



## 5.2 Traffic/Circulation

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## 5.2 TRAFFIC/CIRCULATION

This section is based upon the *Tenth Street Center Industrial Park Traffic Report* (Traffic Report), dated April 2014, prepared by Stantec Consultants, included as Appendix 13.3, *Traffic Report*. The purpose of the *Traffic Report* is to evaluate development of the proposed project from a traffic and circulation standpoint. This analysis considers impacts on local intersections and regional transportation facilities. Mitigation measures are recommended, if necessary, to avoid or reduce project impacts on traffic and circulation.

### 5.2.1 EXISTING SETTING

#### EXISTING ROADWAY SYSTEM

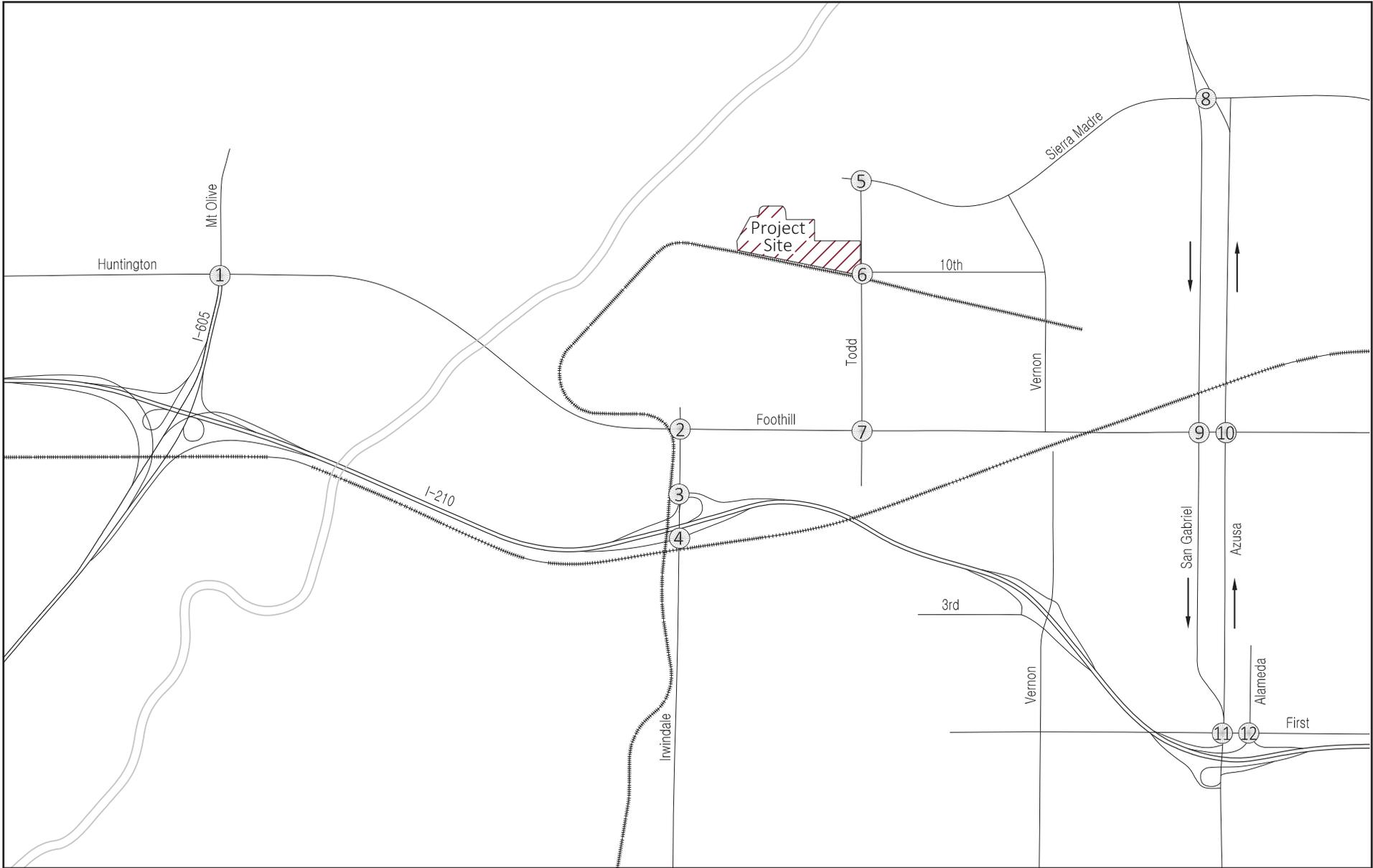
##### Intersections

The locations of the study intersections are listed below, along with the local jurisdictions in which they are located; refer to Exhibit 5.2-1, *Location of Study Intersections*. Jurisdictions that are included within the study area include the City of Azusa, City of Irwindale, City of Duarte, County of Los Angeles, and the California Department of Transportation (Caltrans). For affected facilities located on the border of two or more jurisdictions, multiple jurisdictions are listed:

1. I-605/Mount Olive and Huntington Avenue – City of Duarte, Caltrans
2. Irwindale Avenue/Foothill Boulevard – City of Irwindale
3. Irwindale Avenue/I-210 westbound on & off ramps – City of Irwindale, Caltrans
4. Irwindale Avenue/I-210 eastbound on & off ramps – City of Irwindale, Caltrans
5. Todd Avenue/Foothill Boulevard – City of Azusa
6. San Gabriel Avenue/Sierra Madre Avenue – City of Azusa
7. Azusa Avenue/Sierra Madre Avenue – City of Azusa
8. San Gabriel Avenue/Foothill Boulevard – City of Azusa
9. Azusa Avenue/ Foothill Boulevard – City of Azusa
10. Azusa Avenue/First Street – City of Azusa, Caltrans
11. I-210 westbound on and off ramps/Alameda Avenue and First Street – City of Azusa, Caltrans

##### Regional/Local Roadways

The larger San Gabriel Valley has regional vehicle access provided by the Interstate 210 Foothill Freeway (I-210), I-10 San Bernardino Freeway (I-10), and State Route 60 Pomona Freeway (SR-60). Sub-regional north-south access is provided by the Interstate 605 San Gabriel River Freeway (I-605). The study area roadway network includes interchanges along I-210 (at Irwindale Avenue and Azusa Avenue). To the west of the study area, access to I-605 is provided at Live Oak Avenue (to/from the north) and Arrow Highway (to/from the south). The primary roadways within the study area are described below.



Source: Stantec, 2014.



- *Irwindale Avenue.* Irwindale Avenue is a north-south arterial roadway with a striped centerline. The roadway provides three travel lanes in each direction from Foothill Boulevard to Adelante Street and two travel lanes in each direction from Adelante Street to Arrow Highway. On-street parking is generally permitted on both sides of the roadway between 1st Street and Gladstone Street. The posted speed limit is 35 miles per hour (mph).
- *Foothill Boulevard.* Foothill Boulevard is an east-west arterial roadway that provides two travel lanes in each direction with a two-way continuous left-turn lane in the center. On-street parking is permitted along some segments of the roadway, but these areas are not contiguous. The posted speed limit is 45 mph.
- *Azusa Avenue.* Within the study area, Azusa Avenue is a northbound three-lane arterial roadway with a striped centerline. On-street parking is generally provided intermittently along the roadway. The posted speed limit is 35 mph.
- *1st Street.* Within the study area, 1st Street is an east-west secondary roadway providing two travel lanes in each direction with a striped centerline. On-street parking is generally prohibited along both sides of the roadway, and the posted speed limit is 35 mph.
- *San Gabriel Avenue.* Within the study area, San Gabriel Avenue is a one-way collector street (in the southbound direction) providing four travel lanes and street parking on both sides of the street. The posted speed limit is 35 mph.
- *Sierra Madre Avenue.* Sierra Madre Avenue is an east-west secondary arterial roadway that provides two travel lanes in each direction and intermittent left-turn lanes in the center. On-street parking is permitted along the majority of the roadway, and the posted speed limit is 40 mph.

## ANALYSIS METHODOLOGY

The methodologies used to perform the future traffic volume forecasts and the explicit traffic operations analysis as part of the *Traffic Report* are summarized in this section. The traffic impact analysis is based on potential impacts that would result from the increase in vehicle trips to and from the proposed project that would be generated by project implementation. For a detailed discussion of the analytical methodology, please refer to [Appendix 13.3, \*Traffic Report\*](#).

Traffic impacts from the proposed project were analyzed using weekday a.m. and p.m. peak period volumes at the study intersections. The *Traffic Report* follows the guidelines and policies of the City of Azusa for traffic impact studies. This analysis included the following:

1. Defining the study approach;
2. Determining the existing traffic conditions;
3. Forecasting the trip generation of the proposed land uses at the project site;
4. Assigning project-generated trips to the study area roadway system; and
5. Evaluating the impact of project's traffic increase at the study intersections.

