5.13 TRANSPORTATION AND TRAFFIC

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the City of Pasadena General Plan (proposed General Plan Update) to result in transportation and traffic impacts in the City of Pasadena. The analysis in this section is based in part on the following technical report:


A complete copy of this study is included in the Technical Appendices to this Draft EIR (Appendix I).

5.13.1 Environmental Setting

5.13.1.1 EXISTING ROADWAY NETWORK

Pasadena has 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. Two main freeways that provide regional access 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. Figure 5.13-1, Study and Street Function, shows the locations of each of the street functions described below. The following describes the regional street system, and local streets:

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 (I-5) north of the city of Pacoima and continuing east before connecting with Interstate 10 (I-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 (I-110), the Harbor Freeway, which runs to San Pedro near the Ports of Los Angeles and Long Beach.

The City of Pasadena categorizes local streets by their use for mobility and access 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.
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- **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 along them, but access to those destinations needs to be balanced with their function of moving all modes efficiently between Pasadena’s districts or neighborhoods.

- **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.

### 5.13.1.2 EXISTING TRANSIT NETWORK

The City of Pasadena includes a wide-ranging public transportation system, including local bus services, regional bus routes, and light rail. Service is provided by Pasadena Area Rapid Transit System (ARTS), the Metropolitan Transportation Authority, the Los Angeles Department of Transportation (LADOT) Commuter Express, South Pasadena Gold Link, the Montebello Bus Lines, Foothill Transit, and the Glendale Beeline. The following describes the existing transit network, which is illustrated in Figure 5.13-2, *Existing Transit Network*.

**Pasadena Area Rapid Transit System**

The Pasadena 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 5.13-1.

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

Source: Fehr and Peers 2014.
5. Environmental Analysis
Figure 5.13-1

Study Area and Street Function

Legend

Functional Classification
- Freeway/Ramp
- Connector - City
- Connector - Neighborhood
- Access - Street
- Access - Alley
- Other Street

NOT TO SCALE

Source: Fehr & Peers, 2014
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5. Environmental Analysis

Figure 5.13-2

Existing Transit Network

Legend

<table>
<thead>
<tr>
<th>Transit Provider</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>LADOT Commuter Express</td>
<td>Blue</td>
</tr>
<tr>
<td>Foothill Transit</td>
<td>Green</td>
</tr>
<tr>
<td>Montebello Bus Lines</td>
<td>Purple</td>
</tr>
<tr>
<td>South Pasadena Gold Link</td>
<td>Yellow</td>
</tr>
<tr>
<td>Metro</td>
<td>Orange</td>
</tr>
<tr>
<td>Pasadena ARTS</td>
<td>Pink</td>
</tr>
<tr>
<td>Glendale Bee Line</td>
<td>Brown</td>
</tr>
<tr>
<td>City of Pasadena</td>
<td>Black</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, 2014
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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**

Metropolitan Transportation Authority (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 5.13-2 below.

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

Source: Fehr and Peers 2014.
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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 only 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.

5.13.1.3 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. 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.
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- **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.

- **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.

To provide connections to other transportation modes, Metro, ARTS, 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 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. Existing bicycle facilities are shown in Figure 5.13-3, *Existing Bicycle Network*.

### 5.13.1.4 PEDESTRIAN NETWORK

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.

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. In addition, six of the City’s specific plans also provide pedestrian-oriented guidelines for areas within the City of Pasadena. For example, sidewalk widths in the Central District are set at a minimum of 10–15 feet.

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

### 5.13.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project could:

- **T-1** Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation.
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including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

T-2 Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

T-3 Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

T-4 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

T-5 Result in inadequate emergency access.

T-6 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold T-3

This impact will not be addressed in the following analysis.

Transportation Performance Measures

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. The new performance measures were adopted to support the Mobility Element’s three main policy objectives, which are to (1) enhance livability, (2) encourage walking, biking, transit, and other alternatives to motor vehicles, and (3) create a supportive climate for economic viability.

The five categories of adopted transportation performance metrics are:

- Vehicle Miles Traveled (VMT) per Capita
- Vehicle Trips (VT) per Capita
- Proximity and Quality of Bike Facilities
- Proximity and Quality of Transit Facilities
- Pedestrian Accessibility
5. Environmental Analysis
Figure 5.13-3
Existing Bicycle Network

Legend

- Freeway/Ramp
- Class II Bike Lane
- Class III Bike route
- Class III Enhanced Bike Route
- Bike Boulevard
- Other Street
- City of Pasadena

Source: Fehr & Peers, 2014
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The transportation performance measures adopted by City Council, including the threshold established for determining a CEQA impact and the existing value of the metric are summarized in Table 5.13-3.

