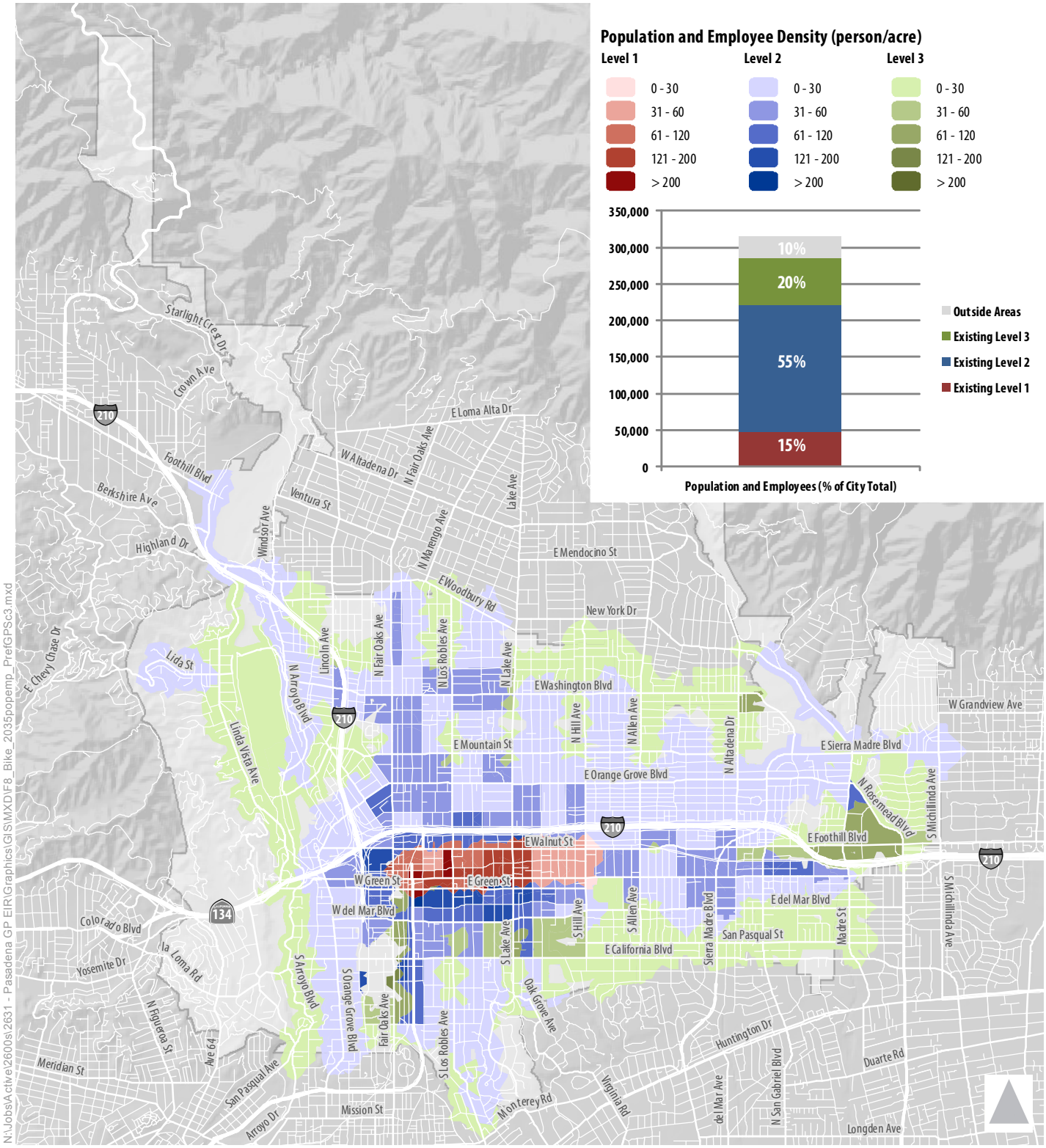
Proximity and Quality of Bicycle Network
1/4 Mile Area - 2013 Population and Employment
Existing - Scenario 1



Note: Level 1 facilities are bike paths, multipurpose paths, cycle tracks/protected bike lanes.
Level 2 facilities are buffered bike lanes, bike lanes, and bike boulevards.
Level 3 facilities are bike routes, enhanced bike routes, and emphasized bikeways.

Figure 7

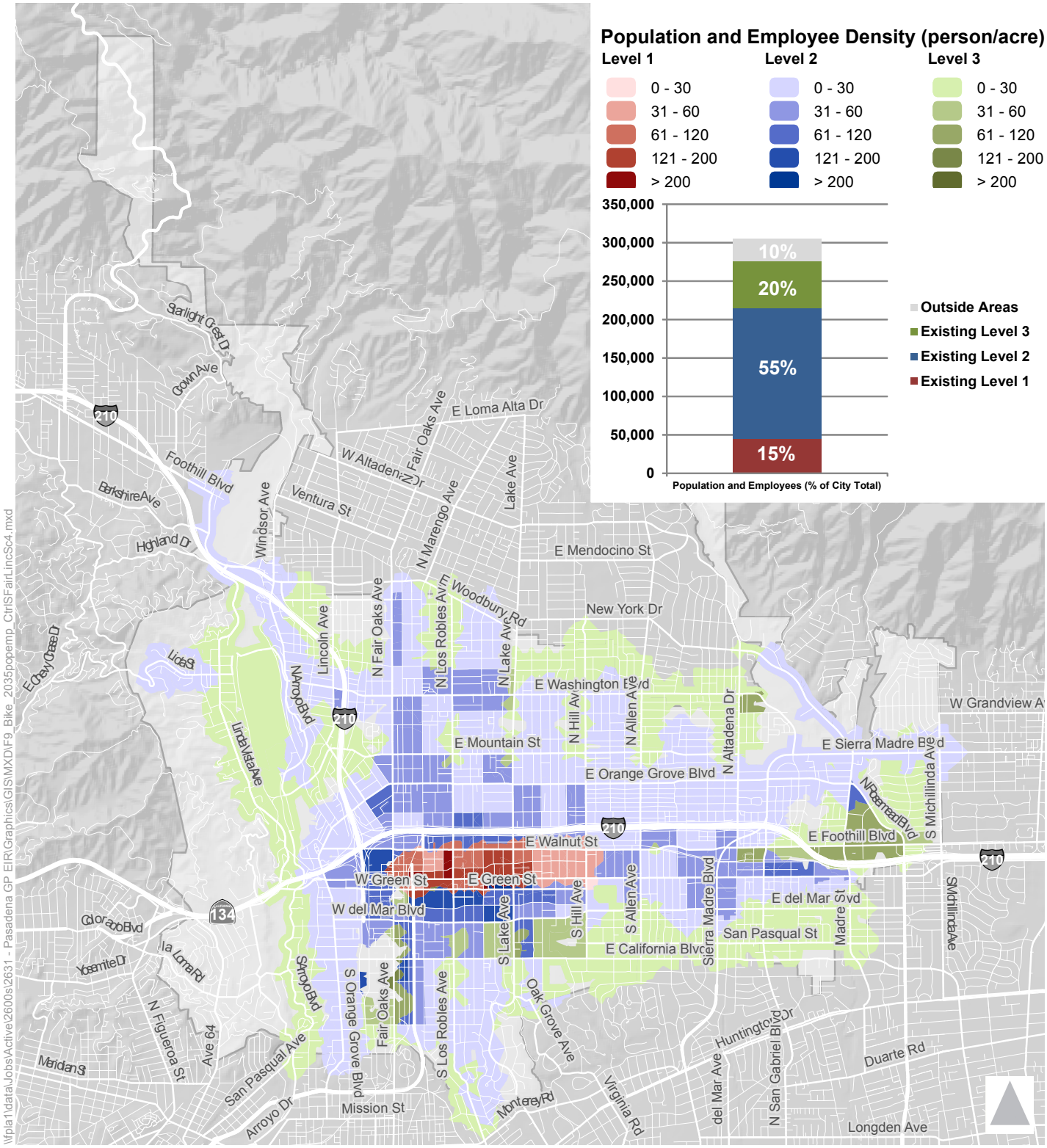
Proximity and Quality of Bicycle Network
1/4 Mile Area - 2035 Population and Employment
No Project Alternative - Scenario 2



Note: Level 1 facilities are bike paths, multipurpose paths, cycle tracks/protected bike lanes.
Level 2 facilities are buffered bike lanes, bike lanes, and bike boulevards.
Level 3 facilities are bike routes, enhanced bike routes, and emphasized bikeways.

Figure 8

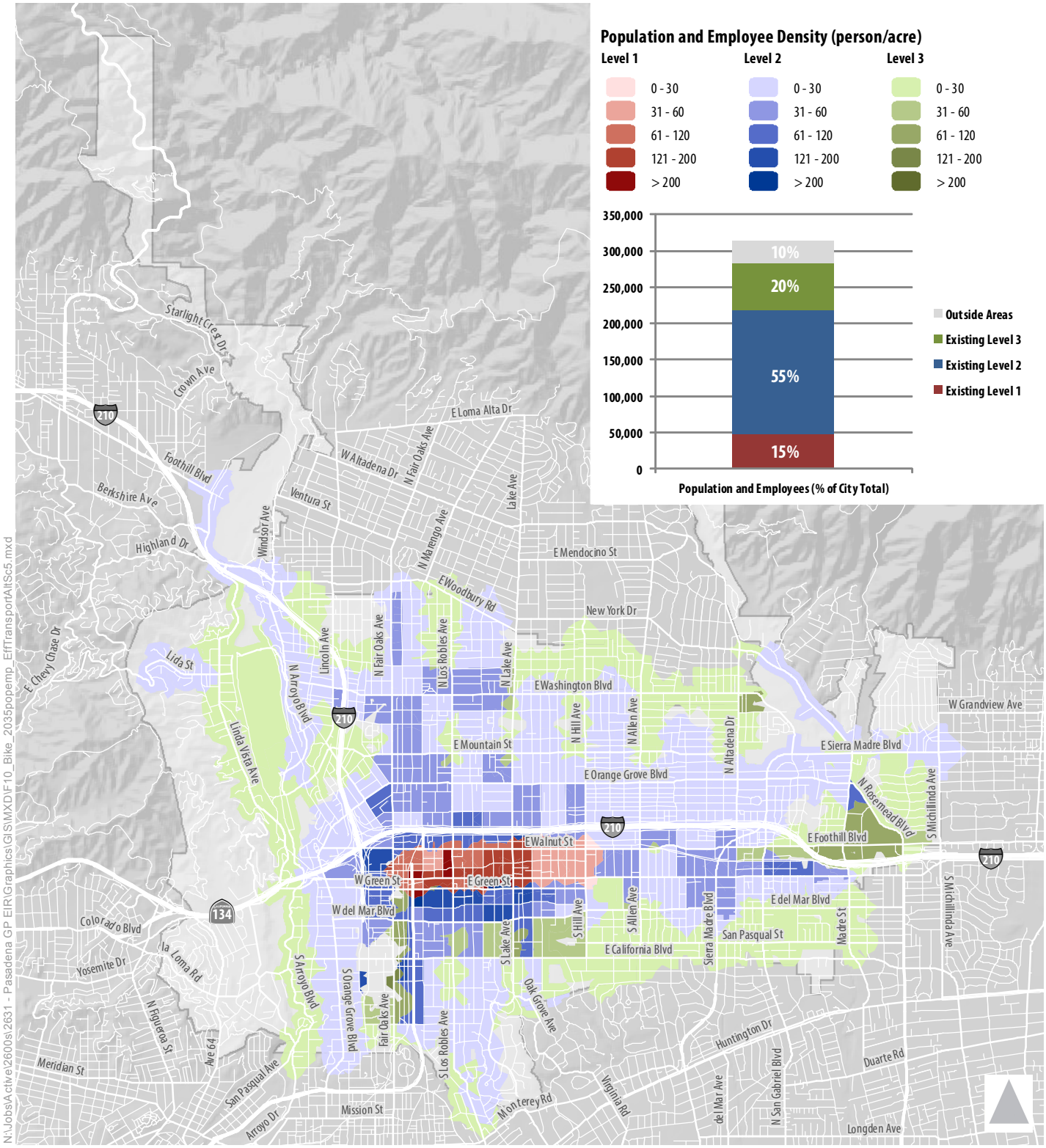
Proximity and Quality of Bicycle Network
1/4 Mile Area - 2035 Population and Employment
Preferred General Plan - Scenario 3



Note: Level 1 facilities are bike paths, multipurpose paths, cycle tracks/protected bike lanes.
Level 2 facilities are buffered bike lanes, bike lanes, and bike boulevards.
Level 3 facilities are bike routes, enhanced bike routes, and emphasized bikeways.

Figure 9

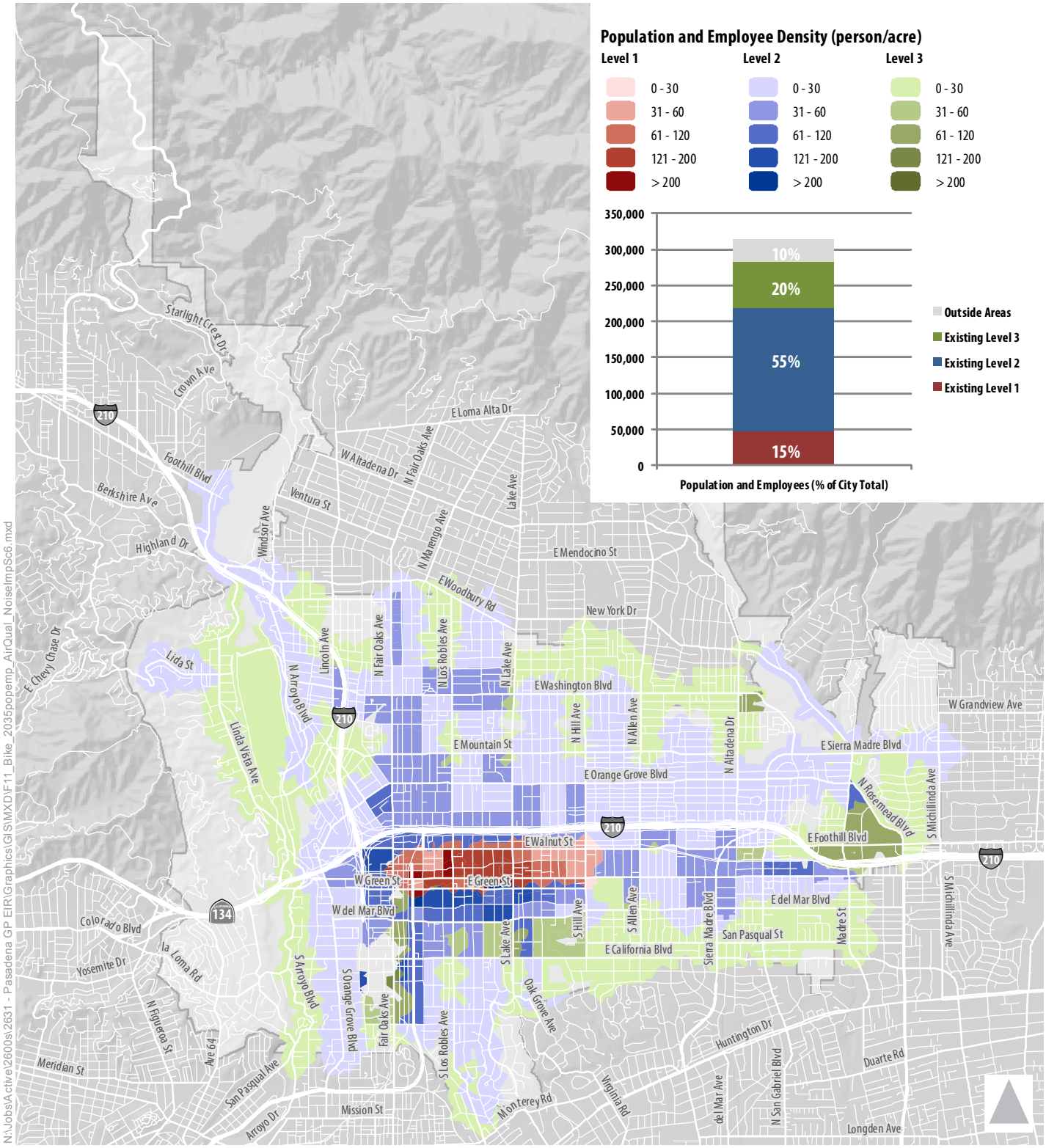
Proximity and Quality of Bicycle Network
1/4 Mile Area - 2035 Population and Employment
Central District, South Fair Oaks, Lincoln Avenue Alternative - Scenario 4



Note: Level 1 facilities are bike paths, multipurpose paths, cycle tracks/protected bike lanes.
Level 2 facilities are buffered bike lanes, bike lanes, and bike boulevards.
Level 3 facilities are bike routes, enhanced bike routes, and emphasized bikeways.