The traffic analysis evaluates existing operating conditions at key study intersections within the project vicinity, estimates the trip generation potential of the proposed project, and forecasts short-



range future operating conditions with and without the proposed project. For a detailed discussion of the analytical methodology, refer to [Appendix 13.3](#).

The analysis of traffic impacts examines the following conditions:

1. Existing Conditions (Year 2013/2014);
2. Existing Plus Project Conditions (if project was open/operational today);
3. Short-Range Without Project Conditions (project opening year 2015 without project); and
4. Short-Range Plus Project Conditions (year 2015 traffic volumes plus project).

The year for the project operations analysis (Year 2015) was chosen based on the anticipated date of achievement of peak operations for the proposed project.

## Existing Conditions Methodology

The *Traffic Report* and this EIR section include a description of the existing roadway conditions and identify the existing traffic control and approach lane configuration at each intersection studied. In order to define existing traffic conditions at the study intersections, turning movement counts were collected from a variety of sources: existing volumes for the intersection of San Gabriel Avenue/Azusa Avenue at Sierra Madre Avenue were obtained from the Traffic Study prepared for the Target Redevelopment Project by The Mobility Group; existing volumes for the intersections of Irwindale Avenue at Foothill Boulevard, Irwindale Avenue at I-210 westbound ramps, and Irwindale Avenue at I-210 eastbound ramps were obtained from the Traffic Study prepared for the Azusa Material Recovery Facility and Transfer Station by KOA Corporation; existing volumes for the intersections of Todd Avenue at Foothill Boulevard, San Gabriel Avenue at Foothill Boulevard, Azusa Avenue at Foothill Boulevard, Azusa Avenue at First Street, and I-210 westbound ramp/Alameda Avenue at First Street were obtained from the Traffic Study prepared for the Foothill Transit Azusa Intermodal Parking Facility by KOA Corporation. These counts, collected in 2007, 2009 and 2011, were factored to 2013 levels based on one percent per year increase.<sup>1</sup> Existing traffic counts were also collected in 2013 by Traffic Data Services, Inc. that were utilized for the intersections of I-605/Mount Olive Drive at Huntington Drive, Todd Avenue at Sierra Madre Avenue, and Todd Avenue at Tenth Street. Count data represented weekday conditions during the a.m. peak period (7:00 a.m. to 9:00 a.m.) and the p.m. peak period (4:00 p.m. to 6:00 p.m.). The four highest consecutive 15-minute periods of traffic volumes from each of the intersection peak-hour counts were utilized to define the peak-hour of analysis.

Classification counts were conducted in order to acknowledge the presence of a sizeable proportion of trucks within the traffic stream at most of the study intersections. Passenger Car Equivalent (PCE) factors were provided for passenger cars, as well as two-, three-, and four-axle (heavy trucks) trucks. Passenger cars were factored by a PCE factor of 1.0, two-axle truck volumes were factored by a PCE factor of 1.5, three-axle trucks were factored by a PCE factor of 2.0, and four-axle trucks were factored by a PCE factor of 2.5. These factors are conservatively based on typical factors used in other area truck studies and the SCAG Heavy Duty Truck Model. Factors used for project-generated truck volumes are taken from warehousing and manufacturing rates, as those truck trips can be attributed directly to the proposed project. The traffic count summaries are provided in Appendix A of the *Traffic Report*.

<sup>1</sup> Stantec Consultants, *Tenth Street Center Industrial Park Traffic Report*, dated April 2014, included as [Appendix 13.3](#), *Traffic Report*.



## Short-Range Plus Project Methodology

For the analysis of background traffic during the 2015 project year, an annual traffic growth rate factor was utilized to provide for regional increases in traffic volumes, apart from local development projects. To apply this ambient growth rate to existing volumes, a conservative factor of 1.0 was utilized. This rate provided for a one percent per year ambient growth rate, and added trips that would be generated by approved and pending projects in the project vicinity to existing traffic volumes.<sup>2</sup>

In order to define regional traffic growth that would affect operations at the study intersections during the future analysis year of 2015, project traffic was added to future pre-project volumes. The project year was defined as 2015 based on the anticipated first year of full operations of the project. In order to define future background traffic growth from new trips generated from outside the study area (regional cut-through traffic, large projects in other cities, etc.), an ambient growth rate was applied to the future analysis.

This annual growth rate was defined in consultation with the City. The annual rate of one percent was utilized to increase existing (year 2013/2014) traffic volumes to future (year 2015) base/pre-project traffic volumes. Trips that would be generated from reasonably foreseeable and known planned development projects in the area (cumulative projects outlined in Section 4.0, *Basis of Cumulative Analysis*, of this EIR) were also added to the analysis network.

## Planned Development Projects Methodology

In addition to future ambient growth, traffic from cumulative projects (approved and pending) was considered before examining significant traffic impacts from the proposed project, as outlined in Section 4.0 of this EIR. Peak-hour trips that would be generated from each of the cumulative projects were computed based on the *Institute of Transportation Engineers (ITE) Trip Generation* (9<sup>th</sup> Edition).

## Project Trip Generation and Distribution Methodology

The project trip generation was calculated based on the proposed project, consisting of manufacturing, warehousing, and office space. The ITE manufacturing and warehousing trip rates assume office space of approximately 15 to 20 percent of the total square footage. The proposed office space comprises less than 10 percent of the total square footage; therefore, the office space was included in the manufacturing square footage to determine the trip generation. Application of the ITE trip rates result in total vehicle trips generated by the subject land use; however, the industrial nature of the proposed project would result in a significant amount of trucks, both two-axle delivery-type vans and large semi-tractor trailer trucks.

The PCE project trips presented above were distributed to the surrounding circulation system and assigned to the study intersections turning movements based on the general distribution presented in Figure 3-1 of the *Traffic Report*; refer to Appendix 13.3. Approximately 60 percent of the project trips are oriented toward the freeways, and approximately 10 percent are oriented toward the west,

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<sup>2</sup> Stantec Consultants, *Tenth Street Center Industrial Park Traffic Report*, dated April 2014, included as Appendix 13.3, *Traffic Report*.



15 percent toward the north and east, and 15 percent toward the south on arterial streets. This distribution was developed based on the locations and levels of development in relation to the location of the project site.

## Level of Service Methodology

Per the City’s traffic analysis guidelines, the Transportation Research Board Critical Movement Analysis (CMA) Circular 212 Planning methodology (CMA methodology) has been utilized to determine the Level of Service (LOS) at signalized intersections. The concept of roadway LOS under the CMA methodology is calculated as the volume of vehicles that pass through the facility divided by the capacity of that facility, or the volume-to-capacity (V/C) ratio. A facility is “at capacity” (V/C of 1.00 or greater) when extreme congestion occurs. The V/C ratio value is based upon volumes by lane, signal phasing, and approach lane configuration.

The LOS values range from LOS A to LOS F. LOS A indicates excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay; refer to Table 5.2-1, *Definitions of Level of Service for Signalized Intersections*. LOS is typically defined as the operating “capacity” of a roadway. The City of Azusa defines LOS D as the worst acceptable operating condition.

**Table 5.2-1  
Definitions of Level of Service for Signalized Intersections**

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 - 0.600	Primarily free-flow operations at average travel speeds, usually about 90 percent of free flow speed. Vehicles can maneuver unimpeded within the traffic stream. Delay at signalized intersections is minimal.
B	0.601 - 0.700	Reasonable unimpeded operations at average travel speeds, usually about 70 percent of the free flow speed. Ability to maneuver is only slightly restricted and delays at signalized intersections are not significant.
C	0.701 – 0.800	Stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted. Longer queues, adverse signal coordination, or both may contribute to lower average speeds of about 50 percent of the free flow speed.
D	0.801 – 0.900	Borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of the free flow speed.
E	0.901 – 1.00	Characterized by significant delays and average travel speeds of 33 percent or less of the free flow speed. Such operations are caused by a combination of high volumes, high number of traffic signals, lack of signal coordination, extensive delays at critical intersections, and inappropriate signal timing.
F	Greater than 1.000	Characterized by urban street flow at extremely low speeds, typically one third to one fourth of the free flow speed. Intersection congestion is likely at critical signalized locations, with high delay, high volumes, and extensive queuing.

Source: City of Azusa, *General Plan EIR*, 2004.



## HIGHWAY CAPACITY ANALYSIS FOR FREEWAY RAMP INTERSECTIONS

### Congestion Management Program

The Congestion Management Program (CMP) was created statewide as a result of Proposition 111 and is implemented locally by the Los Angeles County Metropolitan Transportation Authority (Metro). The CMP for Los Angeles County requires that the traffic impact of individual development projects of potentially regional significance be analyzed.