Table 5.13-3 Summary of Transportation Performance Measures

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
<th>Impact Threshold</th>
<th>Existing Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMT Per Capita</td>
<td>Vehicle Miles Traveled (VMT) in the City of Pasadena per service population (population + jobs)</td>
<td>Any increase over existing Citywide VMT per Capita</td>
<td>22.6 VMT per capita</td>
</tr>
<tr>
<td>VT Per Capita</td>
<td>Vehicle Trips (VT) in the City of Pasadena per service population (population + jobs)</td>
<td>Any increase over existing Citywide VT per Capita</td>
<td>2.8 VT per capita</td>
</tr>
<tr>
<td>Proximity and Quality of Bicycle Network</td>
<td>Percent of service population (population plus jobs) located within a quarter mile of each of three bicycle facility types</td>
<td>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</td>
<td>31.7% of population and jobs</td>
</tr>
<tr>
<td>Proximity and Quality of Transit Network</td>
<td>Percent of service population (population plus jobs) located within a quarter mile of each of three transit facility types</td>
<td>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</td>
<td>66.6% of population and jobs</td>
</tr>
<tr>
<td>Pedestrian Accessibility</td>
<td>The Pedestrian Accessibility Score uses the mix of destinations and a network-based walk-shed to evaluate walkability</td>
<td>Any decrease from the existing Citywide Pedestrian Accessibility Score</td>
<td>C – 3.9 land use types</td>
</tr>
</tbody>
</table>

Source: Fehr and Peers 2014.

5.13.3 Environmental Impacts

Methodology

The following describes the methodology used to assess transportation impacts based on the transportation performance measures shown in Table 5.13-3.

- **VMT per Capita.** This 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. To calculate VMT per Capita, 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 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.

- **VT per Capita.** This 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
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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. To calculate VT per Capita, the City’s VT is then divided by the City’s total service population. 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.

- **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:
  - **Level 1**, Advanced Facilities includes bike paths, multipurpose paths, and cycle tracks/protected bike lanes.
  - **Level 2**, Dedicated Facilities includes buffered bike lanes, bike lanes, and bike boulevards.
  - **Level 3**, Basic Facilities includes bike routes, enhanced bike routes, and emphasized bikeways.

  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.

- **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 plus jobs) within a quarter mile of each of three transit facility types, as defined in the Draft Streets Types Plan, as follows:
  - **Level 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.
  - **Level 2** includes corridors with transit headways of between six and fifteen minutes in peak periods.
  - **Level 3** includes corridors with transit headways of sixteen minutes or more in peak periods.

  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.

- **Pedestrian Accessibility**: The Proximity and Quality of Pedestrian Environment provides a measure of the average walkability in the traffic analysis zone (TAZ) surrounding Pasadena residents, based on a
Weighted Pedestrian Accessibility Score (PAS). The PAS 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. Grade “A” would have eight land use types accessible to a Pasadena resident or worker in a given traffic analysis zone (TAZ) within a 5-minute walk; grade “B” greater than or equal to five land use types and less than eight land use types, grade “C” greater than or equal to two land use types and less than five land use types; and grade “D” greater than or equal to zero land use types and less than two land use types.

The City can improve the Proximity and Quality of Pedestrian Environment scores by measures such as encouraging residential development in areas with high existing PASs; encouraging commercial development in areas with high existing PASs; and attracting mixed development and new land use types to increase the Pedestrian Accessibility metric values of adjacent areas.

**Congestion Management Program**

The Congestion Management Program (CMP) was adopted by Metro, the local CMP agency, in October 2010. The intent of the CMP is to provide the analytical basis for transportation decisions through the Statewide Transportation Improvement Program (STIP) process. The STIP process is a multi-year capital improvement program for transportation projects on and off the State Highway System. The CMP includes all State highways and principal arterials within the County and monitors the network's congestion. It requires the 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. 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.

In accordance with the CMP guidelines, freeway (mainline) operating conditions must be evaluated during peak periods. 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 is presented in Table 5.13-4.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Demand-to-Capacity (D/C) Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.00-0.35</td>
</tr>
<tr>
<td>B</td>
<td>&gt;0.35-0.54</td>
</tr>
<tr>
<td>C</td>
<td>&gt;0.54-0.77</td>
</tr>
<tr>
<td>D</td>
<td>&gt;0.77-0.93</td>
</tr>
<tr>
<td>E</td>
<td>&gt;0.93-1.00</td>
</tr>
<tr>
<td>F(0)</td>
<td>&gt;1.00-1.25</td>
</tr>
<tr>
<td>F(1)</td>
<td>&gt;1.25-1.35</td>
</tr>
<tr>
<td>F(2)</td>
<td>&gt;1.35-1.45</td>
</tr>
<tr>
<td>F(3)</td>
<td>&gt;1.45</td>
</tr>
</tbody>
</table>


According to the CMP traffic analysis guidelines, the project would have a significant CMP impact if the 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).

**Analysis Scenarios**

A total of six land use scenarios were analyzed in the traffic analysis report prepared by Fehr & Peers and included in Appendix I of this EIR. Four of these scenarios were analyzed as alternatives in Section 7 of this EIR. This analysis compares impacts of buildout of the proposed General Plan Update to existing conditions. Table 5.13-5 presents a comparison of land use, population, and employment totals between the existing and proposed conditions.