Figure 10

Proximity and Quality of Bicycle Network
1/4 Mile Area - 2035 Population and Employment
Efficient Transportation Alternative - Scenario 5



Note: Level 1 facilities are bike paths, multipurpose paths, cycle tracks/protected bike lanes.
Level 2 facilities are buffered bike lanes, bike lanes, and bike boulevards.
Level 3 facilities are bike routes, enhanced bike routes, and emphasized bikeways.

Figure 11

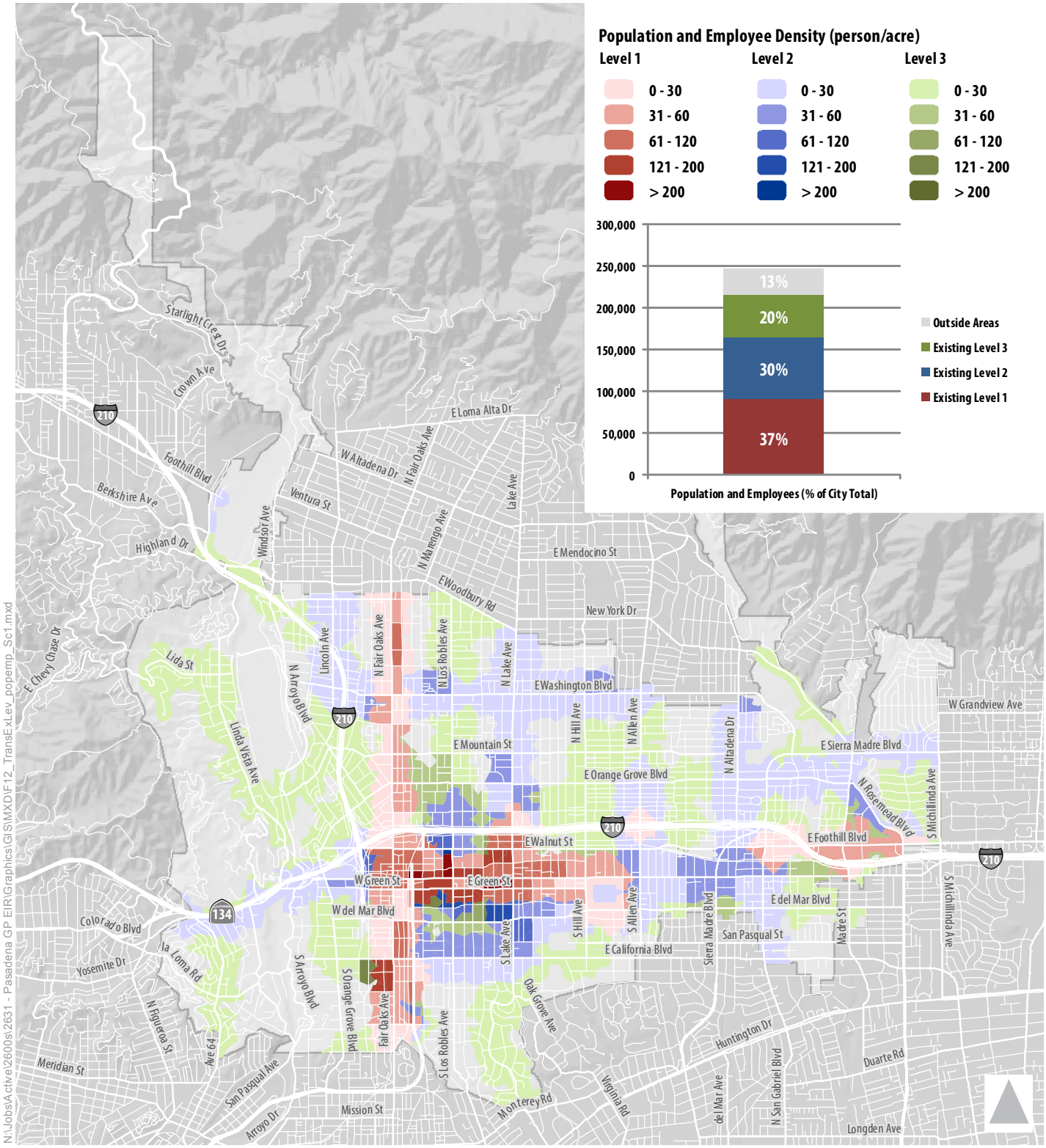
Proximity and Quality of Bicycle Network
1/4 Mile Area - 2035 Population and Employment
Reduced Air Quality and Noise Impact Alternative - Scenario 6

PROXIMITY AND QUALITY OF TRANSIT NETWORK

All future scenarios (Scenarios 2 through 6) experience a substantial increase in higher-quality transit service coverage relative to Existing Conditions, resulting from the increase in peak headways on all ARTS buses. Primarily due to this service increase, but also due to increased land use densities near existing high-frequency transit service, the percent of total service population within a quarter mile of Level 1 or 2 transit facilities increases in all future scenarios relative to Existing Conditions. **No impact** is anticipated in Scenarios 2 through 6. **Table 11** summarizes the service population and percent of total service population within a quarter mile of Level 1, Level 2, and Level 3 transit facilities. **Figures 12 through 17** illustrate the quarter mile facility coverage and service population density for each scenario.

TABLE 11 – PROXIMITY AND QUALITY OF TRANSIT NETWORK

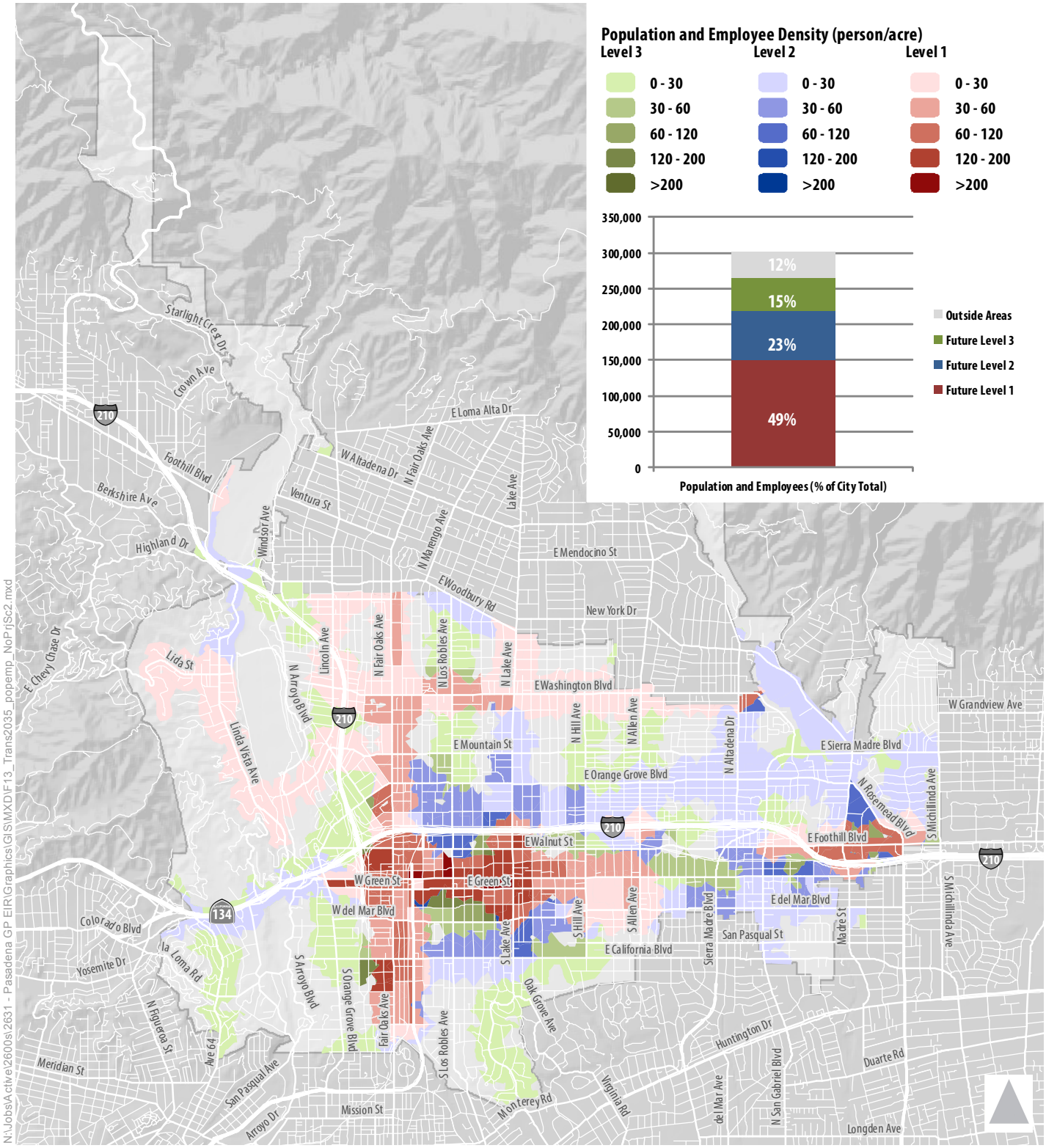
Scenario	Total Service Population	*Level 1*		*Level 2*		*Level 3*	
		Service Population	Percent of Total	Service Population	Percent of Total	Service Population	Percent of Total
Scenario 1 Existing	247,286	90,600	36.6%	74,298	30.0%	50,495	20.4%
Scenario 2 No Project	301,996	149,298	49.4%	69,136	22.9%	46,624	15.4%
Scenario 3 Preferred General Plan	315,082	158,321	50.2%	71,413	22.7%	48,219	15.3%
Scenario 4 Central District, South Fair Oaks, Lincoln Avenue	305,651	150,963	49.3%	70,467	23.1%	47,567	15.6%
Scenario 5 Efficient Transportation	312,801	157,201	50.3%	70,679	22.6%	47,907	15.3%
Scenario 6 Reduced Air Quality and Noise Impact	315,005	159,357	50.6%	70,582	22.4%	48,004	15.2%



Note: Level 1 facilities include Metro Gold Line stations and street segments with combined headways of 5 minutes or less. Level 2 facilities include street segments with combined bus headways of 6 to 15 minutes. Level 3 facilities include street segments with headways of more than 15 minutes.

Figure 12

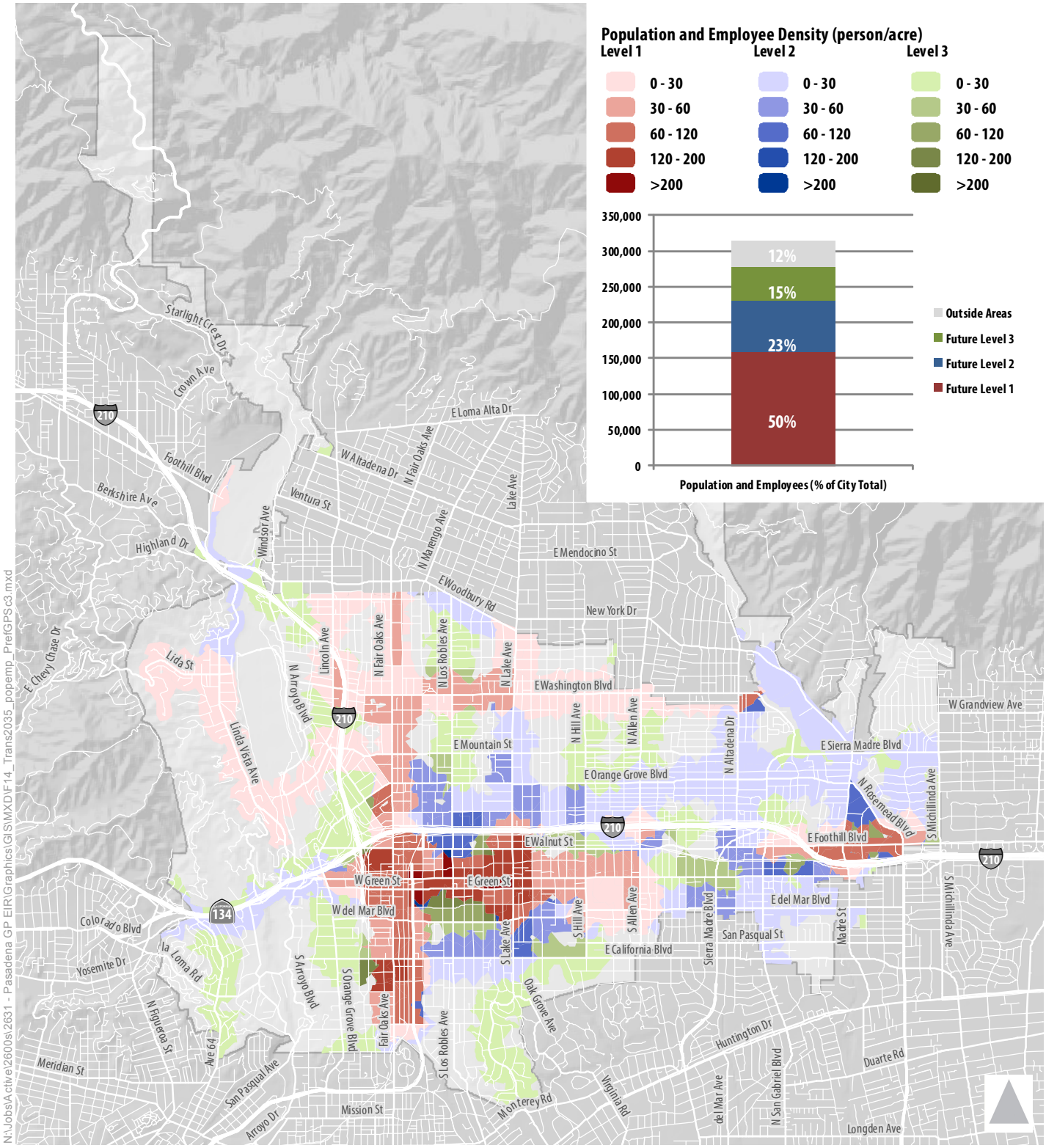
Proximity and Quality of Transit Network 1/4 Mile Area - 2013 Population and Employment Existing - Scenario 1



Note: Level 1 facilities include Metro Gold Line stations and street segments with combined headways of 5 minutes or less. Level 2 facilities include street segments with combined bus headways of 5 to 15 minutes. Level 3 facilities include street segments with headways of more than 15 minutes.

Figure 13

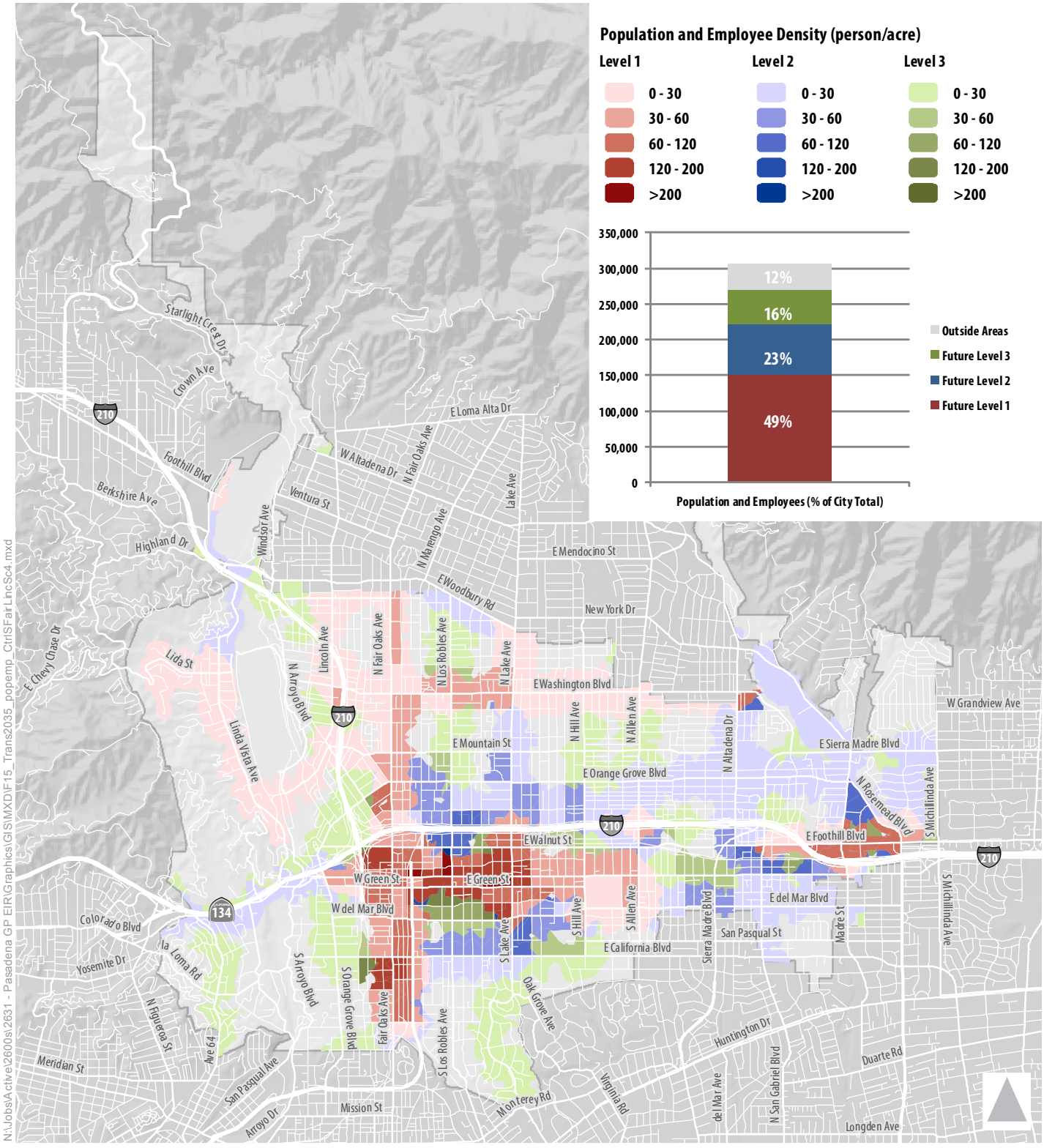
Proximity and Quality of Transit Network
1/4 Mile Area - 2035 Population and Employment
No Project Alternative - Scenario 2



Note: Level 1 facilities include Metro Gold Line stations and street segments with combined headways of 5 minutes or less. Level 2 facilities include street segments with combined bus headways of 5 to 15 minutes. Level 3 facilities include street segments with headways of more than 15 minutes.