A specific system of arterial roadways plus all freeways comprise the CMP system. Per CMP Transportation Impact Analysis (TIA) Guidelines, a traffic impact analysis is conducted where:

- At CMP arterial monitoring intersections, including freeway on-ramps or off-ramps, where the proposed project would add 50 or more vehicle trips during either a.m. or p.m. weekday peak hours.
- At CMP mainline freeway-monitoring locations, where the project would add 150 or more trips, in either direction, during the either the a.m. or p.m. weekday peak hours.

### Highway Capacity Analysis for Freeway Ramp Intersections

In conformance with the current *Caltrans Guide for the Preparation of Traffic Impact Studies*, existing and projected peak hour operating conditions at the following three state-controlled study intersections within the study area have been evaluated using the Highway Capacity Manual (HCM) method for signalized intersections:

- I-605/Mount Olive and Huntington Drive (City of Duarte);
- Irwindale Avenue/I-210 westbound on- and off-ramps (City of Irwindale);
- Irwindale Avenue/I-210 eastbound on- and off-ramps (City of Irwindale); and
- I-210 westbound on- and off-ramps/Alameda Avenue and First Street (City of Azusa).

Caltrans advocates use of HCM intersection analysis methodology to analyze the operation of signalized intersections. The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle as shown in Table 5.2-2, *State Highway Intersection LOS and Delay Ranges*. Level of service is based on the average stopped delay per vehicle for all movements of signalized intersections. Caltrans considers the acceptable performance to be LOS C for freeway ramp intersections; however, Caltrans does not specify impact criteria. Therefore, for the Caltrans intersections, a significant impact is defined as an increase of three seconds or more at an intersection that reaches LOS D or an increase of two seconds or more at an intersection that reaches LOS E or F consistent with the City's impact criteria.



**Table 5.2-2**  
**State Highway Intersection LOS and Delay Ranges**

LOS	Delay (in seconds)
	Signalized Intersections
A	< 10.0
B	> 10.0 to ≤ 20.0
C	> 20.0 to ≤ 35.0
D	> 35.0 to ≤ 55.0
E	> 55.0 to ≤ 80.0
F	> 80.0

Source: Stantec Consultants, *Traffic Report*, April 2014.

## EXISTING INTERSECTION LEVELS OF SERVICE

### Azusa, Irwindale, and Duarte

Table 5.2-3, *Existing Peak Hour Levels of Service – Azusa, Irwindale, and Duarte*, summarizes the existing peak hour LOS for the study intersections.

**Table 5.2-3**  
**Existing Peak Hour Levels of Service – Azusa, Irwindale, and Duarte**

Study Intersections		Existing 2013/2014 Conditions			
		A.M. Peak Hour		P.M. Peak Hour	
		V/C	LOS	V/C	LOS
1	I-605/Mount Olive Avenue and Huntington Drive	0.83	D	0.97	E
2	Irwindale Avenue and Foothill Boulevard	0.82	D	0.88	D
3	Irwindale Avenue and I-210 westbound on- and off-ramps	0.56	A	0.59	A
4	Irwindale Avenue and I-210 eastbound on- and off-ramps	0.83	D	0.72	C
7	Todd Avenue and Foothill Boulevard	0.81	D	0.61	B
8a	San Gabriel Avenue and Sierra Madre Avenue	0.47	A	0.40	A
8b	Azusa Avenue and Sierra Madre Avenue	0.38	A	0.32	A
9	San Gabriel Avenue and Foothill Boulevard	0.67	B	0.57	A
10	Azusa Avenue and Foothill Boulevard	0.67	B	0.63	B
11	Azusa Avenue and First Street	0.74	C	0.65	B
12	I-210 westbound on and off-ramps/Alameda Avenue and First Street	0.72	C	0.74	C

Source: Stantec Consultants, *Traffic Report*, April 2014.



As indicated in Table 5.5-3, one intersection (I-605/Mount Olive Avenue and Huntington Drive) currently operates at an unacceptable LOS E during PM peak hour; all other study intersections are currently operating at an acceptable LOS (LOS D or better) during the AM and PM Peak hours.

## State Highway

Table 5.2-4, *Existing Peak Hour Levels of Service – State Highway*, summarizes the existing peak hour LOS of the State Highway study intersections, and stop-controlled intersections, as suggested by Caltrans per HCM methodology. As indicated in Table 5.2-4, two State Highway study intersections currently operate at LOS D or worse, and two local intersections (stop-controlled) operate at LOS D or worse during the AM and PM Peak hours based on Caltrans performance criteria. All other State Highway study intersections are currently operating at an acceptable LOS (LOS C or better) during the AM and PM Peak hours.

**Table 5.2-4  
Existing Peak Hour Levels of Service – State Highway**

Study Intersections		Existing 2013/2014 Conditions			
		A.M. Peak Hour		P.M. Peak Hour	
		V/C	LOS	V/C	LOS
1	I-605/Mount Olive Avenue and Huntington Drive	57 sec	E	70 sec	E
3	Irwindale Avenue and I-210 westbound on- and off-ramps	9 sec	A	8 sec	A
4	Irwindale Avenue and I-210 eastbound on- and off-ramps	42 sec	D	24 sec	C
5	Todd Avenue and Sierra Madre Avenue <sup>1</sup>	26 sec	D	10 sec	B
6	Todd Avenue and Tenth Street <sup>1</sup>	21 sec	C	33 sec	D
12	I-210 westbound on and off-ramps/Alameda Avenue and First Street	21 sec	C	17 sec	B

Source: Stantec Consultants, *Traffic Report*, April 2014.

1. Stop-controlled intersection. ICU methodology only applies to signalized intersections; therefore, HCM delay methodology was used for these intersections.

## EXISTING TRANSIT SERVICE

The project area is primarily served by bus transit lines operated by Foothill Transit. Lines within the study area are described below.

- *Foothill Transit Route 185*. Provides service from Hacienda Heights to Azusa via Irwindale Avenue/Sunset Avenue, and Glendora Avenue. Route 185 extends through the study area, with a stop at Foothill Boulevard and San Gabriel Avenue.
- *Foothill Transit Route 187*. Provides transit service from Pasadena to Montclair via Foothill Boulevard, Huntington Drive, and Colorado Street. Within the study area, Route 187 extends along Foothill Boulevard with a stop at Foothill Boulevard and Azusa Avenue.



- Foothill Transit Route 494. Provides transit service from El Monte to San Dimas via Peck Road, Huntington Drive, Foothill Boulevard, and Lone Hill Avenue. Within the study area, Route 494 primarily extends along Foothill Boulevard, with stops at the Foothill Boulevard/Azusa Avenue intersection, and the Foothill Boulevard/Barranca Avenue intersection.

## EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Sidewalks are provided on the southern side of Foothill Boulevard, trending in the eastbound direction; the north side of Foothill Boulevard, however, is devoid of sidewalks from Todd Avenue to Irwindale Avenue (except for the Foothill Boulevard/Irwindale Avenue intersection). In the immediate vicinity of the project site, sidewalks are provided intermittently along both sides of North Todd Avenue. There are no bikeways immediately adjacent to the project site. The nearest designated bikeway is the San Gabriel River Bike Trail (Class I Bike Route), located adjacent to the project site to the west.

### 5.2.2 REGULATORY SETTING

#### CALIFORNIA DEPARTMENT OF TRANSPORTATION

Caltrans publishes a document entitled *Guide for the Preparation of Traffic Impact Studies*, which provides guidelines and recommended elements of traffic studies for projects that could potentially impact state facilities such as State Route highways and freeway facilities. This is a State-level document that is used by each of the Caltrans District offices, including District 7 in Los Angeles County.

The Guide defines when traffic studies should be conducted to address impacts to state facilities, but does not define quantitative impact standards. The Guide states that Measures of Effectiveness (MOEs) are used to evaluate Caltrans facilities, and that the agency strives to maintain a LOS value of C on its facilities. The Guide states, however, that the appropriate target LOS varies by facility and congestion level, and is defined differently by Caltrans depending on the analyzed facility. In most congested areas of Los Angeles County, Caltrans is primarily concerned with facilities operating at LOS F.

#### LOS ANGELES COUNTY

#### METROPOLITAN TRANSPORTATION AUTHORITY (METRO)

Metro is responsible for the continuous improvement of an efficient and effective transportation system for the County of Los Angeles. Metro's service area covers approximately 1,433 square miles. State statute requires that a congestion management program be developed, adopted, and updated biennially for every county that includes an urbanized area and shall include every city and the county government within that county. As the Congestion Management Agency for Los Angeles County, Metro is responsible for implementing the CMP for the County.