Buildout of the proposed General Plan Update assumes programmed improvements in local roadways, bikeways, transit service, and implementation of travel demand management (TDM) 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
### Table 5.13-5 Land Use Scenario Comparison

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Units</th>
<th>Existing</th>
<th>General Plan Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family</td>
<td>DU</td>
<td>21,438</td>
<td>21,166</td>
</tr>
<tr>
<td>Multi Family</td>
<td>DU</td>
<td>36,000</td>
<td>48,815</td>
</tr>
<tr>
<td>Senior DU</td>
<td>DU</td>
<td>2,203</td>
<td>1,972</td>
</tr>
<tr>
<td>Total DU</td>
<td>DU</td>
<td>59,641</td>
<td>71,953</td>
</tr>
<tr>
<td>Lodging</td>
<td>KSF</td>
<td>1,185</td>
<td>1,525</td>
</tr>
<tr>
<td>Retail</td>
<td>KSF</td>
<td>7,178</td>
<td>10,577</td>
</tr>
<tr>
<td>Personal Services</td>
<td>KSF</td>
<td>578</td>
<td>779</td>
</tr>
<tr>
<td>Restaurant</td>
<td>KSF</td>
<td>849</td>
<td>1,029</td>
</tr>
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<td>Entertainment</td>
<td>KSF</td>
<td>1,340</td>
<td>1,186</td>
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<tr>
<td>Automotive Related</td>
<td>KSF</td>
<td>1,432</td>
<td>904</td>
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<tr>
<td>Office</td>
<td>KSF</td>
<td>13,624</td>
<td>22,440</td>
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<td>Medical Office</td>
<td>KSF</td>
<td>1,078</td>
<td>2,081</td>
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<tr>
<td>Government Office</td>
<td>KSF</td>
<td>1,012</td>
<td>1,026</td>
</tr>
<tr>
<td>Hospital</td>
<td>KSF</td>
<td>2,092</td>
<td>2,284</td>
</tr>
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<td>Religious Facilities</td>
<td>KSF</td>
<td>1,966</td>
<td>1,796</td>
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<td>Cultural</td>
<td>KSF</td>
<td>703</td>
<td>783</td>
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<tr>
<td>Police and Fire</td>
<td>KSF</td>
<td>130</td>
<td>88</td>
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<td>Park &amp; Recreational</td>
<td>Acres</td>
<td>833</td>
<td>836</td>
</tr>
<tr>
<td>Industrial</td>
<td>KSF</td>
<td>4,569</td>
<td>2,226</td>
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<tr>
<td>Utility Facilities</td>
<td>Acres</td>
<td>125</td>
<td>110</td>
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<tr>
<td>Population</td>
<td>People</td>
<td>135,938</td>
<td>163,411</td>
</tr>
<tr>
<td>Employment</td>
<td>Jobs</td>
<td>111,348</td>
<td>151,671</td>
</tr>
<tr>
<td>Service Population²</td>
<td>People</td>
<td>247,286</td>
<td>315,082</td>
</tr>
</tbody>
</table>

Source: Fehr and Peers 2014  
Notes: DU = Dwelling Units; KSF = Thousand Square Feet; Service Population = Population + Employment

Bicycle improvements are also presented in Figure 5.13-4, *Future Bicycle Network*. Transit improvements assume that all Pasadena ARTS buses will run at 10-minute headways during peak periods and the expansion of the Gold Line Phase 2 from Pasadena to Azusa and Montclair will be constructed. 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.

The analysis also assumes implementation of Pasadena’s 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 Appendix I of this DEIR (Appendices A and B of...
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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

**Impact 5.13-1:** Implementation of the General Plan Update would not conflict with the City’s plans, ordinances, or policies establishing measures of effectiveness for the performance of the complete circulation system and complies with adopted policies, plans, and programs for alternative transportation. [Thresholds T-1 and T-6]

**Impact Analysis:** The following summarizes the results of the five performance measures defined above for the existing and the General Plan Update scenarios.

**VMT per Capita and VT per Capita**

Under existing conditions, the City’s service population of 247,286 drives 5,591,328 vehicle miles (VMT) and makes 686,619 vehicle trips (VT) daily, equivalent to 22.6 VMT per capita and 2.8 VT per capita. Under the General Plan Update, both VMT per capita and VT per capita are lower than under existing conditions. Under the General Plan Update, service population increases by 27 percent, while VMT and VT increase by only 25 percent and 19 percent, respectively. The resulting VMT per Capita is 22.1 and the VT per capita is 2.6, which is a reduction compared to existing conditions and is less than the thresholds. Therefore, no significant adverse impact is anticipated under the General Plan Update. Table 5.13-6 summarizes the citywide per-capita VMT and VT results.

<table>
<thead>
<tr>
<th>Table 5.13-6</th>
<th>VMT and VT per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario</td>
<td>Population</td>
</tr>
<tr>
<td>Existing</td>
<td>135,938</td>
</tr>
<tr>
<td>General Plan</td>
<td>163,411</td>
</tr>
</tbody>
</table>

Source: Fehr and Peers 2014.
5. Environmental Analysis

Figure 5.13-4

Future Bicycle Network

Bicycle Facilities Hierarchy

Level 1 - Advanced Facilities
Includes Bike Paths (P1), Multipurpose Paths (PP), Cycle Tracks/Protected Bike Lanes

Level 2 - Dedicated Facilities
Includes Buffered Bike Lanes, Bike Lanes (2, P2), Bike Boulevards (BB)

Level 3 - Basic Facilities
Includes Bike Routes (3, P3), Enhanced Bike Routes (E3, PE3), Emphasized Bikeways (PEB)

Source: Fehr & Peers, 2014
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Proximity and Quality of Bicycle Network