Figure 14

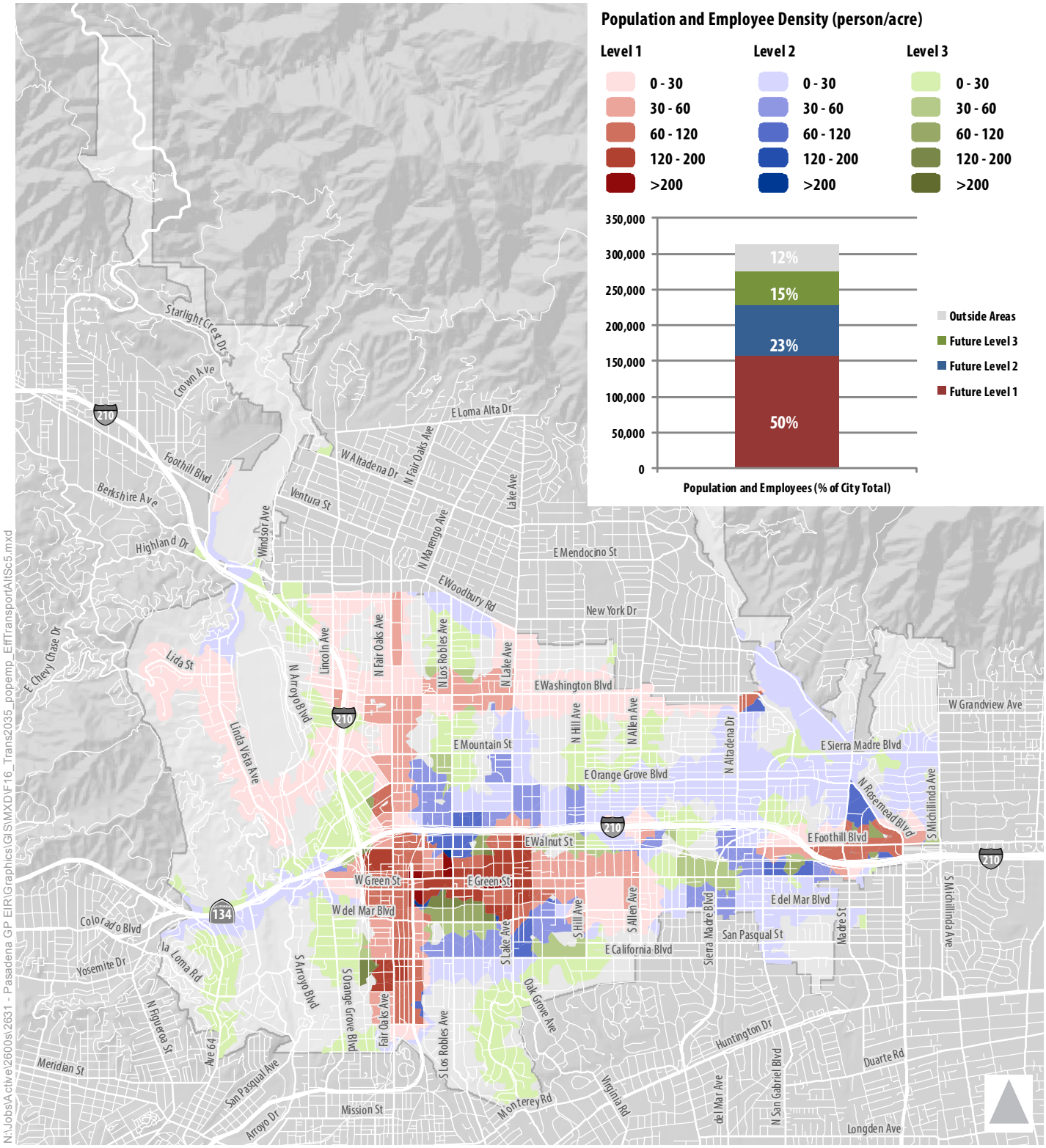
Proximity and Quality of Transit Network 1/4 Mile Area - 2035 Population and Employment Preferred General Plan - Scenario 3



Note: Level 1 facilities include Metro Gold Line stations and street segments with combined headways of 5 minutes or less. Level 2 facilities include street segments with combined bus headways of 5 to 15 minutes.
Level 3 facilities include street segments with headways of more than 15 minutes.

Figure 15

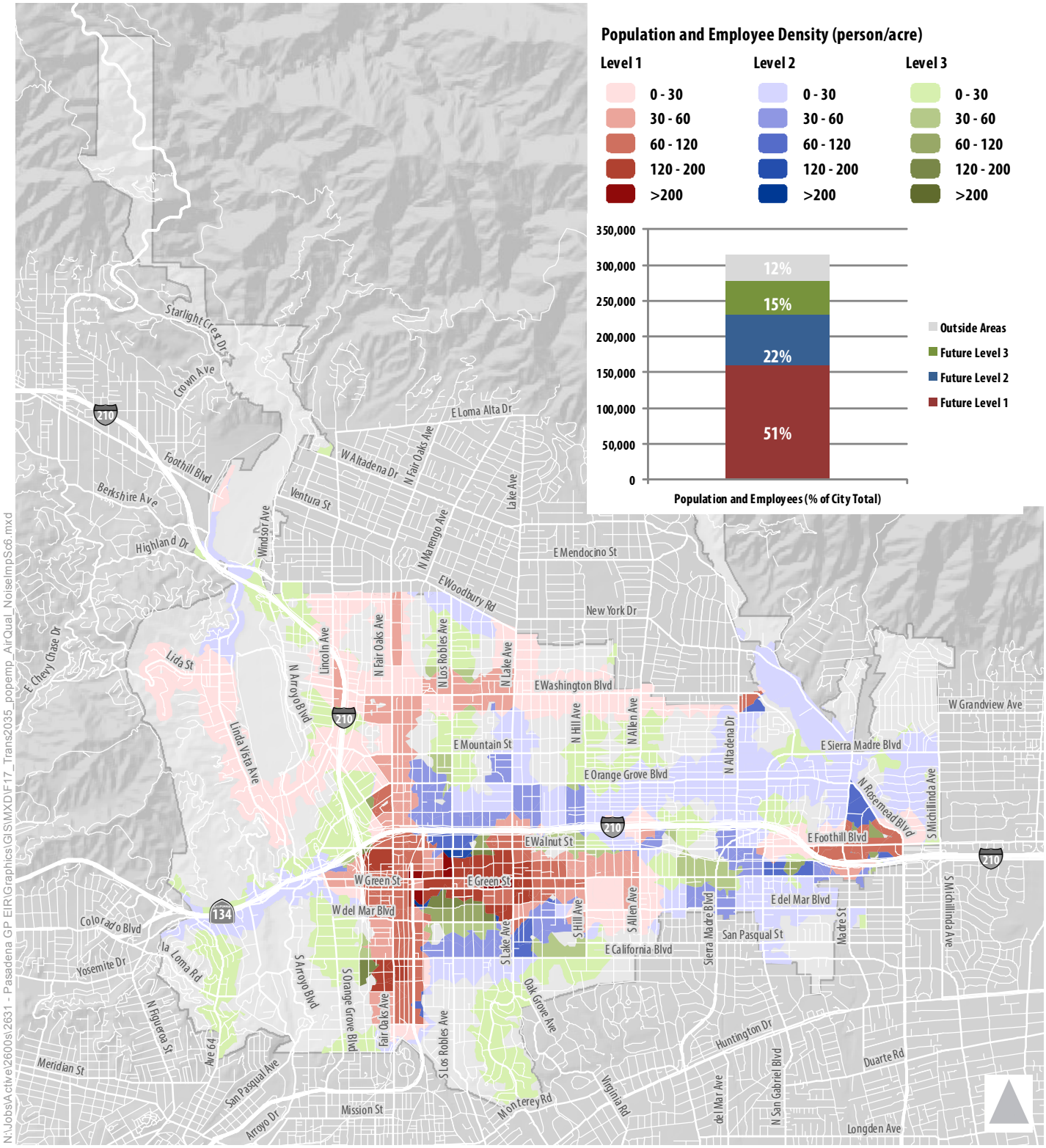
Proximity and Quality of Transit Network
1/4 Mile Area - 2035 Population and Employment
Central District, South Fair Oaks, Lincoln Avenue Alternative - Scenario 4



Note: Level 1 facilities include Metro Gold Line stations and street segments with combined headways of 5 minutes or less. Level 2 facilities include street segments with combined bus headways of 5 to 15 minutes. Level 3 facilities include street segments with headways of more than 15 minutes.

Figure 16

Proximity and Quality of Transit Network 1/4 Mile Area - 2035 Population and Employment Efficient Transportation Alternative - Scenario 5



Note: Level 1 facilities include Metro Gold Line stations and street segments with combined headways of 5 minutes or less. Level 2 facilities include street segments with combined bus headways of 5 to 15 minutes. Level 3 facilities include street segments with headways of more than 15 minutes.

Figure 17

Proximity and Quality of Transit Network
1/4 Mile Area - 2035 Population and Employment
Reduced Air Quality and Noise Impact Alternative - Scenario 6

PEDESTRIAN ACCESSIBILITY

All future scenarios (Scenarios 2 through 6) experience an increase in the Pedestrian Accessibility Score, primarily due to an increased diversity of land uses in development areas; however, Scenario 2 – the existing General Plan – receives only a slightly higher score (4.2 or "C") than Existing Conditions (3.9, also "C"). Scenarios 3 through 6 receive scores of "B," reflecting improved land use diversity over Existing conditions and the existing General Plan. **No impact** is anticipated in Scenarios 2 through 6. **Table 12** summarizes the Weighted Pedestrian Accessibility Score – a service population-weighted average of the TAZ-level Pedestrian Accessibility Scores throughout the City – for the six scenarios. For each scenario, **Figures 18 through 23** illustrate the Pedestrian Accessibility Score by TAZ as well as the service population that experiences that score (inset maps), informing the calculation of the citywide Weighted Pedestrian Accessibility Score.

TABLE 12 – PEDESTRIAN ACCESSIBILITY SCORE

Scenario	Weighted Pedestrian Accessibility Score*
Scenario 1 Existing	3.9 (C)
Scenario 2 No Project	4.2 (C)
Scenario 3 Preferred General Plan	5.1 (B)
Scenario 4 Central District, South Fair Oaks, Lincoln Avenue	5.1 (B)
Scenario 5 Efficient Transportation	5.1 (B)
Scenario 6 Reduced Air Quality and Noise Impact	5.0 (B)

*Weighted Pedestrian Accessiblity Score (PAS) is calculated as the average of the PAS of each TAZ, weighted by service population.

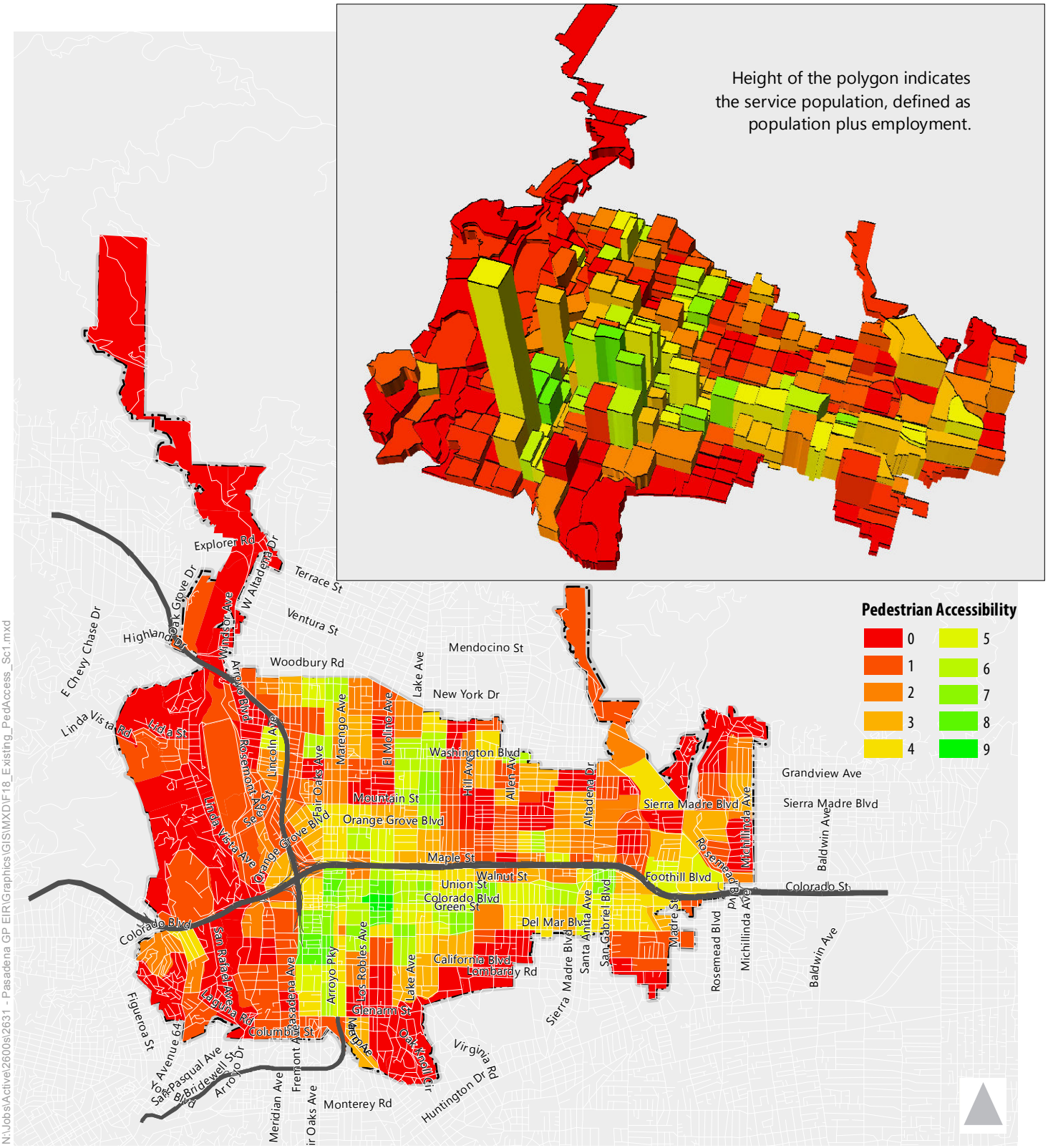


Figure 18

Pedestrian Accessibility
Land Use Types Accessible Within a 5-minute Walk
Existing - Scenario 1