Since the CMP became effective with the passage of Proposition 111 in 1990, it has become an effective tool in linking transportation, land use, and air quality decisions for the County. The CMP addresses the impact of local growth on the regional transportation system. Statutory elements of the CMP include Highway and Roadway System monitoring, multi-modal system performance



analysis, the Transportation Demand Management Program, the Land Use Analysis Program, and local conformance for all the County's jurisdictions.

## CONGESTION MANAGEMENT PLAN

Pursuant to Proposition 111, every county in California is required to develop a Congestion Management Program (CMP) that examines the relationships between land use, transportation, and air quality. The CMP addresses the impact of local growth on the regional transportation system. Proposition 111 also established a nine percent per gallon gas tax, staged over a five-year period, for the purpose of funding transportation-related improvements statewide. In order to be eligible for the revenues associated with Proposition 111, the CMP legislation (originally AB 471, amended by AB 1791) requires that a CMP be developed, adopted, and updated biennially for every county that includes an urbanized area and shall include every city and the county government within that county. Statutory elements of the CMP include Highway and Roadway System monitoring, multi-modal system performance analysis, the Transportation Demand Management Program, the Land Use Analysis Program, and local conformance for all the county's jurisdictions.

As the Congestion Management Agency for Los Angeles County, Metro is responsible for implementing Los Angeles County's CMP. Metro serves as Los Angeles County's transportation planner and coordinator, designer, builder and operator.

The purpose of the CMP is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use and air quality planning programs throughout the County. The program is consistent with that of the Regional Transportation Plan (RTP) prepared by the Southern California Association of Governments (SCAG). The CMP program requires review of significant individual projects, which might on their own impact the CMP transportation system.

According to the 2010 CMP (Los Angeles County Metropolitan Transportation Authority), those proposed projects, which meet the following criteria, shall be evaluated:

- All CMP arterial monitoring intersections, including monitored freeway on- or off-ramp intersections, where the proposed project would add 50 or more trips during either the a.m. or p.m. weekday peak hours (of adjacent street traffic).
- Mainline freeway monitoring locations where the Project would add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

There are two intersections defined as CMP locations in the study are:

- San Gabriel Avenue/Foothill Boulevard intersection; and
- Azusa Avenue/Foothill Boulevard intersection.



## CITY OF AZUSA

### City of Azusa General Plan

The Mobility Element of the Azusa General Plan is intended to complement the City's land uses by reducing traffic congestion and pollution; creating more prosperous and vital neighborhoods; and promoting healthier environments. The Mobility Element provides a comprehensive approach to local transportation choices as a distinct, but integral part of the regional circulation patterns and realities. The Azusa General Plan states that the following idea for mobility can bring about significant change for the City and is applicable to the project area:

- Increase roadway capacity at the western and southern edges of the City thus relieving through traffic on Azusa Avenue.

According to the Mobility Element, heavy truck activity is evident on the west side of the City, primarily associated with the mining industry and supply of warehouses and factories. The mining operation is located in the northwest and west part of the City, although truck access actually occurs through the Cities of Duarte and Irwindale.

The Mobility Goals and Policies that pertain to the proposed project include the following:

#### Citywide Access and Circulation

Goal 1 – Balance the roadway with the planned land uses in the city.

Policy 1.2 – Maintain Level of Service D on roadway segments and at signalized intersections throughout the City, except in the downtown area, the University District, and in the vicinity of freeway interchanges where Level of Service E shall be maintained in these areas. (M1)

Policy 1.3 – Require the cost of improvements to the existing circulation system and new circulation system necessitated by new development to be borne by that development that gains benefit. (M3)

Policy 2.4 – To simplify traffic flow, improve the following intersections and/or road segments: Foothill Boulevard and Alostia Avenue, Sierra Madre Avenue and San Gabriel Avenue, San Gabriel Avenue extension to Azusa Avenue (between Baseline and 2nd Street), Azusa Avenue extension to Newburgh Street (between Arrow Highway and Newburgh Street). (M6)

Policy 2.5 – Improve the operational efficiency of the roadway system, with implementation of traffic management measures, to minimize delay and congestion but without adversely impacting transit vehicles, bicyclists, and pedestrians. (M7)

Goal 7 – Focus truck traffic onto appropriate arterial corridors within the city, and keep truck traffic out of residential neighborhoods.



Policy 7.1 – Modify the truck route network in accordance with the truck route plan (figure M-4). (M19 and M20)

Goal 8 – Encourage walking, biking, and the use of transit through a variety of land use development and urban design measures.

Policy 8.1 – Plan for an adequate amount, not an oversupply, of parking for autos, carpool vans, and bicycles for each land use. (M13)

Policy 8.2 – Allow and encourage shared use parking in order to gain the maximum efficiency from the parking supply and to minimize the overall amount of parking provided in the city. (M13 and M21)

Policy 8.6 – Promote the use of Transportation Demand Management (TDM) programs to encourage the use of transit, ridesharing, and non-motorized modes for travel both within the City and outside of the City. (M4 and M11)

#### Mobility Implementation Programs

M3 Traffic Impact Studies – New developments are required to prepare traffic impact studies addressing multimodal transportation impacts, and develop mitigation measures, as necessary, for significant impacts. Mitigation measures include but are not limited to, transit, pedestrian, bicycle, and transportation demand management measures as well as traffic/roadway solutions.

M20 Codes Enforcement – Through vehicle and other codes enforcement ensure that trucks adhere to the routes.

### **5.2.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA**

#### **DEFINITION OF SIGNIFICANT IMPACT**

##### **Significant Study Intersection Traffic Impact Criteria**

Traffic impacts are identified if a project would result in a significant adverse change in traffic conditions on an analyzed facility. A significant impact is typically identified if traffic generated by a project would cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. Impacts can also be significant if an intersection is already operating below the poorest acceptable level and project traffic would substantially worsen the condition, thereby causing a further decline below the threshold as noted below in Table 5.2-5, Allowable V/C Increase.

The City of Azusa policies on traffic studies define a project-related increase in the V/C ratio of a facility greater than 0.020 as a significant impact; refer to Table 5.2-5. This impact standard has been applied consistently to other recent traffic studies conducted for projects within the City:



Table 5.2-5  
Allowable V/C Increase

Level of Service	Final V/C*	Project Related V/C Increase
E and F	0.90 or more	Equal to or greater than 0.020
Source: Stantec Consultants., <i>Traffic Report</i> , dated April 2014.		
* Final V/C is the V/C ratio at an intersection, considering impacts from the project, ambient, and related project growth, but without proposed traffic impact mitigations.		

Two study intersections are located within the City of Irwindale, and one study intersection is located within the City of Duarte. The City of Irwindale has the following LOS-based impact standards that were reviewed for the impact analysis, as applicable to the jurisdiction of each study intersection:

- When a freeway mainline, freeway ramp, or arterial corridor operates at LOS 'D' or better under existing, future, or cumulative baseline conditions, the addition of project trips degrades the segment to LOS 'E' or 'F'. The project mitigation should bring the facility to operate at LOS 'D', at a minimum.
- When a freeway mainline, freeway ramp, or arterial corridor operates at LOS 'F' under existing, future, or cumulative baseline conditions, the addition of more than 50 peak-hour project trips contributes to the continuing operational failure at the segment. The project mitigation should bring the facility to pre-project conditions.

The City of Duarte has the following LOS-based impact standards that were reviewed for the impact analysis, as applicable to the jurisdiction of each study intersection:

- A significant project impact occurs when a proposed project increases traffic demand at a signalized study intersection by two-percent or more of capacity ( $V/C \geq 0.02$ ), causing or worsening LOS E or F ( $V/C > 1.00$ ).

At City of Duarte stop-controlled study intersections, a significant traffic impact occurs if one of the minor street movements are forecast to operate at LOS E or F and the addition of project-generated trips causes an increase in delay of two or more seconds to that movement. However, this is not a rigid threshold and judgment is required to consider the relevance of turning traffic volume, lane configuration, queuing impacts, and other parameters affecting intersection operations.

## Significance Criteria

Environmental impact thresholds as indicated in Appendix G of the *CEQA Guidelines* (Initial Study Checklist Form) are also used as significance thresholds in this analysis. As such, a project would create a significant impact if it would:

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



freeways, pedestrian and bicycle paths, and mass transit (refer to Impact Statements TRA-1 and TRA-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 (refer to Impact Statement TRA-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; refer to Section 10.0, *Effects Found Not To Be Significant*;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (refer to Impact Statement TRA-4);
- Result in inadequate emergency access; refer to Section 10.0, *Effects Found Not To Be Significant*; and
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities; refer to Section 10.0, *Effects Found Not To Be Significant*.