A percentage of the City’s service population within a quarter mile of each of three bicycle facility types provides a measure of the Proximity and Quality of Bicycle Network. Table 5.13-7 summarizes the service population and percent of total service population within a quarter mile of Level 1, Level 2, and Level 3 bicycle facilities. The General Plan Update would experience a substantial increase in higher-quality bicycle facility coverage relative to existing conditions, resulting from the future improvements included in the proposed Mobility Element update, as illustrated in Figure 5.13-4. Under the General Plan Update, the percent of total service population within a quarter mile of Level 1 or 2 bicycle facilities increases (improves) from 0 percent to 15 percent for Level 1 and 32 percent to 55 percent for Level 2. Overall, 90 percent of the service population would have access to Levels 1, 2, and 3 under the General Plan Update compared to 82 percent under existing conditions. This is primarily due to this increase in bicycle facilities, but also due to increased land use densities near existing bicycle facilities. In addition, the City would be improving and expanding bike facilities by providing increased high-quality bike facilities. No significant adverse impact is anticipated under the General Plan Update.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Total Service Population</th>
<th>Level 1 Service Population</th>
<th>Percent of Total</th>
<th>Level 2 Service Population</th>
<th>Percent of Total</th>
<th>Level 3 Service Population</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>247,286</td>
<td>-</td>
<td>0%</td>
<td>78,415</td>
<td>32%</td>
<td>123,670</td>
<td>50%</td>
</tr>
<tr>
<td>General Plan Update</td>
<td>315,082</td>
<td>48,043</td>
<td>15%</td>
<td>172,756</td>
<td>55%</td>
<td>64,216</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: Fehr and Peers 2015.

Proximity and Quality of Transit Network

A percentage of the City’s service population within a quarter mile of each of three transit facility types provides a measure of the Proximity and Quality of Transit Network. The General Plan Update would experience a substantial increase in higher-quality transit service coverage relative to existing conditions, resulting from the decrease in peak headways on all ARTS buses. Table 5.13-8 summarizes the service population and percent of total service population within a quarter mile of Level 1, Level 2, and Level 3 transit facilities. Under the General Plan Update, the percent of total service population within a quarter mile of Level 1 or 2 transit facilities increases (improves) from 37 percent to 50 percent for Level 1 and decreases from 30 percent to 23 percent for Level 2. However, overall 88 percent of the service population would have access to Levels 1, 2, or 3 under the General Plan Update compared to 87 percent under existing conditions. This is primarily due to the increase in service population, but also due to increased land use densities near existing high-frequency transit service. Since the General Plan Update would increase the percent of service population within a quarter mile of Level 1 and 2 facilities (from 67 percent to 73 percent), no significant adverse impacts would result.
5. Environmental Analysis
TRANSPORTATION AND TRAFFIC

Table 5.13-8 Proximity and Quality of Transit Network

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Total Service Population</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Service Population</td>
<td>Percent of Total</td>
<td>Service Population</td>
</tr>
<tr>
<td>Existing</td>
<td>247,286</td>
<td>90,600</td>
<td>37%</td>
<td>74,298</td>
</tr>
<tr>
<td>General Plan Update</td>
<td>315,082</td>
<td>158,321</td>
<td>50%</td>
<td>71,413</td>
</tr>
</tbody>
</table>

Source: Fehr and Peers 2014.

Pedestrian Accessibility

The Weighted Pedestrian Accessibility Score (PAS) is a service population-weighted average of the TAZ-level PASs throughout the City. For existing conditions, the weighted PAS is 3.9 (receiving a grade C). A significant impact would occur if there were a decrease in PAS from existing conditions. The General Plan Update scores 5.1 (grade B), reflecting improved PAS. This increase is primarily related to an increased diversity of land uses in development areas. No significant adverse impact would occur.

Summary

Implementation of the General Plan Update would result in improved transportation conditions for all performance measures. This supports the Mobility Element’s main policy objectives to enhance livability, encourage non-motorized and transit modes of travel, and create a climate for economic viability. In addition, the General Plan Update includes several policies that promote a diversity of land uses and promote the development of infrastructure improvements to support transit, bicycle and pedestrian travel. No significant adverse impacts would occur.

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 circulation improvements there would be a significant impact.
Impact 5.13-2: General Plan Buildout trip generation would result in designated road and/or highways exceeding county congestion management agency service standards. [Threshold T-2]

Impact Analysis: The following provides an analysis of impacts to CMP arterial intersection and freeways resulting from buildout of the General Plan Update.

Freeway Segment Analysis

Freeway segment volumes based on model data were used to analyze impacts to three mainline CMP freeway monitoring locations identified within the City of Pasadena along the SR 134 and I-210 freeways:

- Route 134, at postmile R12.09, west of San Rafael Avenue
- Route 210, at postmile R23.55, west of 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. As described in Section 5.13-2 above, the project would have a significant impact related to the CMP if buildout of the General Plan Update would increase traffic demand on a CMP facility by 2% of capacity ($V/C \geq 0.02$), 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 ($V/C \geq 0.02$).