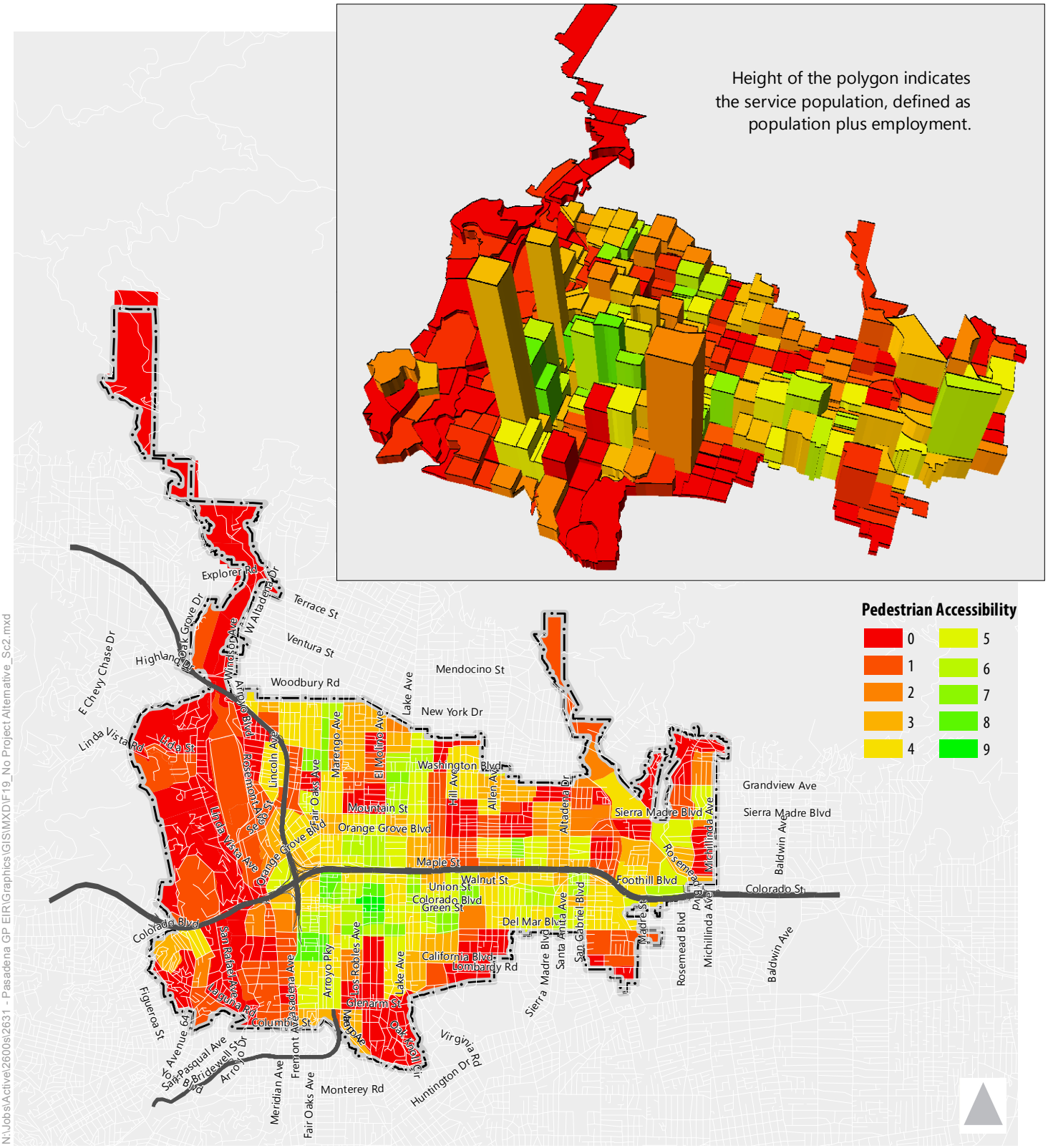


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Figure 19

Pedestrian Accessibility
Land Use Types Accessible Within a 5-minute Walk
No Project Alternative - Scenario 2

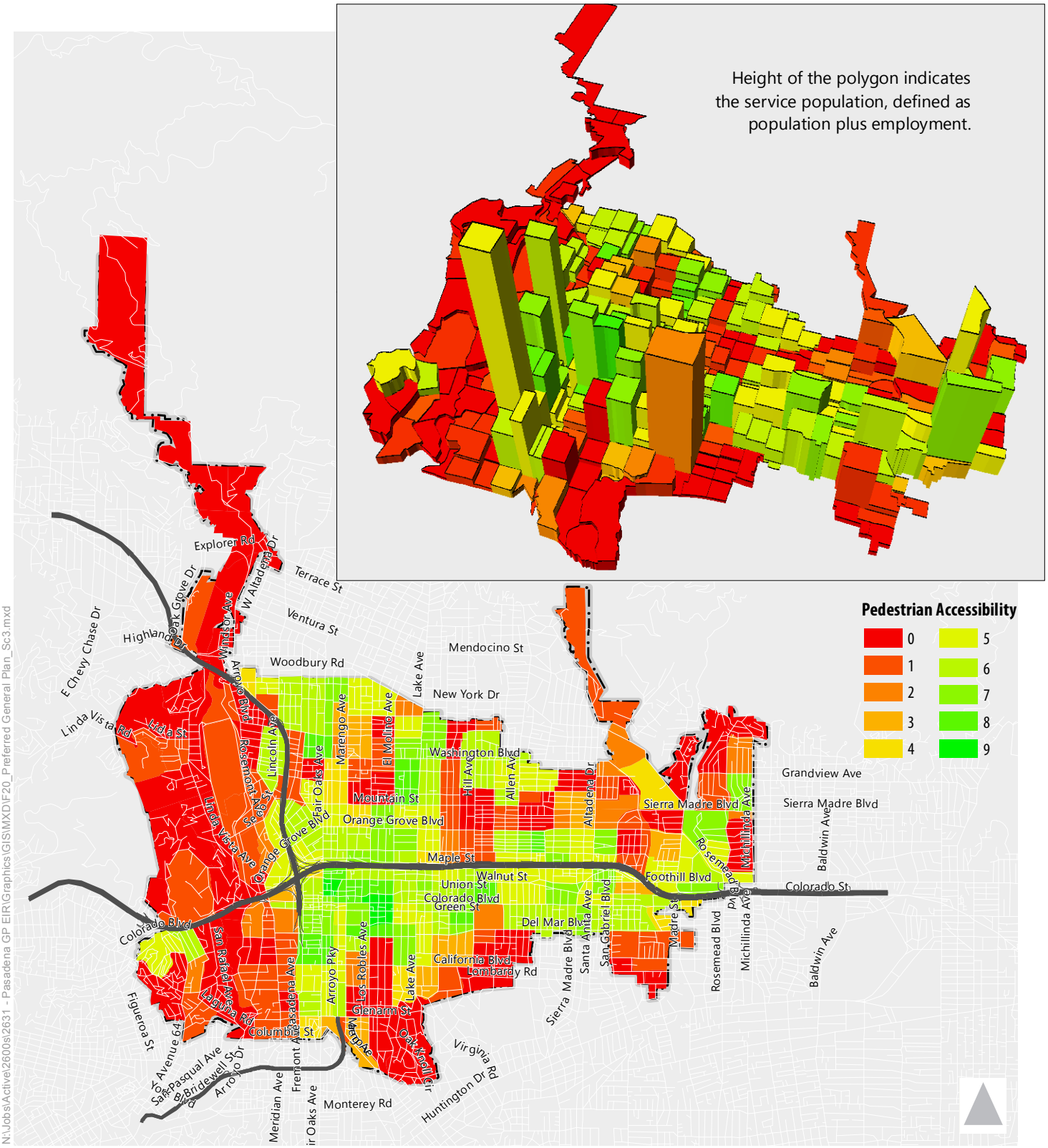

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Figure 20

Pedestrian Accessibility
Land Use Types Accessible Within a 5-minute Walk
Preferred General Plan - Scenario 3

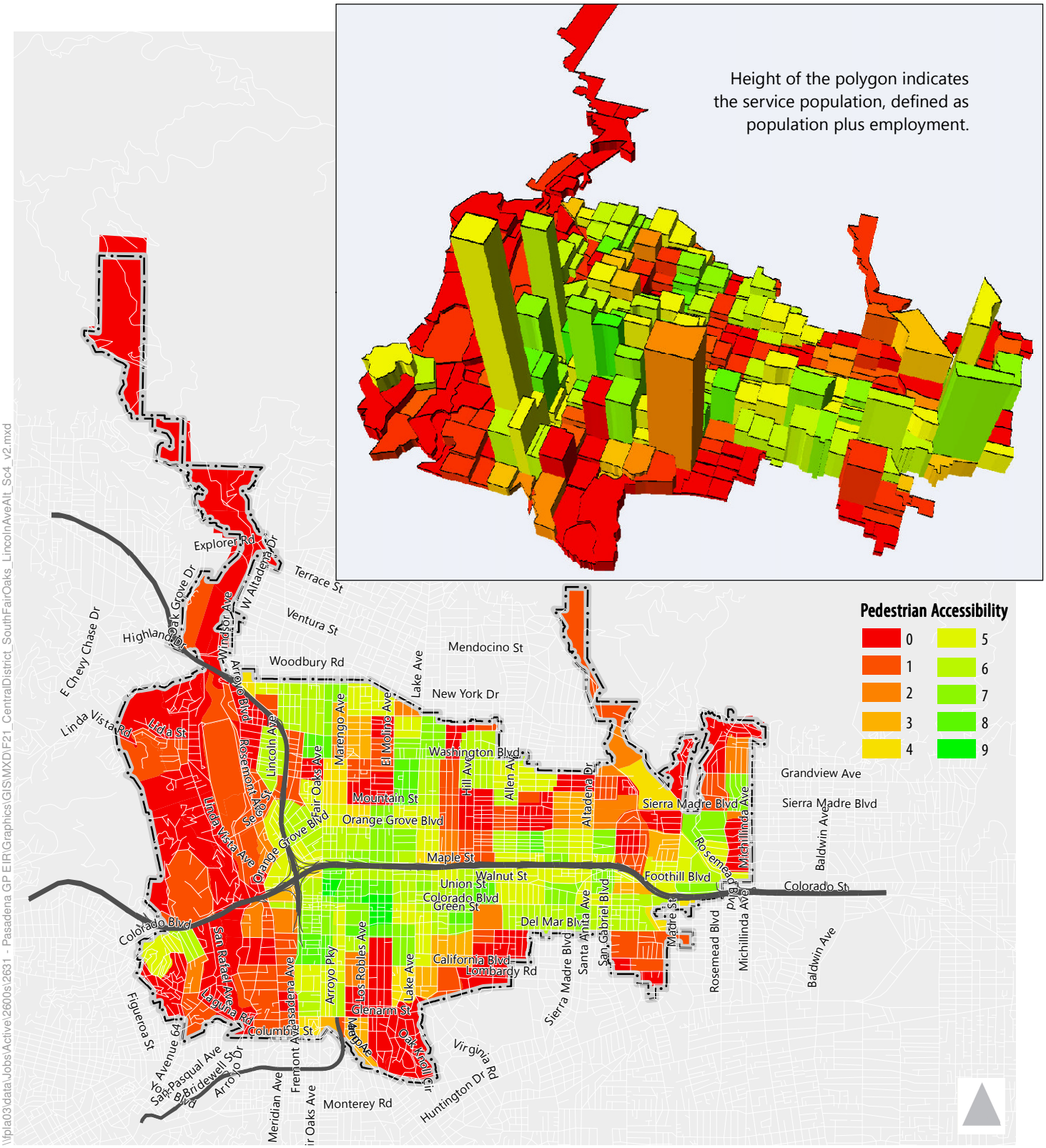

Figure 21

Pedestrian Accessibility
Land Use Types Accessible Within a 5-minute Walk
Central District, South Fair Oaks, Lincoln Avenue Alternative - Scenario 4

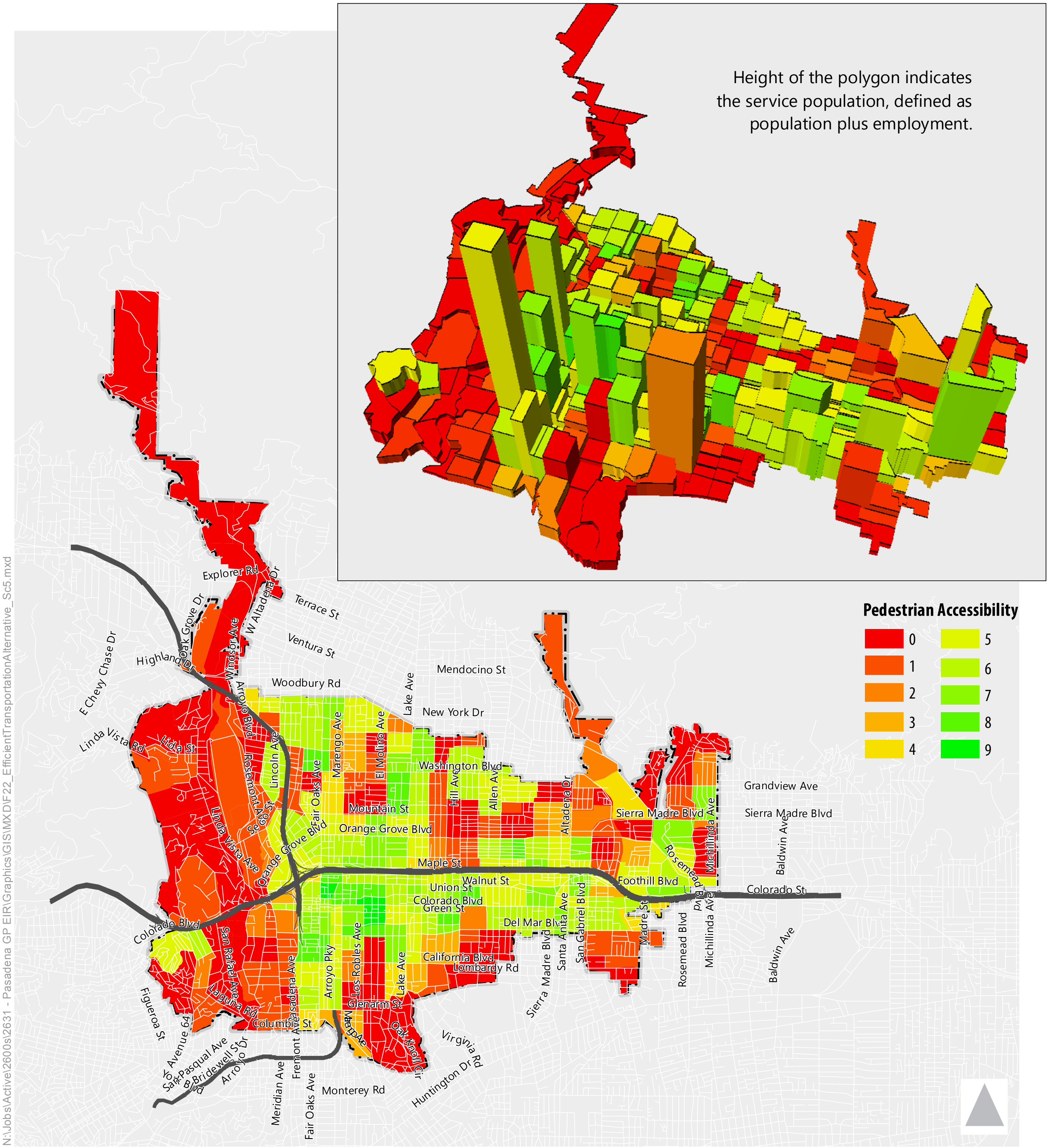

Figure 22

Pedestrian Accessibility
Land Use Types Accessible Within a 5-minute Walk
Efficient Transportation Alternative - Scenario 5