## 5.2.4 IMPACTS AND MITIGATION MEASURES

### CONSTRUCTION TRAFFIC

#### TRA-1 PROJECT CONSTRUCTION WOULD NOT RESULT IN A SIGNIFICANT IMPACT IN RELATION TO TRAFFIC GENERATED DURING THE SHORT-TERM CONSTRUCTION PROCESS.

**Impact Analysis:** Construction of the proposed project would occur over an approximately 12 month period. Construction activities associated with the proposed project would generate traffic as a result of equipment being transported to the site, and vehicular traffic from construction workers and delivery of materials to the project site. Staging areas for construction equipment storage and construction work storage would be established on-site.

Construction related trips associated with trucks and employees traveling to and from the project site may result in minor traffic delays within the project area. However, the potential traffic interference caused by construction vehicles would only be a temporary, short-term impact to vehicles using North Todd Avenue in the morning and afternoon hours.

A total of 26 haul trips (one to two trips per day) for the export of demolished material would be anticipated during demolition activities. Earthwork would be balanced on-site, and would not include any haul truck trips for soil import or export. Hauling of any material would be restricted to occur during the off-peak hours (9:00 AM to 3:00 PM) and appropriate traffic control personnel (“flaggers”) would be used to ensure construction vehicles operate safely along the immediately



adjacent local roadways (e.g., North Todd Avenue, Sierra Madre Avenue, Tenth Street) in a manner that minimizes disruption of traffic along these roadways.

Vehicle trips from construction workers would temporarily increase the amount of vehicles on local roadways in the project vicinity. However, given the nature and phasing of the construction process, it is expected that construction arrivals and departures would be staggered throughout the day, and that workers would not all arrive and depart at the same time. This interim traffic would cease upon completion of the proposed project. The added trips from construction workers and other vehicle equipment/traffic during construction are not expected to significantly impact any of the study intersections within the project area, including with the addition of trips associated with regional traffic growth and approved projects.

In order to reduce the impact of construction-related traffic, a construction management plan would be developed to implement a variety of measures to minimize traffic and parking impacts upon the local circulation system (Mitigation Measure TRA-1). The construction management plan would include, but not be limited to, the following measures: prohibit construction worker parking along local streets, identify appropriate haul routes to avoid traffic disruptions, and limit hauling activities to off-peak hours. Implementation of a construction management plan would ensure potential impacts associated with construction related traffic would be reduced to a less than significant level.

***Mitigation Measures:***

TRA-1 Prior to issuance of any grading and/or demolition permits, whichever occurs first, a Construction Management Plan shall be submitted for review and approval by the City Engineer. The requirement for a Construction Management Plan shall be incorporated into the project specifications and subject to verification by the City Engineer prior to final plan approval. The Construction Management Plan shall, at a minimum, address the following:

- Traffic control for any street closure, detour, or other disruption to traffic circulation.
- Identify the routes that construction vehicles will utilize for the delivery of construction materials (i.e., lumber, tiles, piping, windows, etc.), to access the site, traffic controls and detours, and proposed construction phasing plan for the project.
- Require the Applicant to keep all haul routes clean and free of debris, including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material which may have been spilled, tracked, or blown onto adjacent streets or areas.
- Hauling or transport of oversize loads shall be allowed between the hours of 9:00 AM and 3:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport will be allowed during nighttime hours, weekends, or Federal holidays.
- Use of local streets shall be prohibited.



- Haul trucks entering or exiting public streets shall at all times yield to public traffic.
- If hauling operations cause any damage to existing pavement, streets, curbs, and/or gutters along the haul route, the Applicant shall be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer.
- All construction-related parking and staging of vehicles shall be kept out of the adjacent public roadways and shall occur on-site.
- This Plan shall meet standards established in the current California Manual on Uniform Traffic Control Device (MUTCD) as well as City of Azusa requirements.

**Level of Significance:** Less Than Significant With Mitigation Incorporated.

## OPERATIONAL TRAFFIC

### **TRA-2 PROJECT IMPLEMENTATION WOULD CAUSE A SIGNIFICANT INCREASE IN TRAFFIC FOR EXISTING AND FORECAST CONDITIONS WHEN COMPARED TO THE TRAFFIC CAPACITY OF LOCAL AND STATE HIGHWAY INTERSECTIONS.**

#### **Impact Analysis:**

#### **Trip Generation, Distribution, and Assignment**

This section defines the weekday daily and peak-hour vehicle volumes that would be generated by the proposed project in a three-step process including trip generation, trip distribution, and trip assignment.

The proposed project would use the existing access driveway, west/northwest of the North Todd Avenue/Tenth Street intersection. Project trips were distributed to the study area roadway network from this intersection outward.

#### **Project Trip Generation**

To calculate trips forecast to be generated by the proposed project, trip generation rates from the *ITE Trip Generation Manual, 9<sup>th</sup> Edition*, were utilized. Table 5.2-6, *ITE Trip Generation Rates for the Proposed Project*, summarizes the ITE trip generation rates used to calculate the number of trips forecast to be generated by the proposed project

In accordance with agency direction, to account for truck activity, the existing site and proposed project-generated trips were identified by vehicle axle classification, to which the following PCE factors were applied:

- Passenger Cars = 1.0 PCE;
- 2-axle truck = 1.5 PCE;
- 3-axle truck = 2.0 PCE; and
- 4-axle or more truck = 2.5 PCE.



**Table 5.2-6  
ITE Trip Generation Rates for the Proposed Project**

Land Use (ITE Code)	Units	AM Peak Hour Trip Generation Rate			PM Peak Hour Trip Generation Rate			Daily Trip Generation Rate
		In	Out	Total	In	Out	Total	
Manufacturing (ITE 140) <sup>1</sup>	tsf	0.57	0.16	0.73	0.26	0.47	0.73	3.82
Source: 2012 ITE Trip Generation Manual, 9 <sup>th</sup> Edition.								
Note: tsf = thousand square feet.								
1. The ITE manufacturing trip rate assumes office space of approximately 15 to 20 percent of the total square footage. The proposed office space comprises less than 10 percent of the total square footage; therefore, the office space was included in the manufacturing square footage to determine the trip generation.								

Table 5.2-7, *Project Passenger Vehicle and Truck Percentage Summary*, shows the percentage split between trucks and passenger cars utilized in this analysis, which is based on information contained in the *City of Fontana Truck Trip Generation Study* (City of Fontana, August 2003).

**Table 5.2-7  
Project Passenger Vehicle and Truck Percentage Summary**

Land Use	Passenger Vehicles	Total Trucks	Total Trucks Categories		
			2-Axle	3-Axle	4-Axle
Proposed Project	74.4%	25.6%	32.84%	17.91%	49.25%
Source: Stantec Consultants, <i>Traffic Report</i> , dated April 2014.					

Table 5.2-8, *Forecast Project Trip Generation*, summarizes the trips forecast to be generated by the proposed project utilizing the trip generation data shown in [Table 5.2-6](#) and [Table 5.2-7](#).

As shown in [Table 5.2-8](#), the proposed project is forecast to generate approximately 1,672 daily PCE-adjusted trips, which include approximately 319 AM peak hour PCE-adjusted trips and approximately 319 PM peak hour PCE-adjusted trips. It should be noted, this trip generation analysis does not assume any trip reduction associated with a potential TDM plan, which may be developed for the project site.

**Project Trip Distribution and Assignment**

Trip distribution for the project is based on forecast geographical distribution of anticipated project users. Refer to Figure 3-1, General Project Distribution, of the *Traffic Report* for project trip distribution. In general, the majority of trips generated by the proposed project would be allocated along North Todd Avenue; refer to [Appendix 13.3, Traffic Report](#).



**Table 5.2-8  
Forecast Project Trip Generation**

Land Use	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips
	In	Out	Total	In	Out	Total	
Tenth Street Center Industrial Park – Modified Parking Layout (342.6-tsf manufacturing space, including 29,485 square feet of office space)							
- Passenger Vehicles	145	41	186	66	120	186	974
- Non-PCE-Adjusted 2-Axle Trucks	16	5	21	7	14	21	110
- Non-PCE-Adjusted 3-Axle Trucks	9	3	12	4	8	12	60
- Non-PCE-Adjusted 4-Axle Trucks	25	6	31	11	20	31	165
<b>Total Forecast Without PCE Trip Generation</b>	<b>195</b>	<b>55</b>	<b>250</b>	<b>88</b>	<b>162</b>	<b>250</b>	<b>1,309</b>
Tenth Street Center Industrial Park – Modified Parking Layout (342.6-tsf manufacturing space, including 29,485 square feet of office space)							
- Passenger Vehicles	145	41	186	66	120	186	974
- PCE-Adjusted 2-Axle Trucks	24	7.5	31.5	10.5	21	31.5	165
- PCE-Adjusted 3-Axle Trucks	18	6	24	8	16	24	120
- PCE-Adjusted 4-Axle Trucks	62.5	15	77.5	27.5	50	77.5	412.5
<b>Total Forecast PCE-Adjusted Trip Generation of Proposed Project</b>	<b>249</b>	<b>70</b>	<b>319</b>	<b>112</b>	<b>207</b>	<b>319</b>	<b>1,672</b>
Note: tsf = thousand square feet; PCE = passenger car equivalent.							
Source: Stantec Consultants, <i>Traffic Report</i> , dated March April 2014.							