Table 5.13-9 shows the results of the CMP analysis for mainline segments under existing conditions and Table 5.13-10 shows the results of the CMP analysis under General Plan Update conditions. The General Plan Update results in significant impacts to two freeway segments. One impacted location, westbound I-210 west of Rosemead Blvd, is operating at LOS F under existing conditions during the AM peak hour. The General Plan Update 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. The traffic increases would cause that location to operate at LOS F (0).
### 5. Environmental Analysis

#### TRANSPORTATION AND TRAFFIC

### Table 5.13-9  
**CMP Analysis Results for Freeway Mainline Segments, Existing Conditions**

<table>
<thead>
<tr>
<th>CMP Station</th>
<th>Peak Hour</th>
<th>Dir</th>
<th>Lanes</th>
<th>Capacity</th>
<th>Volume</th>
<th>DIC</th>
<th>LOS</th>
<th>Change in DIC</th>
<th>Significant Impact?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1056</td>
<td>AM</td>
<td>EB</td>
<td>5</td>
<td>10,00</td>
<td>7,500</td>
<td>0.75</td>
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<tr>
<td></td>
<td></td>
<td>WB</td>
<td>5</td>
<td>10,00</td>
<td>8,700</td>
<td>0.87</td>
<td>D</td>
<td></td>
<td>No</td>
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<tr>
<td></td>
<td>PM</td>
<td>EB</td>
<td>5</td>
<td>10,00</td>
<td>8,700</td>
<td>0.87</td>
<td>D</td>
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<td>No</td>
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<tr>
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<td></td>
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<td>5,600</td>
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<td></td>
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<td>8,000</td>
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<td>6,500</td>
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<td>6,500</td>
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<td></td>
<td></td>
<td>WB</td>
<td>5</td>
<td>10,00</td>
<td>10,700</td>
<td>1.07</td>
<td>F(0)</td>
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<td></td>
<td>PM</td>
<td>EB</td>
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<td>6,100</td>
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<td></td>
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<td>8,500</td>
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</table>

*Source: Fehr and Peers, 2014.*

### Table 5.13-10  
**CMP Analysis Results For Freeway Mainline Segments, General Plan Update**

<table>
<thead>
<tr>
<th>CMP Station</th>
<th>Peak Hour</th>
<th>Dir</th>
<th>Lanes</th>
<th>Capacity</th>
<th>Volume</th>
<th>DIC</th>
<th>LOS</th>
<th>Change in DIC</th>
<th>Significant Impact?</th>
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</thead>
<tbody>
<tr>
<td>1056</td>
<td>AM</td>
<td>EB</td>
<td>5</td>
<td>10,00</td>
<td>8,600</td>
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<td>9,600</td>
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<td>PM</td>
<td>EB</td>
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<td>9,000</td>
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<td>EB</td>
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<td>8,000</td>
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<td>PM</td>
<td>EB</td>
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<td>WB</td>
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<td>8,500</td>
<td>0.85</td>
<td>D</td>
<td>0</td>
<td>No</td>
</tr>
</tbody>
</table>

*Source: Fehr and Peers, 2014.*

### Arterial Intersection Analysis

The following four CMP arterial monitoring stations (i.e., intersections) were evaluated using the CMA/Circular 212 method at four locations:

- 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)

Table 5.13-11 shows the results of the CMP arterial intersection analysis for existing conditions and Table 5.13-12 shows the results of the CMP arterial intersection analysis for buildout of the General Plan Update. Implementation of the General Plan Update would result in a significant project impact at the intersection of Pasadena Avenue at California Boulevard during the AM peak hour. Impacts at all other CMP intersections are less than significant.

### Table 5.13-11  CMP Analysis Results for Arterial Intersections, Existing Conditions

<table>
<thead>
<tr>
<th>CMP Intersection</th>
<th>Peak Hour</th>
<th>VIC</th>
<th>LOS</th>
<th>Change in VIC</th>
<th>Significant Impact?</th>
</tr>
</thead>
<tbody>
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<td>Arroyo Parkway / California Boulevard</td>
<td>AM</td>
<td>0.674</td>
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<td>-</td>
</tr>
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<td></td>
<td>PM</td>
<td>0.811</td>
<td>D</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pasadena Avenue / California Boulevard</td>
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<td>0.956</td>
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<td></td>
<td>PM</td>
<td>0.904</td>
<td>E</td>
<td>-</td>
<td>-</td>
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<tr>
<td>St. John Avenue / California Boulevard</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>0.688</td>
<td>B</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rosemead Boulevard / Foothill Boulevard</td>
<td>AM</td>
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<td>B</td>
<td>-</td>
<td>-</td>
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<tr>
<td></td>
<td>PM</td>
<td>0.862</td>
<td>D</td>
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</table>

Source: Fehr & Peers, 2014

### Table 5.13-12  CMP Analysis Results for Arterial Intersections, 2035 General Plan Update Conditions

<table>
<thead>
<tr>
<th>CMP Intersection</th>
<th>Peak Hour</th>
<th>VIC</th>
<th>LOS</th>
<th>Change in VIC</th>
<th>Significant</th>
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<td>Arroyo Parkway / California Boulevard</td>
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<td>PM</td>
<td>0.868</td>
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<td>Pasadena Avenue / California Boulevard</td>
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<tr>
<td>St. John Avenue / California Boulevard</td>
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<td>C</td>
<td>0.088</td>
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<tr>
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<td>E</td>
<td>0.070</td>
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</tr>
</tbody>
</table>