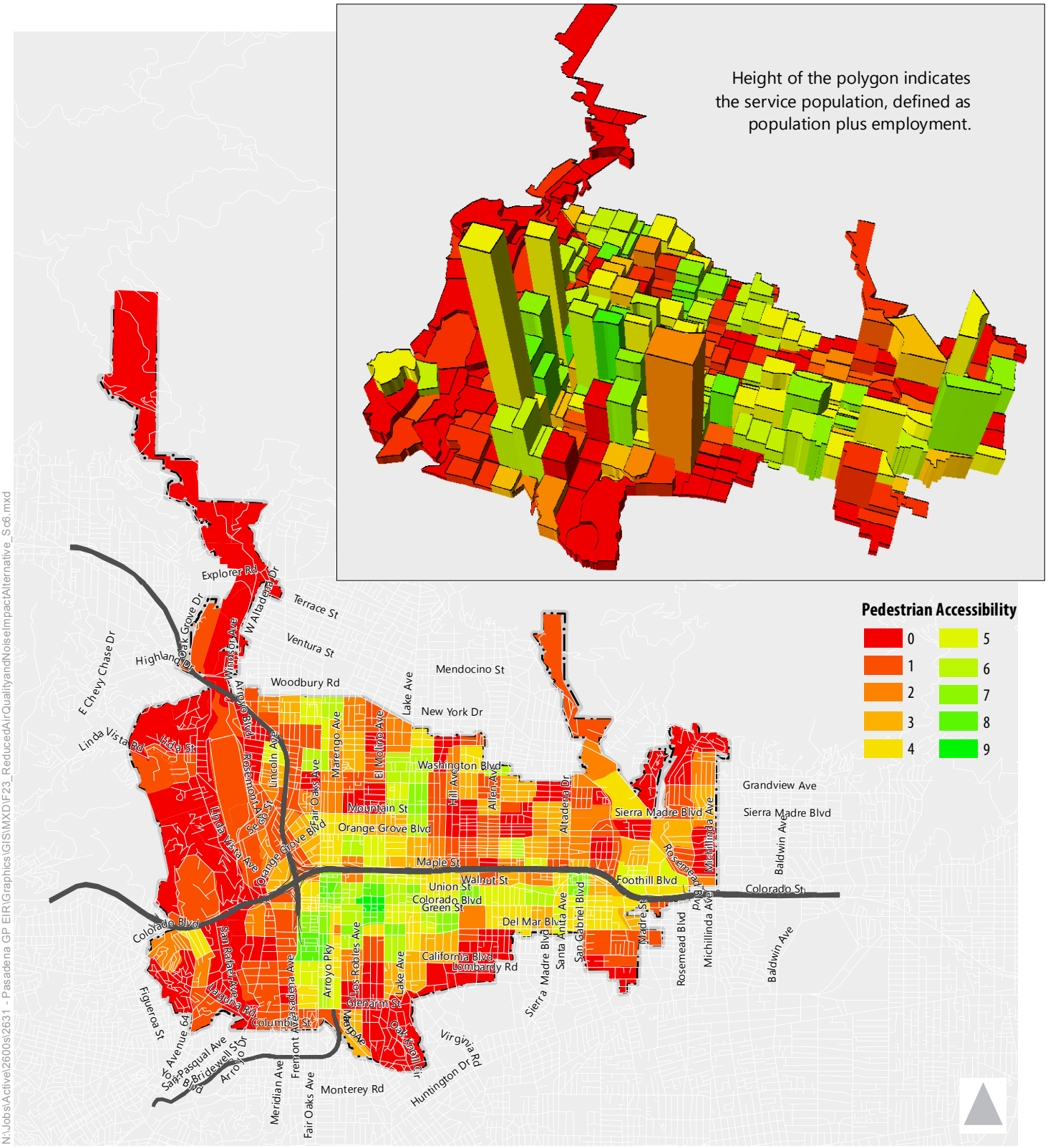

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Figure 23

Pedestrian Accessibility
Land Use Types Accessible Within a 5-minute Walk
Reduced Air Quality and Noise Impact Alternative - Scenario 6

6. CMP Analysis

This chapter presents the methodology and results for the Los Angeles County Congestion Management Program (CMP) analyses, including arterial intersection and freeway.

BACKGROUND

To address the increasing public concern that traffic congestion is impacting the quality of life and economic vitality of the State of California, the Congestion Management Program (CMP) was enacted by Proposition 111, passed by voters in 1990. The intent of the CMP is to provide the analytical basis for transportation decisions through the Statewide Transportation Improvement Program (STIP) process, a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account and other funding sources.

Metro, the local CMP agency, has established an approach to implement the statutory requirements of the CMP. The Metro Board adopted the 2010 CMP in October 2010. The approach includes designating a highway network that includes all State highways and principal arterials within the County and monitoring the network's congestion. The CMP identifies a system of highways and roadways, with minimum levels of service performance measurements designated at LOS E (unless exceeded in base year conditions) for highway segments and key roadway intersections on this system. For all CMP facilities within the project study area, a traffic impact analysis (TIA) is required, though mixed-use developments that meet minimum density requirements and that are located within a ¼ mile of a fixed rail station are exempt from CMP analysis. The analysis must investigate measures which will mitigate the significant CMP system impacts; develop cost estimates, including the fair share costs to mitigate impacts of the proposed project; and indicate the responsible agency. Selection of final mitigation measures is left at the discretion of the local jurisdiction. Once a mitigation program is selected, the jurisdiction self-monitors implementation through the existing mitigation monitoring requirements of CEQA.

FREEWAY SEGMENT ANALYSIS

Methodology

CMP requires establishment of Level of Service (LOS) standards to measure congestion at specific monitoring locations on the freeway and arterial systems. LOS ranges from LOS A to LOS F, with LOS A representing free-flow conditions and LOS F representing a high level of congestion.

Freeway segment volumes based on model data were used to compare the scenario alternatives to Existing conditions for three mainline CMP freeway monitoring locations identified within the City of Pasadena along the SR 134 and I-210 freeways. These three mainline locations are identified as CMP Freeway Monitoring Stations in the 2010 Congestion Management Program for Los Angeles County:

- Route 134, at postmile R12.09, w/o San Rafael Avenue
- Route 210, at postmile R23.55, w/o Routes 134/710
- Route 210, at postmile R29.72, Rosemead Boulevard

In accordance with the CMP guidelines, freeway (mainline) operating conditions during peak periods were evaluated using the general procedures established by the CMP. Freeway mainline LOS is estimated with

calculation of the volume-to-capacity (V/C) ratio. Calculation of LOS based on V/C ratios is a surrogate for the speed-based LOS used by Caltrans for traffic operational analysis. Because the calculation is based on volumes and not speeds, volume data may underrepresent the actual level of demand for freeway travel if high levels of congestion and low travel speeds reduce the level of demand that the freeway is able to serve.

The LOS criteria for freeway segments using V/C ratios as the performance measure can be found in the 2010 Congestion Management Program for Los Angeles County and **Table 13**. The hourly capacity of 2,000 vehicles per hour per lane was determined based on the existing capacities reported in the 2010 Congestion Management Program.

TABLE 13 – LOS THRESHOLDS FOR CMP FREEWAY MAINLINE SEGMENTS

Level of Service	Demand-to-Capacity (D/C) Ratio
A	0.00-0.35
B	>0.35-0.54
C	>0.54-0.77
D	>0.77-0.93
E	>0.93-1.00
F(0)	>1.00-1.25
F(1)	>1.25-1.35
F(2)	>1.35-1.45
F(3)	>1.45

Source: *Congestion Management Program*, Metro, 2010

Freeway segment volumes based on existing 2013 Caltrans PeMS data were used to establish the CMP LOS conditions during the AM and PM peak hour Existing conditions. The analysis was then performed to evaluate each of the alternatives based on AM and PM peak hour traffic volume per direction data from the City of Pasadena's Travel Demand Model. The volume forecasts were calculated by adding the difference in volumes between the 2035 scenario model and 2013 Existing conditions model to the collected count data.

CMP mainline freeway monitoring locations where the proposed Project will add 150 or more trips in either direction during either the AM or PM weekday peak hours are subject to CMP analysis.

Threshold

The Project would have a significant impact related to the CMP if it would exceed the established threshold. The Congestion Management Program for Los Angeles County (CMP) (Metro, 2010) traffic impact analysis guidelines indicate that a significant Project impact occurs when the following threshold is exceeded:

- 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)

If the facility is already at 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).

Results

Table 14 shows the results of the CMP analysis for mainline segments under each of the proposed alternatives. All of the future scenarios have two **significant project impacts.** One impacted location, westbound I-210 west of Rosemead Blvd, is operating at LOS F under Existing conditions during the AM peak hour. All scenarios would increase the traffic at this location by more than two percent during the peak hour. The other impact also occurs on I-210 westbound, west of the SR 134/I-710 interchange, during the PM peak hour. Under all scenarios, the traffic increases would cause that location to operate at LOS F(0).

TABLE 14 – CMP ANALYSIS RESULTS FOR FREEWAY MAINLINE SEGMENTS

Scenario 1 – 2013 Existing

CMP Station	Peak Hour	Dir	Lanes	Capacity	Volume	D/C	LOS	Change in D/C	Significant Impact?
1056. SR 134 w/o San Rafael Ave	AM	EB	5	10,00	7,500	0.750	C	-	-
		WB	5	10,00	8,700	0.870	D	-	-
	PM	EB	5	10,00	8,700	0.870	D	-	-
		WB	5	10,00	8,300	0.830	D	-	-
1060. I-210 w/o Rte 134/710	AM	EB	4	8,000	5,600	0.700	C	-	-
		WB	4	8,000	4,300	0.538	B	-	-
	PM	EB	4	8,000	4,100	0.513	B	-	-
		WB	4	8,000	6,500	0.813	D	-	-
1061. I-210 w/o Rosemead Blvd	AM	EB	5	10,00	6,500	0.650	C	-	-
		WB	5	10,00	10,700	1.070	F(0)	-	-
	PM	EB	5	10,00	6,100	0.610	C	-	-
		WB	5	10,00	8,500	0.850	D	-	-

Scenario 2 – 2035 No Project Alternative

CMP Station	Peak Hour	Dir	Lanes	Capacity	Volume	D/C	LOS	Change in D/C	Significant Impact?
1056. SR 134 w/o San Rafael Ave	AM	EB	5	10,00	8,600	0.860	D	0.110	No
		WB	5	10,00	9,500	0.950	E	0.080	No
	PM	EB	5	10,00	9,600	0.960	E	0.090	No
		WB	5	10,00	9,000	0.900	D	0.070	No
1060. I-210 w/o Rte 134/710	AM	EB	4	8,000	6,600	0.825	D	0.125	No
		WB	4	8,000	6,300	0.788	D	0.250	No
	PM	EB	4	8,000	5,900	0.738	C	0.225	No
		WB	4	8,000	8,500	1.063	F(0)	0.250	**Yes**
1061. I-210 w/o Rosemead Blvd	AM	EB	5	10,00	6,700	0.670	C	0.020	No
		WB	5	10,00	11,500	1.150	F(0)	0.080	**Yes**
	PM	EB	5	10,00	6,300	0.630	C	0.020	No
		WB	5	10,00	8,500	0.850	D	0.000	No

Source: *Fehr & Peers, 2014*

TABLE 14 – CMP ANALYSIS RESULTS FOR FREEWAY MAINLINE SEGMENTS, CONT.

Scenario 3 – 2035 Preferred General Plan									
CMP Station	**Peak Hour**	**Dir**	**Lanes**	**Capacity**	**Volume**	**D/C**	**LOS**	**Change in D/C**	**Significant Impact?**
1056. SR 134 w/o San Rafael Ave	AM	EB	5	10,00	8,600	0.860	D	0.110	No
		WB	5	10,00	9,600	0.960	E	0.090	No
	PM	EB	5	10,00	9,600	0.960	E	0.090	No
		WB	5	10,00	9,000	0.900	D	0.070	No
1060. I-210 w/o Rte 134/710	AM	EB	4	8,000	6,700	0.838	D	0.138	No
		WB	4	8,000	6,400	0.800	D	0.262	No
	PM	EB	4	8,000	5,900	0.738	C	0.225	No
		WB	4	8,000	8,500	1.063	F(0)	0.250	**Yes**
1061. I-210 w/o Rosemead Blvd	AM	EB	5	10,00	6,700	0.670	C	0.020	No
		WB	5	10,00	11,500	1.150	F(0)	0.080	**Yes**
	PM	EB	5	10,00	6,300	0.630	C	0.020	No
		WB	5	10,00	8,500	0.850	D	0.000	No
Scenario 4 – 2035 Central District, South Fair Oaks, and Lincoln Avenue Alternative									
CMP Station	**Peak Hour**	**Dir**	**Lanes**	**Capacity**	**Volume**	**D/C**	**LOS**	**Change in D/C**	**Significant Impact?**
1056. SR 134 w/o San Rafael Ave	AM	EB	5	10,00	8,500	0.850	D	0.100	No
		WB	5	10,00	9,600	0.960	E	0.090	No
	PM	EB	5	10,00	9,500	0.950	E	0.080	No
		WB	5	10,00	8,900	0.890	D	0.060	No
1060. I-210 w/o Rte 134/710	AM	EB	4	8,000	6,600	0.825	D	0.125	No
		WB	4	8,000	6,300	0.788	D	0.250	No
	PM	EB	4	8,000	5,900	0.738	C	0.225	No
		WB	4	8,000	8,400	1.050	F(0)	0.237	**Yes**
1061. I-210 w/o Rosemead Blvd	AM	EB	5	10,00	6,700	0.670	C	0.020	No
		WB	5	10,00	11,400	1.140	F(0)	0.070	**Yes**
	PM	EB	5	10,00	6,300	0.630	C	0.020	No
		WB	5	10,00	8,500	0.850	D	0.000	No

Source: *Fehr & Peers, 2014*

TABLE 14 – CMP ANALYSIS RESULTS FOR FREEWAY MAINLINE SEGMENTS, CONT.

Scenario 5 – 2035 Efficient Transportation Alternative									
CMP Station	**Peak Hour**	**Dir**	**Lanes**	**Capacity**	**Volume**	**D/C**	**LOS**	**Change in D/C**	**Significant Impact?**
1056. SR 134 w/o San Rafael Ave	AM	EB	5	10,00	8,600	0.860	D	0.110	No
		WB	5	10,00	9,600	0.960	E	0.090	No
	PM	EB	5	10,00	9,600	0.960	E	0.090	No
		WB	5	10,00	9,000	0.900	D	0.070	No
1060. I-210 w/o Rte 134/710	AM	EB	4	8,000	6,700	0.838	D	0.138	No
		WB	4	8,000	6,300	0.788	D	0.250	No
	PM	EB	4	8,000	5,900	0.738	C	0.225	No
		WB	4	8,000	8,500	1.063	F(0)	0.250	**Yes**
1061. I-210 w/o Rosemead Blvd	AM	EB	5	10,00	6,700	0.670	C	0.020	No
		WB	5	10,00	11,400	1.140	F(0)	0.070	**Yes**
	PM	EB	5	10,00	6,300	0.630	C	0.020	No
		WB	5	10,00	8,500	0.850	D	0.000	No
Scenario 6 – 2035 Reduced Air Quality and Noise Impact Alternative									
CMP Station	**Peak Hour**	**Dir**	**Lanes**	**Capacity**	**Volume**	**D/C**	**LOS**	**Change in D/C**	**Significant Impact?**
1056. SR 134 w/o San Rafael Ave	AM	EB	5	10,00	8,600	0.860	D	0.110	No
		WB	5	10,00	9,600	0.960	E	0.090	No
	PM	EB	5	10,00	9,600	0.960	E	0.090	No
		WB	5	10,00	9,000	0.900	D	0.070	No
1060. I-210 w/o Rte 134/710	AM	EB	4	8,000	6,700	0.838	D	0.138	No
		WB	4	8,000	6,300	0.788	D	0.250	No
	PM	EB	4	8,000	5,900	0.738	C	0.225	No
		WB	4	8,000	8,500	1.063	F(0)	0.250	**Yes**
1061. I-210 w/o Rosemead Blvd	AM	EB	5	10,00	6,700	0.670	C	0.020	No
		WB	5	10,00	11,500	1.150	F(0)	0.080	**Yes**
	PM	EB	5	10,00	6,300	0.630	C	0.020	No
		WB	5	10,00	8,500	0.850	D	0.000	No

Source: *Fehr & Peers, 2014*

ARTERIAL INTERSECTION ANALYSIS

Methodology

The CMP Guidelines require analysis of all CMP arterial monitoring intersections where the proposed Project will add 50 or more peak hour trips (total of both directions). The following four CMP arterial monitoring stations (i.e., intersections) were evaluated. The CMP arterial monitoring stations identified for analysis were analyzed using the CMA/Circular 212 method.

- Arroyo Parkway and California Boulevard (CMP ID #119)
- Pasadena Avenue and California Boulevard (CMP ID #120)
- St. John Avenue and California Boulevard (CMP ID #120)
- Rosemead Boulevard and Foothill Boulevard (CMP ID #121)

Threshold

The Project would have a significant impact related to the CMP if it would exceed the established threshold. The Congestion Management Program for Los Angeles County (CMP) (Metro, 2010) traffic impact analysis guidelines indicate that a significant Project impact occurs when the following threshold is exceeded:

- 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)

If the facility is already at 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).

Results

Table 15 shows the results of the CMP arterial intersection analysis. Four of the future alternatives have one **significant project impact** each. The Reduced Air Quality and Noise Impact Alternative is the only scenario that does have an impact. The No Project Alternative causes an impact at the intersection of Rosemead Boulevard / Foothill Boulevard during the PM peak hour. The Preferred General Plan, the Corridors Alternative, and the Efficient Transportation Alternative cause an impact at the intersection of Pasadena Avenue / California Boulevard during the AM peak hour.