### Forecast Existing Plus Project Conditions

This section analyzes the impact of the proposed project on study intersections under existing conditions. The analysis provided below provides conclusions regarding the project’s PCE-adjusted trips on study intersections based on the existing circulation system and existing traffic levels in the project vicinity.

### Proposed Project

Forecast existing plus project conditions AM and PM peak hour volumes were derived by adding net PCE-adjusted project-generated trips to existing conditions traffic volumes.

### Study Intersections

Table 5.2-9, *Forecast Existing Plus Project Conditions AM/PM Peak Hour LOS*, summarizes forecast existing plus project conditions AM and PM peak hour LOS of the study intersections.



**Table 5.2-9  
Forecast Existing Plus Project Conditions AM/PM Peak Hour LOS**

Study Intersections		Existing Conditions				Forecast Existing Plus Project Conditions				Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	
<b>ICU Methodology</b>										
1	I-605/Mount Olive Avenue and Huntington Drive	0.83	D	0.97	E	0.83	D	0.99	E	<b>PM only</b>
2	Irwindale Avenue and Foothill Boulevard	0.82	D	0.88	D	0.84	D	0.92	E	<b>PM only</b>
3	Irwindale Avenue and I-210 westbound on- and off-ramps	0.56	A	0.59	A	0.58	A	0.61	B	No
4	Irwindale Avenue and I-210 eastbound on- and off-ramps	0.83	D	0.72	C	0.86	D	0.73	C	No
7	Todd Avenue and Foothill Boulevard	0.81	D	0.61	B	0.83	D	0.63	B	No
8a	San Gabriel Avenue and Sierra Madre Avenue	0.47	A	0.40	A	0.48	A	0.41	A	No
8b	Azusa Avenue and Sierra Madre Avenue	0.38	A	0.32	A	0.39	A	0.32	A	No
9	San Gabriel Avenue and Foothill Boulevard	0.67	B	0.57	A	0.61	B	0.57	A	No
10	Azusa Avenue and Foothill Boulevard	0.67	B	0.63	B	0.69	B	0.64	B	No
11	Azusa Avenue and First Street	0.74	C	0.65	B	0.77	C	0.67	B	No
12	I-210 westbound on and off-ramps/Alameda Avenue and First Street	0.72	C	0.74	C	0.74	C	0.75	C	No
<b>HCM Delay Methodology</b>										
1	I-605/Mount Olive Avenue and Huntington Drive	57 sec	E	70 sec	E	57 sec	E	74 sec	E	<b>PM only</b>
3	Irwindale Avenue and I-210 westbound on- and off-ramps	9 sec	A	8 sec	A	9 sec	A	8 sec	A	No
4	Irwindale Avenue and I-210 eastbound on- and off-ramps	42 sec	D	24 sec	C	46 sec	D	25 sec	C	<b>AM only</b>
5	Todd Avenue and Sierra Madre Avenue <sup>1</sup>	26 sec	D	10 sec	B	28 sec	D	10 sec	B	No
6	Todd Avenue and Tenth Street <sup>1</sup>	21 sec	C	33 sec	D	481 sec	F	130 sec	F	<b>AM, PM</b>
12	I-210 westbound on and off-ramps/Alameda Avenue and First Street	21 sec	C	17 Sec	B	23 sec	C	17 sec	B	no
<small>Note: V/C = volume to capacity ratio; delay shown in seconds per vehicle; deficient intersection operation shown in bold.            1. Stop-controlled intersection. ICU methodology only applies to signalized intersections; therefore, HCM delay methodology was used for these intersections.            Source: Stantec Consultants, Traffic Report, April 2014.</small>										

As shown in Table 5.2-9, with the addition of project-generated trips, the following four study intersections would operate at deficient LOS and are forecast to continue to operate at a deficient LOS according to agency performance criteria for forecast existing plus project conditions:

- I-605/Mount Olive Avenue and Huntington Drive (PM peak hour only, for both ICU and HCM methodology);
- Irwindale Avenue and Foothill Boulevard (PM peak hour only, ICU methodology);
- Irwindale Avenue and I-210 eastbound on- and off-ramps (AM peak hour only, HCM methodology); and
- Todd Avenue and Tenth Street (AM and PM peak hours, HCM methodology).

**Forecast Existing Plus Project Conclusion**

As demonstrated above, the proposed project would significantly impact four study intersections: I-605/Mount Olive Drive and Huntington Drive (Duarte/Caltrans), Irwindale Avenue and Foothill



Boulevard (Irwindale), Irwindale Avenue and I-210 eastbound ramps (Irwindale/Caltrans), and Todd Avenue and Tenth Street (Azusa).

For the study intersections along Huntington Drive/Foothill Boulevard in Duarte and Irwindale, mitigation consisting of additional lanes would require acquisition of right of way and, in some cases, widening of bridges; therefore, physical widening of the intersections is infeasible. Instead of adding lanes to the intersections, Mitigation Measure TRA-2 would require the Applicant to upgrade the traffic signals at the affected intersections with an Intelligent Transportation System (ITS). ITS would optimize the efficiency of the existing traffic signal systems. This approach would consist of installation of surveillance cameras and traffic volume counters to monitor existing traffic flow. When traffic congestion is detected either through closed circuit television cameras and/or via electronic traffic counters, the current signal timing patterns are adjusted to relieve or reduce the congestion. The City of Los Angeles has implemented a number of these systems called Automated Traffic Surveillance and Control (ATSAC) and credits a 10 percent increase in capacity where such systems are in effect. As shown in Table 5.2-10, *Mitigated Forecast Existing Plus Project Conditions AM/PM Peak Hour LOS*, implementation of Mitigation Measure TRA-2 would reduce impacts to study intersections along Huntington Drive/Foothill Boulevard in Duarte and Irwindale to an acceptable level under applicable agency criteria.

**Table 5.2-10**  
**Mitigated Forecast Existing Plus Project Conditions AM/PM Peak Hour Intersection LOS**

Study Intersections	Forecast Existing Plus Project Conditions				Forecast Existing Plus Project Conditions With Project Mitigation				Significant Impact?				
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour						
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS					
<b>ICU Methodology</b>													
1	I-605/Mount Olive Avenue and Huntington Drive				0.83	D	0.99	E	0.78	C	0.91	E	No <sup>2</sup>
2	Irwindale Avenue and Foothill Boulevard				0.84	D	0.92	E	0.76	C	0.85	D	No <sup>2</sup>
<b>HCM Delay Methodology</b>													
1	I-605/Mount Olive Avenue and Huntington Drive				57 sec	E	74 sec	E	47 sec	D	59 sec	E	No <sup>2</sup>
4	Irwindale Avenue and I-210 eastbound on- and off-ramps				46 sec	D	25 sec	C	38 sec	D	21 sec	C	No <sup>2</sup>
6	Todd Avenue and Tenth Street <sup>1</sup>				481 sec	F	130 sec	F	0.64	B	0.57	A	No
Note: V/C = volume to capacity ratio; delay shown in seconds per vehicle; deficient intersection operation shown in bold. 1. Stop-controlled intersection. ICU methodology only applies to signalized intersections; therefore, HCM delay methodology was used for these intersections. 2. The "No" response provided for these study intersections means that agency criteria are not exceeded upon implementation of recommended mitigation. However, since these study intersections are located outside of the City of Azusa, impacts under CEQA remain significant and unavoidable.													
Source: Stantec Consultants, Traffic Report, April 2014.													

The project would also significantly impact the intersection of Irwindale Avenue and I-210 eastbound on- and off-ramps. As shown in Table 5.2-10, implementation of Mitigation Measure TRA-3, which requires restriping the southbound intersection approach to provide dual left-turn lanes and two through lanes, would reduce impacts to an acceptable level under applicable agency criteria.

One stop-controlled intersection (i.e., Todd Avenue/Tenth Street, within the City of Azusa) would also be significantly impacted by the proposed project, as it would operate at LOS F under Existing Plus Project Conditions. Mitigation Measure TRA-4 requires the Applicant to upgrade this intersection to include traffic signals, and installation of a short northbound left-turn pocket on



North Todd Avenue. As shown in [Table 5.2-10](#), compliance with Mitigation Measure TRA-4 would reduce this impact to a less than significant level.