Source: Fehr & Peers, 2014

**Impact 5.13-3:** Project circulation improvements would be designed to adequately address potentially hazardous conditions (sharp curves, etc.), potential conflicting uses, and emergency access. [Thresholds T-4 and T-5]

**Impact Analysis:** Buildout of the proposed General Plan Update would result in some changes to the City's circulation network. The General Plan Update would result in improvements to the regional and local roadway, bicycle, pedestrian, and transit network.
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An evaluation of the roadway alignments, intersection geometrics, and traffic control features will be required as improvements occur and have been designed. Roadway improvements would have to be made in accordance with the City’s Mobility Plan, roadway functional design guidelines, and design guidelines included in the California Manual of Uniform Traffic Control Devices (MUTCD) and the Caltrans Roadway Design Manual. All future roadway system improvements associated with development and redevelopment activities under the General Plan Update would be designed in accordance with the established roadway design standards, some of which have also been incorporated into the proposed Mobility Element. These improvements will be subject to review and future consideration by the City of Pasadena, Department of Transportation. Implementation of the General Plan would not result in hazardous conditions, create conflicting uses, or cause a detriment to emergency vehicles access. In addition, future land use development projects would be analyzed in detail at the project level for site access during the approval process.

Buildout of the proposed General Plan Update would result in some changes to the City’s circulation network, but would not increase hazards or impact emergency access due to design features. Impacts would be less than significant, and no mitigation would be required. Policy 1.7 directs the City to design streets to achieve safe interaction for all modes of travel, particularly for pedestrian and bicycle users. Policy 1.8 directs the City to improve safety for all modes by developing and coordinating between the Police Department and Pasadena Department of Transportation the implementation of traffic management, education, and enforcement initiatives. Policy 1.10 directs the City to continuously evaluate the operation of the City’s transportation system to manage the speed of travel at or below the speed limit, manage queues at intersections and develop improvements to increase safety of all transportation services.

In summary, with application of standard design guidelines and implementation of Policies 1.7, 1.8, and 1.10 described above, implementation of the project would not result in hazardous conditions or conflict with emergency access.

5.13.4 Relevant General Plan Policies

Proposed

Land Use Element

- **Policy 5.1: Walkable City.** Maintain and improve sidewalks and pedestrian paths in Pasadena’s neighborhoods and business districts by incorporating street trees, landscaping, and pedestrian-oriented amenities.

- **Policy 5.4: Community Connectivity.** Improve corridors crossing the 210 Freeway to accommodate safe and convenient walking and bicycling with landscape, trees, street furniture, and other amenities. This will improve the visual and physical connectivity of neighborhoods to the north and south. Consider the feasibility for constructing a landscaped deck over the freeway as an open space amenity and as a means of improving the connections between neighborhoods on either side of the 210 freeway.
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- **Policy 10.19: Sustainable Transportation Network.** Implement an integrated network of transit, bike facilities, and pedestrian improvements as specified by the Mobility Element to reduce automobile trips and commute lengths, with corresponding reductions in energy consumption, pollution, and GHG emissions.

- **Policy 18.1: Development Mix and Densities.** Accommodate the mix and density of land uses and urban form that induce walking, bicycling, and transit use as an alternative to the automobile, as specified by the Land Use Diagram.

- **Policy 18.2: Mobility.** Correlate land use development intensities with adequate infrastructure improvements and transportation strategies to ensure mobility in all areas of Pasadena.

- **Policy 18.3: Modal Choices.** Promote the development of infrastructure supporting walking, bicycling, and transit use and complete streets as specified by the Mobility Element.

- **Policy 18.4: Transit-Pedestrian Coordination.** Implement physical improvements facilitating pedestrian access from development projects to the street, bus stops, and/or transit stations.

- **Policy 18.5: Land Use-Mobility Compatibility.** Manage vehicle traffic volumes and speeds to improve their compatibility with the character of the adjacent land uses, the function of the street(s), and bicycle and pedestrian traffic.

- **Policy 18.6: Relationship of Buildings to Transit Stops.** Require that building entrances or accessways be oriented toward transit stops when located adjacent to these facilities.

- **Policy 19.5: Bicycle Parking.** Accommodate the development of bicycle parking centers in the Central District, Transit Villages, and Neighborhood Villages and require larger development projects to incorporate secured and convenient bicycle parking facilities.

- **Policy 29.4: Bicycle Facilities.** Provide adequate bicycle facilities within one mile of Metro Gold Line station areas and throughout Transit Villages.

- **Policy 31.5: Transit Options.** Increase the network of transit, walking, and bicycling opportunities between sub-areas within the Central District through expanded services, additional rights of way/pathways with corresponding signage.

- **Policy 35.10: Mobility Choices.** Redesign Lincoln Avenue to accommodate a mix of mobility choices including walking, bicycling, and transit in addition to the automobile.

- **Policy 36.5. Accessibility.** Design Lake Avenue and Washington Boulevard as complete streets that accommodate transit, bicycle, and pedestrian use. Include wider sidewalks, public plazas, parks and parklets, bike lanes, and bicycle parking.
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Mobility Element

- **Policy 1.1.** Encourage connectivity and accessibility to a mix of land uses that meet residents' daily needs within walking distance.

- **Policy 1.2.** Promote greater linkages between land uses and transit, as well as non-vehicular modes of transportation to reduce vehicular trip related emissions.