TABLE 15 – CMP ANALYSIS RESULTS FOR ARTERIAL INTERSECTIONS

CMP Intersection	Peak Hour	V/C	LOS	Change in V/C	Significant Impact?
Scenario 1 – 2013 Existing					
119. Arroyo Parkway / California Boulevard	AM	0.674	B	-	-
	PM	0.811	D	-	-
120. Pasadena Avenue / California Boulevard	AM	0.956	E	-	-
	PM	0.904	E	-	-
120. St. John Avenue / California Boulevard	AM	0.773	C	-	-
	PM	0.688	B	-	-
121. Rosemead Boulevard / Foothill Boulevard	AM	0.698	B	-	-
	PM	0.862	D	-	-
Scenario 2 – 2035 No Project Alternative					
119. Arroyo Parkway / California Boulevard	AM	0.830	D	0.156	No
	PM	0.859	D	0.048	No
120. Pasadena Avenue / California Boulevard	AM	0.986	E	0.030	No
	PM	0.936	E	0.032	No
120. St. John Avenue / California Boulevard	AM	0.857	D	0.084	No
	PM	0.738	C	0.050	No
121. Rosemead Boulevard / Foothill Boulevard	AM	0.829	D	0.131	No
	PM	1.032	F	0.170	**Yes**
Scenario 3 – 2035 Preferred General Plan					
119. Arroyo Parkway / California Boulevard	AM	0.833	D	0.159	No
	PM	0.868	D	0.057	No
120. Pasadena Avenue / California Boulevard	AM	1.009	F	0.053	**Yes**
	PM	0.946	E	0.042	No
120. St. John Avenue / California Boulevard	AM	0.888	D	0.115	No
	PM	0.776	C	0.088	No
121. Rosemead Boulevard / Foothill Boulevard	AM	0.831	D	0.133	No
	PM	0.932	E	0.070	No

Source: *Fehr & Peers, 2014*

TABLE 15 – CMP ANALYSIS RESULTS FOR ARTERIAL INTERSECTIONS, CONT.

CMP Intersection	Peak Hour	V/C	LOS	Change in V/C	Significant Impact?
Scenario 4 – 2035 Central District, South Fair Oaks, and Lincoln Avenue Alternative					
119. Arroyo Parkway / California Boulevard	AM	0.830	D	0.156	No
	PM	0.859	D	0.048	No
120. Pasadena Avenue / California Boulevard	AM	1.002	F	0.046	**Yes**
	PM	0.948	E	0.044	No
120. St. John Avenue / California Boulevard	AM	0.872	D	0.099	No
	PM	0.769	C	0.081	No
121. Rosemead Boulevard / Foothill Boulevard	AM	0.829	D	0.131	No
	PM	0.907	E	0.045	No
Scenario 5 – 2035 Efficient Transportation Alternative					
119. Arroyo Parkway / California Boulevard	AM	0.838	D	0.164	No
	PM	0.866	D	0.055	No
120. Pasadena Avenue / California Boulevard	AM	1.014	F	0.058	**Yes**
	PM	0.946	E	0.042	No
120. St. John Avenue / California Boulevard	AM	0.894	D	0.121	No
	PM	0.776	C	0.088	No
121. Rosemead Boulevard / Foothill Boulevard	AM	0.831	D	0.133	No
	PM	0.907	E	0.045	No
Scenario 6 – 2035 Reduced Air Quality and Noise Impact Alternative					
119. Arroyo Parkway / California Boulevard	AM	0.838	D	0.164	No
	PM	0.884	D	0.073	No
120. Pasadena Avenue / California Boulevard	AM	0.997	E	0.041	No
	PM	0.931	E	0.027	No
120. St. John Avenue / California Boulevard	AM	0.900	D	0.127	No
	PM	0.782	C	0.094	No
121. Rosemead Boulevard / Foothill Boulevard	AM	0.816	D	0.118	No
	PM	0.901	E	0.039	No

Source: *Fehr & Peers, 2014*

MITIGATIONS

The traditional response to mitigate significant traffic-related impacts, which are defined as delays to autos due to overcapacity, or increases in auto trips on street segments, is to increase auto capacity by providing additional lanes or facilities. Widening roads to provide additional travel lanes is challenging because the spaces are already constrained and utilized by other land uses or transportation facilities. Due to the limited right-of-way in Pasadena, capacity improvements of this nature for autos can require a loss or constriction of bicycle lanes or sidewalks. The traffic analysis for this project could not identify any additional capacity improvements for autos that would not have negative secondary impacts such as delaying transit or degrading the pedestrian environment. However, implementation of the proposed goals and policies of the Preferred General Plan regarding walking, bicycling, transit use, transit-oriented development, and TDM would improve mobility within the City.

Mitigations were considered for the freeway and arterial CMP impacts identified above.

Freeway Mainline Segments

- Route 210, at postmile R23.55, w/o Routes 134/710 – in all analyzed future scenarios (Scenarios 2 through 6) the westbound direction is impacted at this location in the PM peak hour. The mitigation measure identified for this location is the addition of a mainline travel lane to the freeway. Implementing this mitigation within the existing right-of-way would require the removal of the left-hand shoulder, resulting in substandard conditions on the I-210 freeway. Furthermore, a mitigation resulting in increased automobile capacity through roadway widening is inconsistent with the General Plan's goals and policies. Therefore, this impact would remain **significant and unavoidable.**

- Route 210, at postmile R29.72, Rosemead Boulevard – in all analyzed future scenarios (Scenarios 2 through 6) the westbound direction is impacted at this location in the AM peak hour. The mitigation measure identified for this location is the addition of a mainline travel lane to the freeway. There is insufficient space to implement this mitigation within the existing right-of-way. Furthermore, a mitigation resulting in increased automobile capacity through roadway widening is inconsistent with the General Plan's goals and policies. Therefore, this impact would remain **significant and unavoidable.**

Arterial Intersections

- Pasadena Avenue and California Boulevard (CMP ID #120) – in Scenarios 3 (Preferred General Plan), 4 (Central District, South Fair Oaks, Lincoln Avenue), and 5 (Efficient Transportation), this location is impacted in the AM peak hour. The mitigation measure identified for this location is the conversion of one westbound through lane to a shared through/right-turn lane. This mitigation measure would degrade the pedestrian environment by creating two lanes of right-turning traffic that would conflict with pedestrians crossing the north and east legs of the intersection, inconsistent with the General Plan's goals and policies related to improving access to destinations by pedestrians. Therefore, this impact would remain **significant and unavoidable.**

- Rosemead Boulevard and Foothill Boulevard (CMP ID #121) – in Scenario 2 (2035 No Project Alternative), this location is impacted in the PM peak hour. The mitigation measure identified for this location is the conversion of one northbound through lane to a shared through/right-turn lane.

This mitigation measure would degrade the pedestrian environment by creating two lanes of right-turning traffic that would conflict with pedestrians crossing the south and east legs of the intersection, inconsistent with the General Plan's goals and policies related to improving access to destinations by pedestrians. Therefore, this impact would remain **significant and unavoidable.**

7. CONCLUSION

This Transportation Analysis Report documents the future transportation conditions that can be reasonably expected to result from the implementation of the Pasadena General Plan Update. The Preferred General Plan and four land use alternatives were analyzed using the City's travel demand model; impacts related to the City's five adopted transportation performance measures and the Congestion Management Plan's arterial and freeway analysis methods were identified. **Table 16** summarizes the impacts for the five future scenarios.

The Preferred General Plan traffic analysis indicated significant and unavoidable impacts related to CMP Freeway and CMP Arterial analyses. No Preferred General Plan impacts were identified based on the City's five adopted transportation performance measures.

All future scenarios result in CMP Freeway impacts and all but Scenario 6 (Reduced Air Quality and Noise Impact) result in CMP Arterial impacts. Scenario 2 (No Project) results in a significant impact related to increased VMT per Capita relative to Existing conditions. None of the other performance measure analyses indicated significant transportation impacts in the future scenarios.

TABLE 16 – IMPACT SUMMARY

Scenario	VMT per Capita	VT per Capita	Proximity and Quality of Bicycle Network	Proximity and Quality of Transit Network	Pedestrian Accessibility	CMP Freeway	CMP Arterial
Scenario 2 – No Project	**Yes**	No	No	No	No	**Yes**	**Yes**
Scenario 3 – Preferred General Plan	No	No	No	No	No	**Yes**	**Yes**
Scenario 4 – Central District, South Fair Oaks, Lincoln Avenue	No	No	No	No	No	**Yes**	**Yes**
Scenario 5 – Efficient Transportation	No	No	No	No	No	**Yes**	**Yes**
Scenario 6 – Reduced Air Quality and Noise Impact	No	No	No	No	No	**Yes**	No

APPENDIX A:
PASADENA TRAVEL DEMAND FORECASTING MODEL DEVELOPMENT REPORT

APPENDIX B:
CITY OF PASADENA TRAVEL DEMAND FORECASTING MODEL UPDATE MEMO

Appendix E. Land Use Element Goals and Policies Changes

Appendix

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APPENDIX E
LAND USE ELEMENT GOALS AND POLICIES CHANGES

Goals & Policies Revisions

Revisions to the language of specific Goals and Policies were suggested by Commissions as well as by agencies throughout the Draft EIR public comment period. Additional changes were requested by the Planning Commission at the public hearing on July 22, 2015. These changes are summarized below.

Goals and Policies	Explanation of Change(s)
Goal 1: Policy 1.4 –Transfer of Development Capacities	• Modify title from 'Transfer' to 'Conversion' and remove reference to cumulative trips. Added '(d)' to ensure development capacity is not exceeded. Any conversion is subject to environmental review.
Goal 4: Policy 4.9 – Gateways	• Modify language to include references to distinctive engineering such as the Colorado Street Bridge, per comments by the Design Commission.
Goal 5: Policy 5.5 – Civic Open Space	• Refer directly to the Civic Center, and include a statement to respect concepts in the Bennett Plan
Goal 5: New Policy 5.7 – Pedestrian Connections	• Create policy per comments by the Design Commission and Transportation Advisory Commission calling for the support and enhancement of the pedestrian experience.
Goal 6: Sense of Place Narrative	• Update wording to reflect Pasadena's history, transportation system, distinct buildings and neighborhoods, all of which contribute to the City's sense of place.
Goal 6: Policy 6.1	• Include a reference to courtyards, paseos, and alleys per comment by Design Commission.
Goal 6.2	• Replace "sensitive" with "appropriate", replace "respect" with "complement"
Goal 7: Architectural Design	• Remove the word "some" and terms "traditional, creative, innovative" from Goal 7
Goal 8: Historic Preservation	• Replace the word "reminders" with "valued assets and important representations" per comment by Pasadena Heritage. • Remove a typographical error in Policy 8.6, as noted by Pasadena Heritage. • Rephrase Policy 8.9 based on comments by Pasadena Heritage. • Remove a typographical error in Policy 8.10, as noted by Pasadena Heritage.
Goal 18: Correlation of Land Use with Mobility	• Replace the phrase "with a car" to "without a car"

Goals and Policies	Explanation of Change(s)
Goal 36 (North Lake): Policy 36.5	• Added new Policy: Transitional Heights and Setbacks. Protect adjacent Low and Low-Medium residential areas north of Orange Grove Boulevard, which contain a number of locally and nationally recognized historic properties and districts, from the development of mixed use or residential projects by requiring appropriate transitional heights. Mixed use or residential projects proposed in these locations shall be limited to no more than three stories in height for those portions of the project abutting commercial streets, stepping down to no more than two stories in height abutting the Low and Low-Medium residential areas. Appropriate setbacks shall also be established in order to provide further protection.
Planning Commission	
Goal 4: Policy 4.13	• Added new Policy: Planned Developments. Incentivize high-quality, contextual, architectural design in Planned Developments through a discretionary process by allowing for a 15 percent increase in the allowable Floor Area Ratio for a project.
Goal 7: Architectural Design and Quality	• Replace “or” with “and” in the following sentence: “through traditional physical concepts (orientation, scale, materials ~~and~~ or non-physical concepts (cultural, climactic, economic)”
Goal 17: Education	• Move “a” from “a public education” and place it in front of “diverse educational system”.
Community Places: East Pasadena	• Remove, “excepting parcels north of Electronic Drive and Halstead, which would be limited to commercial uses.”

Appendix F. Refined Project Transportation Analysis

Appendix

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FEHR PEERS
Improving Communities Since 1985

MEMORANDUM

Date: August 5, 2015

To: Arthi Varma, Vicrim Chima & David Sinclair, City of Pasadena

From: John Muggridge and Jeff Pierson, Fehr & Peers

Subject: Refined Proposed Project Scenario – Transportation Performance Results

LA13-2631

The City of Pasadena has developed a refined version of the Proposed Project as part of the Proposed General Plan Update. These modified development caps in the refined scenario are a combination of the Proposed Project and the Central District, South Fair Oaks, Lincoln Avenue (CDSFOLA) Alternative. Fehr & Peers evaluated the new refined Proposed Project ("Refined Project") scenario using the Pasadena travel demand model and calculated updated transportation performance measures. The assumptions and results are included in this technical memo.

REFINED PROPOSED PROJECT SCENARIO

Table 1 shows the development caps from the Proposed Project that were analyzed in the EIR and the new Refined Project that is being recommended by the City. Note that the development caps include affordable housing units and pipeline development projects (projects that were previously approved but not yet built).

As compared to the Proposed Project, the Refined Project scenario includes residential development caps that were decreased in the Central District, South Fair Oaks, and East Pasadena specific plans and increased in the East Colorado and Lamanda Park Specific Plans. The net change in residential development is approximately 1,100 fewer dwelling units. As compared to the Proposed Project, the Refined Project scenario includes non-residential development caps that were decreased in the Central District, South Fair Oaks, and Lamanda Park specific plans and increased in the East Colorado specific plan. The net change in non-residential development is approximately 1.75 million less square feet of development.

TABLE 1: COMPARISON OF DEVELOMENT CAPS IN PROPOSED PROJECT AND REFINED PROJECT GENERAL PLAN LAND USE SCENARIOS

Specific Plan Area	Residential (dwelling units)		Non-residential (square feet)	
	Proposed Project	Refined Project	Proposed Project	Refined Project
Central District	6,147	5,444	3,846,649	2,561,847
South Fair Oaks	1,078	938	1,794,506	1,340,655
East Colorado	334	351	209,223	300,000
Lamanda Park	27	117	714,377	630,000
East Pasadena	1,442	1,090	1,107,875	1,107,875
North Lake	316	316	255,366	255,366
Fair Oaks / Orange Grove	323	323	308,984	308,984
Lincoln Ave	210	210	298,413	298,413
West Gateway	418	418	206,475	206,475
No Specific Plan	2,017	2,017	2,247,091	2,247,091
Total	**12,312**	**11,223**	**10,988,959**	**9,256,705**

City of Pasadena, 2015.

The parcel land use database was updated using the provided development caps to run the travel demand model and to calculate the transportation performance measures.

TRANSPORTATION PERFORMANCE MEASURES RESULTS

The required citywide transportation performance measures for the City of Pasadena are:

- Vehicle miles travelled (VMT) per capita
- Vehicle trips (VT) per capita
- Proximity and Quality of Bicycle Network
- Proximity and Quality of Transit Network
- Pedestrian Accessibility

Table 2 below shows the population, employment, vehicle miles travelled, and vehicle trips forecasts for the Refined Project in comparison to the Proposed Project analyzed in the EIR. The existing estimates are also included for reference. The Refined Project forecasts approximately 2,300 less population and 5,600 less employment citywide. The VMT per capita and VT per capita estimates are equal for both the Proposed Project and the Refined Project so no new impacts are identified.

TABLE 2: VEHICLE MILES TRAVELLED AND VEHICLE TRIPS PER CAPITA

Scenario	Population	Employment	VMT	VT	VMT per Capita	VT per Capita
2013 Existing	135,938	111,348	5,591,328	686,619	22.6	2.8
2035 Proposed Project	163,411	151,671	6,963,476	764,869	22.1	2.4
2035 Refined Project	161,180	146,141	6,804,532	752,143	22.1	2.4

Fehr & Peers, 2015.

Table 3 shows the total service population (population plus employment) as well as the percent of that service population within a quarter mile of Level 1, Level 2, and Level 3 bicycle facilities for the new Refined Project in comparison to existing conditions and the Proposed Project analyzed in the EIR. Compared to the previously analyzed Proposed Project, the Refined Project includes a slightly smaller percent of total service population within a quarter mile of a Level 1 or Level 2 facility (69.9% compared to 70.0%). There is no new impact, since the percent of service population within a quarter mile of Level 1 and Level 2 facilities is still substantially greater than under Existing conditions (31.7%).