As shown above in [Table 5.2-10](#), Mitigation Measures TRA-2 through TRA-4 would minimize project impacts to an acceptable level according to agency criteria. However, Mitigation Measures TRA-2 and TRA-3 would be located in areas outside of the City of Azusa. Mitigation Measure TRA-2 would require implementation within the cities of Duarte and Irwindale, as well as Caltrans jurisdiction. Mitigation Measure TRA-3 would require implementation within the City of Irwindale and within Caltrans jurisdiction. As such, the City of Azusa would not be able to guarantee the implementation or timing of mitigation that is required to reduce impacts to a less than significant level. Thus, despite the requirement for Mitigation Measures TRA-2 through TRA-3, impacts at the following locations would remain significant and unavoidable:

- I-605/Mount Olive Drive and Huntington Drive;
- Irwindale Avenue and Foothill Boulevard; and
- Irwindale Avenue and I-210 eastbound on- and off-ramps.

### **Forecast Short-Range (Year 2015) Plus Project Conditions**

This section analyzes the impact of the proposed project on study intersections under short-range (year 2015) plus project conditions. The analysis provided below provides conclusions regarding both the project's PCE-adjusted trip generation on study intersections based on the short-range circulation system and short-range traffic levels in the project vicinity.

#### **Proposed Project**

Forecast short-range plus project conditions AM and PM peak hour volumes were derived by adding net PCE-adjusted project-generated trips to the short-range conditions traffic volumes.

#### **Study Intersections**

[Table 5.2-11](#), *Forecast Short-Range Plus Project Conditions AM/PM Peak Hour LOS*, summarizes forecast short-range plus project conditions AM and PM peak hour LOS of the study intersections. As seen in [Table 5.2-11](#), significant impacts would occur at five intersections under Short-Range Plus Project conditions. The following five study intersections would operate at deficient LOS and are forecast to continue to operate at a deficient LOS according to agency performance criteria for forecast existing plus project conditions:

- Irwindale Avenue and Foothill Boulevard (PM peak hour only, ICU methodology);
- Irwindale Avenue and I-210 eastbound on- and off-ramps (AM peak hour only, for both ICU and HCM methodologies);
- I-605/Mount Olive Avenue and Huntington Drive (PM peak hour only, HCM methodology);
- Todd Avenue and Tenth Street (AM and PM peak hours, HCM methodology); and
- I-210 westbound on and off-ramps/Alameda Avenue and First Street.



**Table 5.2-11  
Forecast Short-Range (Year 2015) Plus Project Conditions AM/PM Peak Hour LOS**

Study Intersections	Short-Range Conditions				Short-Range Plus Project Conditions				Significant Impact?	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
<b>ICU Methodology</b>										
1	I-605/Mount Olive Avenue and Huntington Drive	0.94	E	1.10	F	0.95	E	1.11	F	No
2	Irwindale Avenue and Foothill Boulevard	0.85	D	0.94	E	0.88	D	0.97	E	<b>PM only</b>
3	Irwindale Avenue and I-210 westbound on- and off-ramps	0.60	A	0.68	B	0.63	B	0.71	C	No
4	Irwindale Avenue and I-210 eastbound on- and off-ramps	0.89	D	0.82	D	0.92	E	0.84	D	<b>AM only</b>
7	Todd Avenue and Foothill Boulevard	0.86	D	0.68	B	0.87	D	0.72	C	No
8a	San Gabriel Avenue and Sierra Madre Avenue	0.53	A	0.55	A	0.53	A	0.55	A	No
8b	Azusa Avenue and Sierra Madre Avenue	0.49	A	0.46	A	0.50	A	0.48	A	No
9	San Gabriel Avenue and Foothill Boulevard	0.66	B	0.77	C	0.68	B	0.78	C	No
10	Azusa Avenue and Foothill Boulevard	0.86	D	0.86	D	0.88	D	0.86	D	No
11	Azusa Avenue and First Street	0.87	D	0.84	D	0.89	D	0.86	D	No
12	I-210 westbound on and off-ramps/Alameda Avenue and First Street	0.80	C	0.88	D	0.82	D	0.89	D	No
<b>HCM Delay Methodology</b>										
1	I-605/Mount Olive Avenue and Huntington Drive	84 sec	F	131 sec	F	83 sec	F	135 sec	F	<b>PM only</b>
3	Irwindale Avenue and I-210 westbound on- and off-ramps	10 sec	A	10 sec	B	10 sec	B	11 sec	B	No
4	Irwindale Avenue and I-210 eastbound on- and off-ramps	50 sec	D	32 sec	C	57 sec	E	35 sec	C	<b>AM only</b>
5	Todd Avenue and Sierra Madre Avenue <sup>1</sup>	28 sec	D	10 sec	B	30 sec	D	11 sec	B	No
6	Todd Avenue and Tenth Street <sup>1</sup>	21 sec	C	34 sec	D	525 sec	F	141	F	<b>AM, PM</b>
12	I-210 westbound on and off-ramps/Alameda Avenue and First Street	41 sec	D	37 sec	D	46 sec	D	39 sec	D	<b>AM only</b>
Note: V/C = volume to capacity ratio; delay shown in seconds per vehicle; deficient intersection operation shown in <b>bold</b> . 1. Stop-controlled intersection. ICU methodology only applies to signalized intersections; therefore, HCM delay methodology was used for these intersections. Source: Stantec Consultants, <i>Traffic Report</i> , April 2014.										

**Forecast Short-Range Plus Project Conclusion**

As demonstrated above, the proposed project would significantly impact five study intersections: Irwindale Avenue and Foothill Boulevard (Irwindale), Irwindale Avenue and I-210 eastbound ramps (Irwindale/Caltrans), I-605/Mount Olive Drive and Huntington Drive (Duarte/Caltrans), Todd Avenue and Tenth Street (Azusa), and I-210 westbound on and off-ramps/Alameda Avenue and First Street (Azusa). Similar to the impacts for Existing Plus Project Conditions, the impacts identified under Short-Range (Year 2015) Plus Project Conditions would require implementation of Mitigation Measures TRA-2 through TRA-4.

As shown in Table 5.2-12, Mitigated Forecast Short-Range (Year 2015) Plus Project Conditions AM/PM Peak Hour LOS, implementation of Mitigation Measure TRA-2 would reduce impacts to study intersections along Huntington Drive/Foothill Boulevard in Duarte and Irwindale to an acceptable level under applicable agency criteria.



**Table 5.2-12**  
**Mitigated Forecast Short-Range (Year 2015) Plus Project Conditions**  
**AM/PM Peak Hour Intersection LOS**

Study Intersections		Short-Range Plus Project Conditions				Short-Range Plus Project Conditions With Project Mitigation				Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	
<b>ICU Methodology</b>										
1	I-605/Mount Olive Avenue and Huntington Drive <sup>2</sup>	0.95	<b>E</b>	1.11	<b>F</b>	0.88	D	0.78	C	No <sup>2</sup>
2	Irwindale Avenue and Foothill Boulevard <sup>2</sup>	0.88	D	0.97	<b>E</b>	0.82	D	0.89	D	No <sup>2</sup>
4	Irwindale Avenue and I-210 eastbound on- and off-ramps <sup>2</sup>	0.92	<b>E</b>	0.84	D	0.87	D	0.77	B	No <sup>2</sup>
<b>HCM Delay Methodology</b>										
1	I-605/Mount Olive Avenue and Huntington Drive <sup>2</sup>	83 sec	<b>F</b>	135 sec	<b>F</b>	64 sec	<b>E</b>	101 sec	<b>F</b>	No <sup>2</sup>
4	Irwindale Avenue and I-210 eastbound on- and off-ramps <sup>2</sup>	57 sec	<b>E</b>	35 sec	C	44 sec	<b>D</b>	25 sec	C	No <sup>2</sup>
6	Todd Avenue and Tenth Street <sup>1</sup>	525 sec	<b>F</b>	141	<b>F</b>	0.65	B	0.58	A	No
12	I-210 westbound on and off-ramps/Alameda Avenue and First Street	46 sec	<b>D</b>	39 sec	<b>D</b>	31	C	23	C	No
Note: V/C = volume to capacity ratio; delay shown in seconds per vehicle; deficient intersection operation shown in bold. 1. Stop-controlled intersection. ICU methodology only applies to signalized intersections; therefore, HCM delay methodology was used for these intersections. 2. The "No" response provided for these study intersections means that agency criteria are not exceeded upon implementation of recommended mitigation. However, since these study intersections are located outside of the City of Azusa, impacts under CEQA remain significant and unavoidable.										
Source: Stantec Consultants, Traffic Report, April 2014.										