- **Policy 1.3.** Recognize the distinctive transportation needs of the community and deliver appropriate transportation services developed through public outreach programs.

- **Policy 1.4.** Develop system management strategies that elevate accessibility, livability and a healthy community.

- **Policy 1.5.** Consider the transportation needs of the disabled, students and especially seniors.

- **Policy 1.6.** Continue to invest in information technology to help improve access to all transportation choices.

- **Policy 1.7.** Design streets to achieve safe interaction for all modes of travel particularly for pedestrians and bicycle users.

- **Policy 1.8.** Improve safety for all modes by developing and coordinating between the Police Department and the Transportation Department the implementation of traffic management, education and enforcement initiatives.

- **Policy 1.9.** Support local and regional air quality, sustainability, and GHG emission reduction goals through management of the City's transportation network.

- **Policy 1.10.** Continuously evaluate the operation of the City's transportation system to manage the speed of travel at or below the speed limit, manage queues at intersections and develop improvements to increase safety of all transportation services.

- **Policy 1.11.** Design Streets to reflect individual neighborhood character and needs, and support healthy activities such as walking and bicycling.

- **Policy 1.12.** Apply traffic management measures to manage vehicular speeds as a function of designated street type to ensure safe and orderly movement of all modes of travel.

- **Policy 1.13.** Implement traffic measures developed through the Neighborhood Traffic Management Program (NTMP) to control the speed and volume of traffic to reduce traffic impacts in neighborhoods.

- **Policy 1.14.** Promote safe travel in neighborhoods and coordinate with the Pasadena Police Department to enforce traffic regulations with particular attention given to sensitive uses such as schools, senior centers, hospitals, community service facilities, and parks.
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- **Policy 1.15.** Provide programs, transit and traffic management services, residential parking management, and bicycle improvements that are compatible with neighborhood needs and are developed in collaboration with the community.

- **Policy 1.16.** Support mobility performance measures which support the City’s sustainability goals.

- **Policy 1.17.** Design streets to improve access to destinations by transit, bicycle and walking.

- **Policy 1.18.** Increase walking and bicycling to local destinations and regional transportation services by developing wayfinding signage for pedestrians and bicyclists.

- **Policy 1.19.** Develop measures to reduce conflict areas for bicyclist such as driveways and right turn lanes.

- **Policy 1.20.** Develop measures that would reduce conflicts between cyclists and pedestrians on sidewalks in commercial areas.

- **Policy 1.21.** Inform and involve neighborhood residents in transportation programs such as the Suggested Safe Routes to School Program to help ensure that students can safely walk or bicycle to and from school.

- **Policy 1.22.** Minimize street and intersection widening to facilitate pedestrian crossings and protect historic resources and open space.

- **Policy 1.23.** Improve public health by supporting walking and bicycling throughout the city.

- **Policy 1.24.** Ensure predictable transit travel times by providing traffic signal system priority measures.

- **Policy 1.25.** Assess ways to improve availability of transit for underserved populations

- **Policy 1.26.** Continue to coordinate with other governmental agencies in the area, including municipalities, SCAG, MTA and the San Gabriel Council of Governments to address issues of mutual concern related to the transportation system.

- **Policy 1.27.** Provide an ongoing review of emergency operations plans and provisions to ensure that the City’s program for emergency transportation services is coordinated with other local and regional jurisdictions and incorporates updated procedures and programs as appropriate.

- **Policy 1.28.** Coordinate transportation services and programs with all City departments.

- **Policy 1.29.** Coordinate transportation options for major community and commercial events to increase transit access, ridesharing and bicycle access and parking options.

- **Policy 1.30.** 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.
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- **Policy 1.31.** Emphasize transportation projects and programs that will contribute to a reduction in vehicles miles traveled per capita, while maintaining economic vitality and sustainability.

- **Policy 1.32.** Implement parking management and enforcement programs to protect residential and commercial areas from spillover parking impacts.

- **Policy 2.1.** Continue to support the construction of the Gold Line Foothill Extension transit service and the expansion and use of regional and local bus transit service.

- **Policy 2.2.** Seek funding to enhance accessibility by increasing routes, frequency and hours of operation for Pasadena’s transit system throughout the community.

- **Policy 2.3.** Provide convenient safe and accessible transit stops.

- **Policy 2.4.** Facilitate coordination between transit providers to improve seamless transit service.

- **Policy 2.5.** Develop and maintain a comprehensive and integrated system of reduced stress bikeways and increase bicycle parking at destinations to promote bicycle riding as a mode of transportation.

- **Policy 2.6.** Continue to strengthen the marketing and promotion of non-auto transportation to residents, employees and visitors.

- **Policy 2.7.** Support neighborhood walk-to-school efforts.

- **Policy 2.8.** Maintain existing and identify new opportunities for biking infrastructure.

- **Policy 2.9.** Ensure that secure and convenient bicycle parking at destinations. Explore bicycle share programs or any other bicycle programs that will provide greater access to bicycles for visitors and those that may not own a bicycle.

- **Policy 2.10.** Amend the existing transportation impact fee to include pedestrian and bicycle improvements.

- **Policy 2.11.** Implement a citywide car sharing system to support the Mobility Element objectives.

- **Policy 3.1.** Manage curb-space parking to support neighborhood protection and economic vitality.