TABLE 3: PROXIMITY AND QUALITY OF BICYCLE NETWORK

Scenario	Total Service Population	Level 1	Level 2	Level 3
2013 Existing	247,286	0.0%	31.7%	50.0%
2035 Proposed Project	315,082	15.2%	54.8%	20.4%
2035 Refined Project	307,321	14.8%	55.1%	20.4%

Fehr & Peers, 2015.

Table 4 shows the total service population (population plus employment) as well as the percent of that service population within a quarter mile of Level 1, Level 2, and Level 3 transit facilities for the new Refined Project in comparison to existing conditions and the Proposed Project analyzed in the EIR. Compared to the previously analyzed Proposed Project, the Refined Project includes a slightly smaller percent of total service population within a quarter mile of a Level 1 or Level 2 facility (72.4% compared to 72.9%). There is no new impact, since the percent of service population within a quarter mile of Level 1 and Level 2 facilities is still substantially greater than under Existing conditions (66.6%).

TABLE 4: PROXIMITY AND QUALITY OF TRANSIT NETWORK

Scenario	Total Service Population	Level 1	Level 2	Level 3
2013 Existing	247,286	36.6%	30.0%	20.4%
2035 Proposed Project	315,082	50.2%	22.7%	15.3%
2035 Refined Project	307,321	49.5%	22.9%	15.6%

Fehr & Peers, 2015.

Table 5 shows the Weighted Pedestrian Accessibility Score for the new Refined Project in comparison to existing conditions and the Proposed Project analyzed in the EIR. The Weighted Pedestrian Accessibility Score is equal for both the Proposed Project and the Refined Project. There is no new impact.

TABLE 5: PEDESTRIAN ACCESSIBILITY

Scenario	Weighted Pedestrian Accessibility Score
2013 Existing	3.9 (C)
2035 Proposed Project	5.1 (B)
2035 Refined Project	5.1 (B)

Fehr & Peers, 2015.

No new impacts for the Refined Project were identified across the five transportation performances measures.

CONGESTION MANAGEMENT PROGRAM (CMP) ANALYSIS RESULTS

The CMP analysis for the following three freeway and four arterial monitoring locations were updated for the new Refined Project:

- 1056. SR 134 west of San Rafael Avenue
- 1060. I-210 west of Route 134/710
- 1061. I-210 west of Rosemead Boulevard
- 119. Arroyo Parkway / California Boulevard
- 120. Pasadena Avenue / California Boulevard
- 120. St. John Avenue / California Boulevard
- 121. Rosemead Boulevard / Foothill Boulevard

The Refined Project generates smaller increases in traffic volumes compared with the Proposed Project analyzed in the EIR. However, the same locations are still impacted and no new impacts

were identified for the new Refined Project. The results are included in Table 6 below and Table 7 on the following page.

TABLE 6: CMP ANALYSIS RESULTS FOR FREEWAY MAINLINE SEGMENTS

CMP Station	Peak Hour	Dir	Lanes	Capacity	Volume	D/C	LOS	Change in D/C	Significant Impact
2013 Existing									
1056. SR 134 w/o San Rafael Ave	AM	EB	5	10,00	7,500	0.750	C	-	-
		WB	5	10,00	8,700	0.870	D	-	-
	PM	EB	5	10,00	8,700	0.870	D	-	-
		WB	5	10,00	8,300	0.830	D	-	-
1060. I-210 w/o Rte 134/710	AM	EB	4	8,000	5,600	0.700	C	-	-
		WB	4	8,000	4,300	0.538	B	-	-
	PM	EB	4	8,000	4,100	0.513	B	-	-
		WB	4	8,000	6,500	0.813	D	-	-
1061. I-210 w/o Rosemead Blvd	AM	EB	5	10,00	6,500	0.650	C	-	-
		WB	5	10,00	10,700	1.070	F(0)	-	-
	PM	EB	5	10,00	6,100	0.610	C	-	-
		WB	5	10,00	8,500	0.850	D	-	-
2035 Proposed Project									
1056. SR 134 w/o San Rafael Ave	AM	EB	5	10,00	8,600	0.860	D	0.110	No
		WB	5	10,00	9,600	0.960	E	0.090	No
	PM	EB	5	10,00	9,600	0.960	E	0.090	No
		WB	5	10,00	9,000	0.900	D	0.070	No
1060. I-210 w/o Rte 134/710	AM	EB	4	8,000	6,700	0.838	D	0.138	No
		WB	4	8,000	6,400	0.800	D	0.262	No
	PM	EB	4	8,000	5,900	0.738	C	0.225	No
		WB	4	8,000	8,500	1.063	F(0)	0.250	**Yes**
1061. I-210 w/o Rosemead Blvd	AM	EB	5	10,00	6,700	0.670	C	0.020	No
		WB	5	10,00	11,500	1.150	F(0)	0.080	**Yes**
	PM	EB	5	10,00	6,300	0.630	C	0.020	No
		WB	5	10,00	8,500	0.850	D	0.000	No
2035 Refined Project									
1056. SR 134 w/o San Rafael Ave	AM	EB	5	10,00	8,500	0.850	D	0.100	No
		WB	5	10,00	9,600	0.960	E	0.090	No
	PM	EB	5	10,00	9,600	0.960	E	0.090	No
		WB	5	10,00	8,900	0.890	D	0.060	No
1060. I-210 w/o Rte 134/710	AM	EB	4	8,000	6,600	0.825	D	0.125	No
		WB	4	8,000	6,400	0.800	D	0.262	No
	PM	EB	4	8,000	5,900	0.738	C	0.225	No
		WB	4	8,000	8,400	1.050	F(0)	0.237	**Yes**
1061. I-210 w/o Rosemead Blvd	AM	EB	5	10,00	6,700	0.670	C	0.020	No
		WB	5	10,00	11,400	1.140	F(0)	0.070	**Yes**
	PM	EB	5	10,00	6,300	0.630	C	0.020	No
		WB	5	10,00	8,500	0.850	D	0.000	No

Fehr & Peers, 2015.

TABLE 7: CMP ANALYSIS RESULTS FOR ARTERIAL INTERSECTIONS

Intersection	Peak Hour	V/C	LOS	Change in V/C	Significant Impact
2013 Existing					
119. Arroyo Parkway / California Boulevard	AM	0.674	B	-	-
	PM	0.811	D	-	-
120. Pasadena Avenue / California Boulevard	AM	0.956	E	-	-
	PM	0.904	E	-	-
120. St. John Avenue / California Boulevard	AM	0.773	C	-	-
	PM	0.688	B	-	-
121. Rosemead Boulevard / Foothill Boulevard	AM	0.698	B	-	-
	PM	0.862	D	-	-
2035 Proposed Project					
119. Arroyo Parkway / California Boulevard	AM	0.833	D	0.159	No
	PM	0.868	D	0.057	No
120. Pasadena Avenue / California Boulevard	AM	1.009	F	0.053	**Yes**
	PM	0.946	E	0.042	No
120. St. John Avenue / California Boulevard	AM	0.888	D	0.115	No
	PM	0.776	C	0.088	No
121. Rosemead Boulevard / Foothill Boulevard	AM	0.831	D	0.133	No
	PM	0.932	E	0.070	No
2035 Refined Project					
119. Arroyo Parkway / California Boulevard	AM	0.828	D	0.154	No
	PM	0.855	D	0.044	No
120. Pasadena Avenue / California Boulevard	AM	1.011	F	0.055	**Yes**
	PM	0.946	E	0.042	No
120. St. John Avenue / California Boulevard	AM	0.872	D	0.099	No
	PM	0.769	C	0.081	No
121. Rosemead Boulevard / Foothill Boulevard	AM	0.825	D	0.127	No
	PM	0.926	E	0.064	No

Fehr & Peers, 2015.

Appendix G. Land Use Diagram Revisions

Appendix

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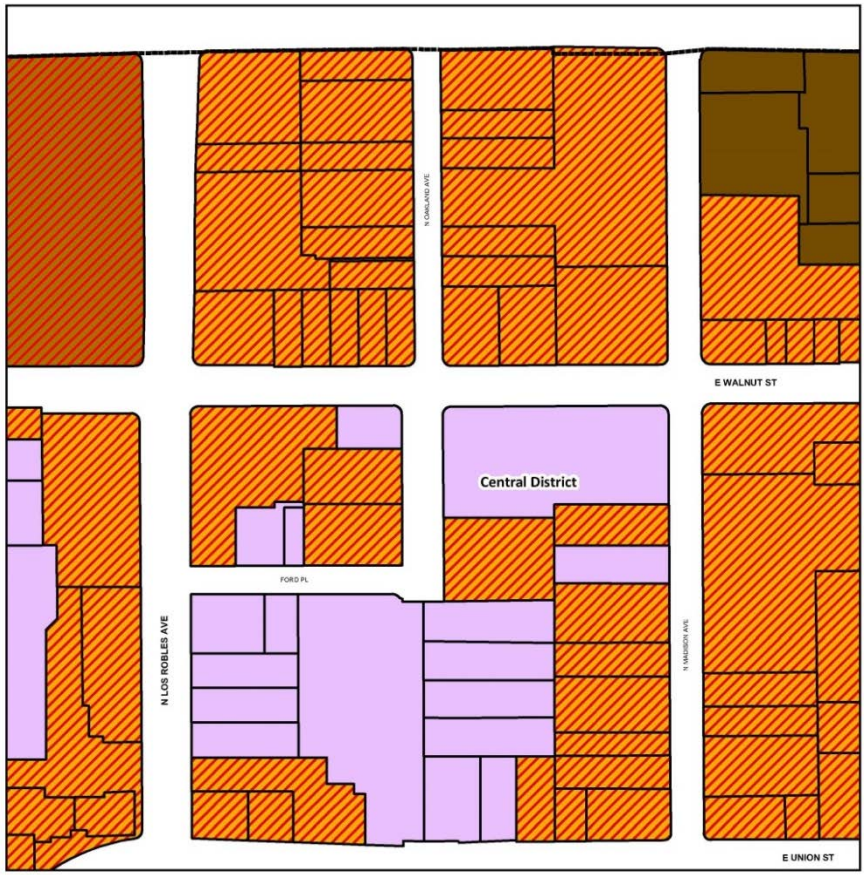
LAND USE DIAGRAM REVISIONS:
FULLER THEOLOGICAL UNION MASTER PLAN



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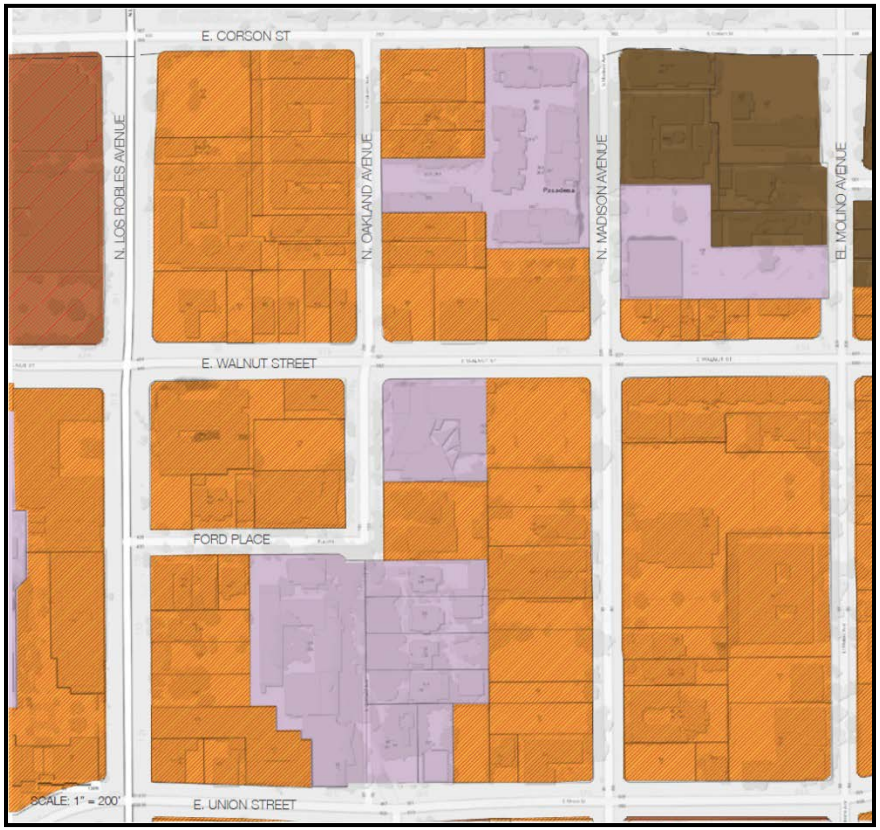
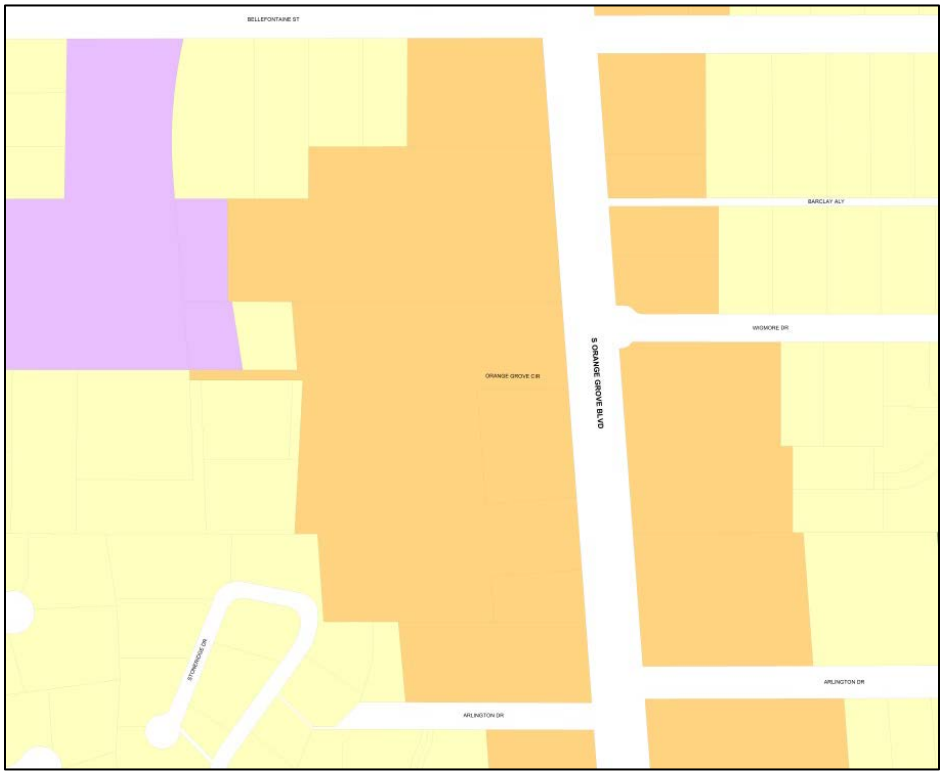


Modification

LAND USE DIAGRAM REVISIONS:
SOUTH ORANGE GROVE BOULEVARD (WEST SIDE, BELLEFONTAINE STREET TO ARLINGTON DRIVE)



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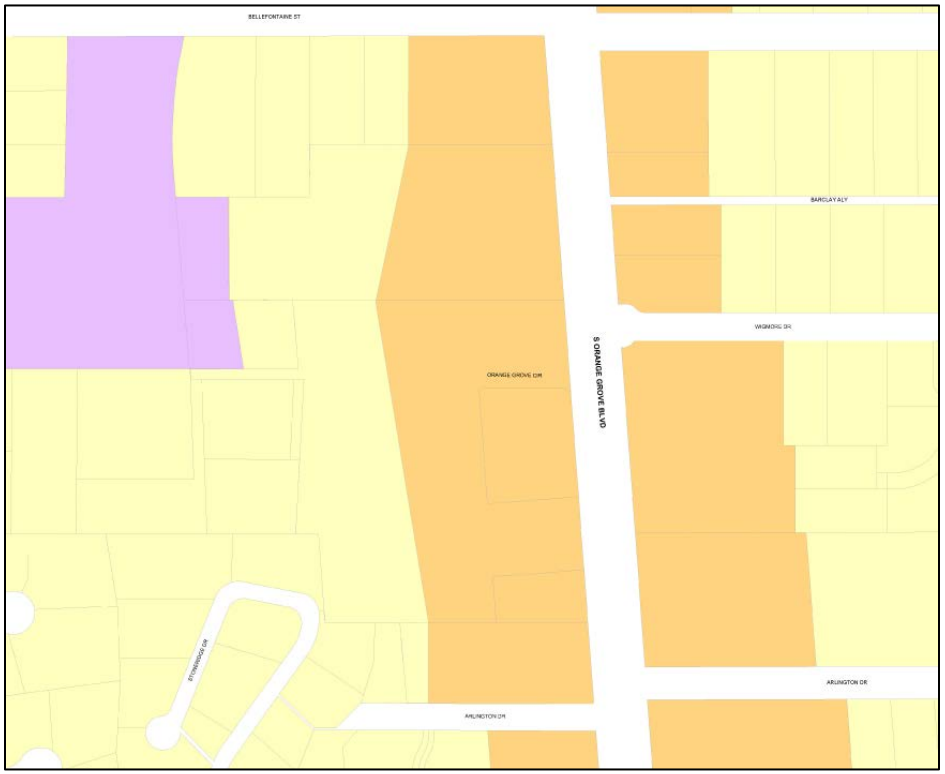
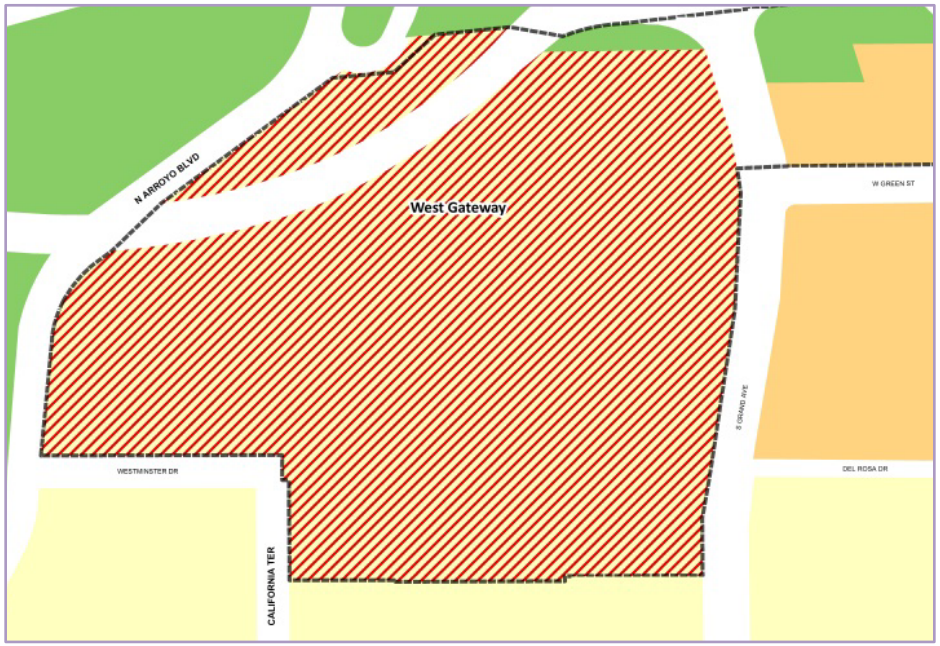


Modification

LAND USE DIAGRAM REVISIONS:
9TH CIRCUIT COURT OF APPEALS, VISTA DEL ARROYO, DESIDERIO



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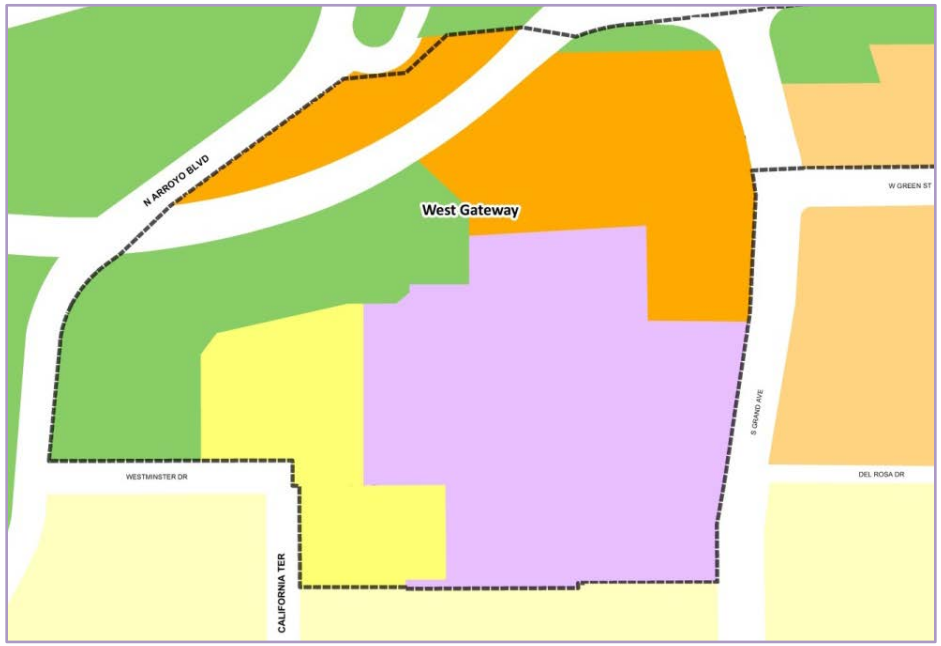
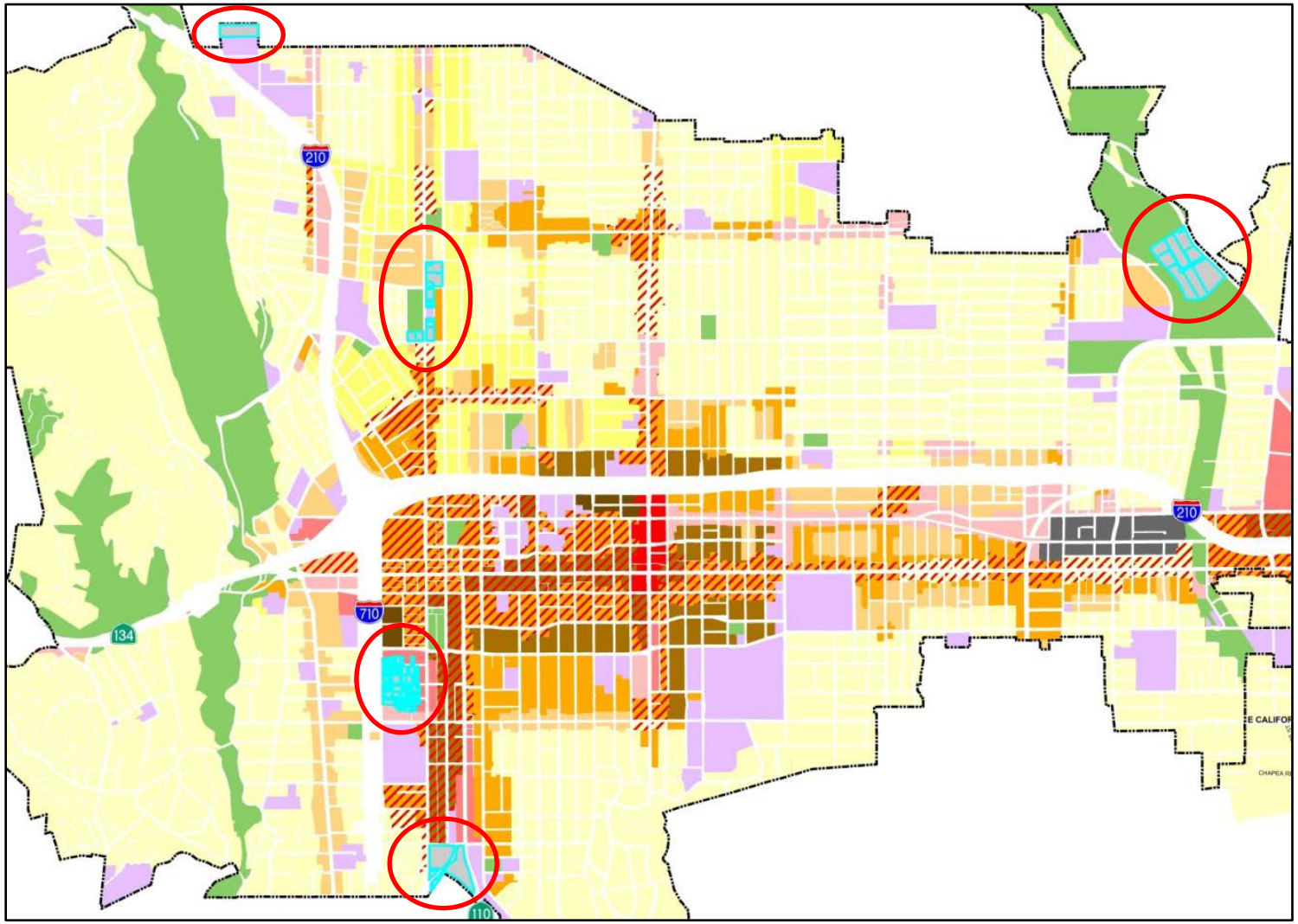
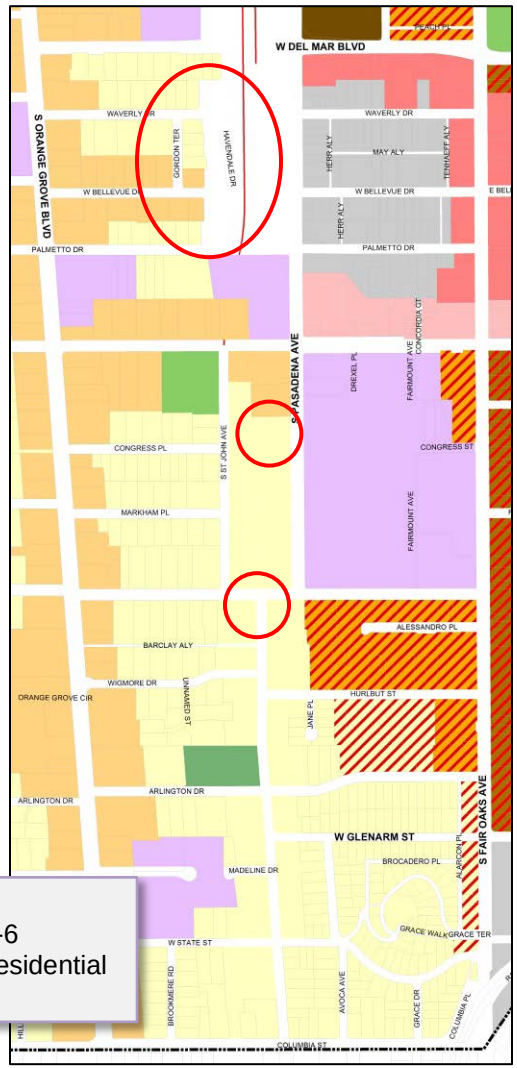


Modification

LAND USE DIAGRAM REVISIONS:
R&D FLEX SPACE (CITYWIDE)



LAND USE DIAGRAM REVISIONS:
710 RIGHT-OF-WAY



Studied in the DEIR:
Low Density Residential (0-6 DU/ac), Medium Density Residential (0-16 DU/ac), Institutional

Studied in DEIR

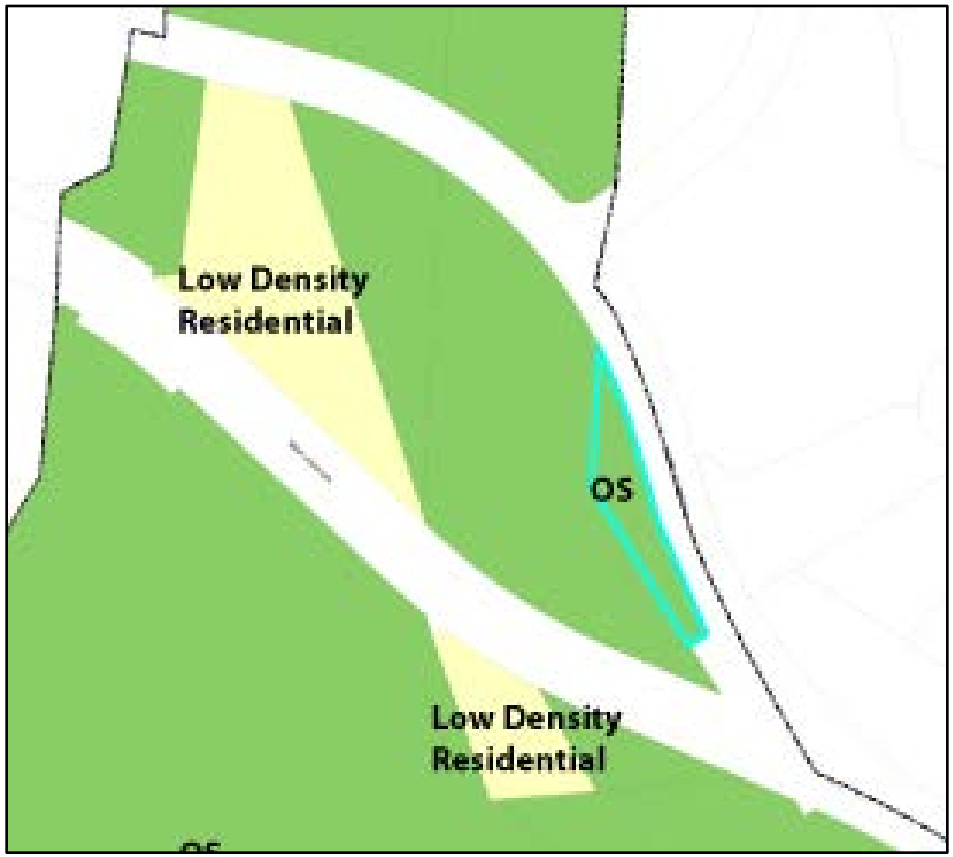
Modification

Proposal:
Continue single-family and multi-family designations from west to east.

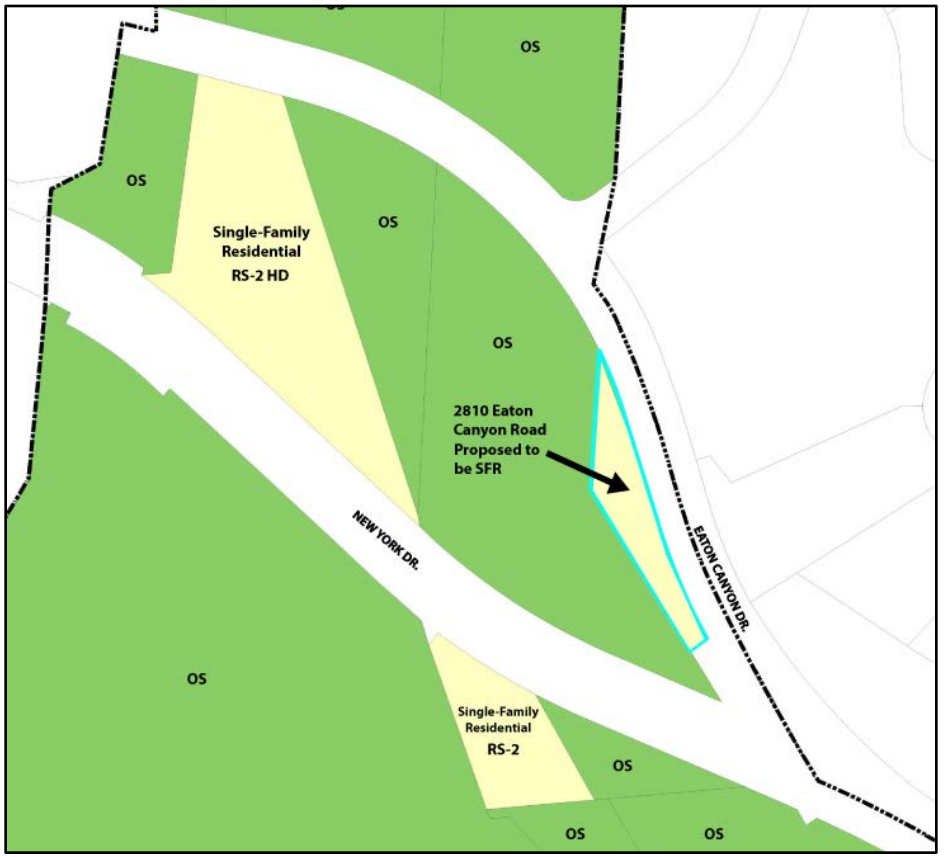
Proposal:
Designate Waverly School farm as Institutional.

Proposal:
Designate “Fork-in-the-Road” park as Open Space.

LAND USE DIAGRAM REVISIONS:
2810 EATON CANYON DRIVE



Studied in DEIR



Modification

LAND USE DIAGRAM REVISIONS:
3105 EAST SIERRA MADRE BOULEVARD

Studied in DEIR

Modification