- **Policy 3.2.** Manage traffic speeds on neighborhood streets to reduce cut-through traffic.

- **Policy 3.3.** Expand the Traffic Management Center (TMC) capabilities to provide priority treatment and monitoring of transit vehicles and to provide additional traveler information services.

- **Policy 3.4.** Increase the availability of customer parking in commercial areas by supporting Travel Demand Management programs to reduce employee commute trips.
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- **Policy 3.5.** Continue to impose Trip Reduction Ordinance (TRO) requirements for regulated new development.

- **Policy 3.6.** Collaborate with the business community to encourage truck deliveries to be made in off-peak hours especially in areas where nearby residents would be affected. This policy must be consistent with provisions of the City’s noise ordinance.

- **Policy 3.7.** Limit the intrusion of commercial truck traffic on City streets by directing truck traffic to the city’s designated truck routes and coordinating with the Pasadena Police Department to enforce related regulations on local streets.

- **Policy 3.8.** Examine ways to maintain and better utilize existing private and public parking structures through shared parking opportunities and advanced traveler information services to direct parkers to available spaces.

- **Policy 3.9.** Enforce regulations that prohibit parking of commercial, recreational, and non-operable vehicles in residential areas, including the staging of taxi services.

- **Policy 3.10.** Support public and private efforts to implement the Pasadena Streetcar

- **Policy 3.11.** Participate in interagency reviews of the construction of the I-710 tunnel.

5.13.5 Existing Regulations and Standard Conditions

- Pasadena Municipal Code, Title 10, *Vehicles and Traffic* (Traffic code of the City of Pasadena)


5.13.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.13-1 and 5.13-3.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.13-1.** Implementation of the General Plan Update would result in improved transportation conditions for all performance measures and would support the Mobility Element’s main policy objectives to enhance livability, encourage non-motorized and transit modes of travel, and create a climate for economic viability. The citywide bicycle and pedestrian improvements and the regional I-710 tunnel project are assumed improvements at buildout.

- **Impact 5.13-2.** The project would result in a significant impact in CMP Freeway Mainline Segments and CMP arterial intersections.
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5.13.7 Mitigation Measures

Impact 5.13-1

The City of Pasadena shall update its existing transportation impact fee program by 2020. The City shall prepare a “Nexus” Study that will serve as the basis for requiring development impact fees under AB 1600 legislation, as codified by California Code Government Section 66000 et seq. The established procedures under AB 1600 require that a “reasonable relationship” or nexus exist between the traffic improvements and facilities required to mitigate the traffic impacts of new development pursuant to the proposed project. After approval of the Nexus Study, the City shall update the transportation impact fee program to fund all citywide circulation improvements, including the pedestrian and bicycle network. The fee program shall stipulate that fees are assessed when there is new construction or when there is an increase in square footage within an existing building or the conversion of existing square footage to a more intensive use. Fees are calculated by multiplying the proposed square footage or dwelling unit by the rate identified. The fees are included with any other applicable fees payable at the time the building permit is issued. The City will use the development fees to fund construction (or to recoup fees advanced to fund construction).

Impact 5.13-2

Mitigation measures were considered for the freeway and arterial CMP impacts identified above. The mitigation measures were determined to be infeasible for the reasons set forth below. 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 General Plan goals and policies regarding walking, bicycling, transit use, transit-oriented development, and TDM would improve mobility within the City.

Freeway Mainline Segments

- **Route 210, at postmile R23.55, w/o Routes 134/710** – 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.
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- **Route 210, at postmile R29.72, Rosemead Boulevard** – 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.

**Arterial Intersections**

- **Pasadena Avenue and California Boulevard (CMP ID #120)** – 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.

- **Rosemead Boulevard and Foothill Boulevard (CMP ID #121)** – in Scenarios 2, 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.

**5.13.8 Level of Significance After Mitigation**

**Impact 5.13-1**

Implementation of Mitigation Measure 13-1 would ensure that citywide improvements are funded through the City's transportation impact fee program, thereby reducing impacts to a less than significant level.

**Impact 5.13-2**

There are no feasible mitigation measures available to reduce impacts to CMP freeway segments and arterial intersections to below a level of significance. For the reasons stated above, improvements to freeway segments require an additional mainline travel lane, which either requires removal of a left hand shoulder resulting in substandard freeway conditions or there is insufficient existing right-of-way. Increasing automobile capacity through roadway widening is also inconsistent with the General Plan's goals and policies. Mitigation for Pasadena Avenue and California Boulevard would require conversion of one westbound through lane to a shared through/right-turn lane. Mitigation for Rosemead Boulevard and Foothill Boulevard would require the conversion of a northbound through lane to a shared through/right-turn lane. As discussed above, these mitigation measures would degrade the pedestrian environment and are inconsistent with the proposed General Plan's goals and policies related to improving access to destinations by pedestrians.

The mitigation measures identified above would reduce impacts to CMP facilities but are not considered feasible and are in conflict with proposed General Plan goals and policies. In addition, improvements to the I-
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210 are within the responsibility and jurisdiction of another agency, Caltrans. The City of Pasadena cannot control whether the I-210 improvements would be approved or implemented. Therefore, impacts at CMP facilities would be significant and unavoidable.

5.13.9 References