The project would also significantly impact the intersection of Irwindale Avenue and I-210 eastbound on- and off-ramps. As shown in [Table 5.2-12](#), implementation of Mitigation Measure TRA-3, which requires restriping the southbound intersection approach to provide dual left-turn lanes and two through lanes, would reduce impacts to an acceptable level under applicable agency criteria.

Impacts to the Todd Avenue/Tenth Street intersection (including the entrance to the project site from Todd Avenue) would be potentially significant under Short-Range Plus Project conditions, as vehicle delay conditions at this intersection would increase significantly during AM and PM peak hours. Implementation of Mitigation Measure TRA-4 requires the Applicant to upgrade this intersection with traffic signals, and installation of a short northbound left-turn pocket on Todd Avenue. As shown in [Table 5.2-12](#), compliance with Mitigation Measure TRA-4 would reduce this impact to a less than significant level.

Under Short-Range (Year 2015) Plus Project conditions, a significant impact would also occur at the I-210 westbound/Alameda and First Street intersection within the City of Azusa. The project would increase the existing AM peak hour delay by five seconds, resulting in a significant impact. Implementation of Mitigation Measure TRA-5 would require the Applicant to pay a fair share payment for the restriping of the northbound I-210 ramp approach to provide a left-turn lane and a shared left/through/right-turn lane to reduce this impact to a less than significant level. As shown in [Table 5.2-12](#), compliance with Mitigation Measure TRA-5 would result in a less than significant impact at this intersection.



As shown above in [Table 5.2-12](#), Mitigation Measures TRA-2 through TRA-5 would minimize project impacts to an acceptable level according to agency criteria. However, Mitigation Measures TRA-2 and TRA-3 would be located in areas outside of the City of Azusa. Mitigation Measure TRA-2 would require implementation within the cities of Duarte and Irwindale, as well as Caltrans jurisdiction. Mitigation Measure TRA-3 would require implementation within the City of Irwindale and within Caltrans jurisdiction. As such, the City of Azusa would not be able to guarantee the implementation or timing of mitigation that is required to reduce impacts to a less than significant level. Thus, despite the requirement for Mitigation Measures TRA-2 through TRA-3, impacts at the following locations would remain significant and unavoidable:

- I-605/Mount Olive Drive and Huntington Drive;
- Irwindale Avenue and Foothill Boulevard; and
- Irwindale Avenue and I-210 eastbound on- and off-ramps.

### **Project Conclusion**

As noted above under the analysis for forecast existing plus project conditions, four intersections would be significantly impacted by project traffic. Mitigation Measure TRA-4 would mitigate impacts at the Todd Avenue/Tenth Street intersection to a less than significant level. While mitigation is available to mitigate impacts at the remaining three intersections (I-605/Mount Olive Drive and Huntington Drive, Irwindale Avenue and Foothill Boulevard, and Irwindale Avenue and I-210 eastbound on- and off-ramps), these measures would require coordination and implementation of mitigation outside of the City of Azusa's control (i.e., the cities of Irwindale and Duarte, as well as Caltrans); therefore, it is not guaranteed that these mitigation measures would be implemented prior to project opening. As such, impacts at these three intersections would be significant and unavoidable.

As noted above under the analysis for forecast short-range plus project conditions, impact conclusions would be the same for the four impacted intersections described under the forecast existing plus project conditions scenario. However, one additional impacted intersection was identified (I-210 westbound/Alameda and First Street intersection). Mitigation Measure TRA-5 would minimize impacts at this location to a less than significant level.

As such, despite implementation of mitigation measures, the proposed project would result in significant and unavoidable impacts to the roadway system as a result of long-term operations.

### ***Mitigation Measures:***

TRA-2 Prior to issuance of a certificate of occupancy, the Applicant shall pay their fair share contribution towards upgrading the following significantly impacted signalized intersections with an Intelligent Transportation System (ITS) to improve circulation and intersection operations:

- I-605/Mount Olive Avenue and Huntington Drive (Duarte); and
- Irwindale Avenue and Foothill Boulevard (Irwindale).

The improvements shall be subject to review and approval by the cities of Irwindale and Duarte, as well as Caltrans.



- TRA-3 Prior to issuance of a certificate of occupancy, the Applicant shall pay their fair share contribution towards the restriping of the southbound Irwindale Avenue/I-210 eastbound on- and off-ramps intersection to provide dual left-turn lanes and two through lanes. The fair share payment and associated improvements shall be subject to review and approval by the City of Irwindale City Engineer and coordinated with Caltrans.
- TRA-4 Prior to final plan approval, the Applicant shall demonstrate the incorporation of a signalized intersection, and the installation of a short northbound left-turn pocket at the Todd Avenue/Tenth Street intersection on project plans. The plans shall be reviewed and approved by the City Engineer, and to the satisfaction of the Union Pacific Railroad prior to final plan approval. Proof of compliance with this mitigation measure will be required in order to receive a certificate of occupancy for the proposed project.
- TRA-5 Prior to issuance of a certificate of occupancy, the Applicant shall pay their fair share contribution towards the restriping of the northbound I-210 ramp approach to provide a left-turn lane and a shared left/through/right-turn lane at the I-210 westbound/Alameda and First Street intersection. The fair share payment and associated improvements shall be subject to review and approval by the City of Azusa City Engineer and coordinated with Caltrans.

**Level of Significance:** Significant and Unavoidable Impact.

## CONGESTION MANAGEMENT PROGRAM

### TRA-3 PROJECT IMPLEMENTATION WOULD NOT RESULT IN A SIGNIFICANT IMPACT RELATED TO CONGESTION MANAGEMENT PROGRAM FACILITIES.

**Impact Analysis:**

#### CMP Intersections

As shown above within Tables 5.2-9 and 5.2-10, two CMP intersections, San Gabriel Avenue/Foothill Boulevard intersection and the Azusa Avenue/Foothill Boulevard intersection, would operate at LOS D or better under Existing Plus Project and Short-Range (Year 2015) Plus Project conditions with the addition of project-generated traffic. LOS E is the acceptable LOS under CMP guidelines. Therefore, the proposed project would have a less than significant impact to the CMP circulation system.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance:** Less Than Significant Impact.

## HAZARDOUS TRAFFIC CONDITIONS

### TRA-4 DEVELOPMENT OF THE PROPOSED PROJECT WOULD NOT RESULT IN A HAZARDOUS TRAFFIC CONDITION EITHER ON-SITE OR IN THE SURROUNDING AREA.



**Impact Analysis:** The proposed industrial/warehousing facility would result in the development of three structures on-site. On-site circulation would be accomplished through a series of internal roads and drive aisles that would circumnavigate and provide access to the three buildings; refer to Exhibits 3a and 3b. All roads on-site would be paved and would comply with existing City and Los Angeles County Fire Department (LACFD) requirements for emergency access. On-site roads, drive aisles, and parking configurations would undergo a detailed site plan review by the City and LACFD to ensure that appropriate widths, turning radii, and signage comply with existing standards for safety and circulation. Thus, the project is not expected to result in hazardous traffic conditions related to on-site circulation.

The proposed project would continue to obtain access from the existing driveway at the North Todd Avenue/ Tenth Street intersection. The existing project driveway is offset approximately 120 feet north of the east leg (Tenth Street) of the North Todd Avenue/Tenth Street intersection. It is also spaced approximately 200 feet north of the existing Union Pacific Railroad (UPRR) rail spur, located immediately south of the site. Currently, the railroad tracks are protected with warning beacons only. The project would implement numerous improvements at this intersection to ensure that hazardous traffic conditions do not occur.

As part of the proposed project, a signalized intersection would be constructed to manage traffic movements along the project driveway, North Todd Avenue, Tenth Street, and the UPRR rail spur. This new traffic signal would be interconnected with a new railroad warning system at the tracks that would include crossing gates to clear vehicles when a train approaches. A new four-foot median would be constructed along North Todd Avenue through the intersection to further improve traffic safety. The California Public Utilities Commission (CPUC), which has jurisdiction over highway/rail crossings throughout the State, has reviewed proposed improvement plans for the intersection and has indicated the design is acceptable.<sup>3</sup> Since the project would include both on-site and off-site improvements that would be comply with existing State and local design requirements for safety, impacts in this regard would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance:** Less Than Significant Impact.

## 5.2.5 CUMULATIVE IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS WOULD RESULT IN CUMULATIVELY CONSIDERABLE TRAFFIC IMPACTS.**

**Impact Analysis:**

### Construction Traffic Impacts

Construction activities associated with the proposed project and cumulative projects may overlap, resulting in traffic impacts to local roadways. However, as stated, construction of the proposed project would not result in significant traffic impacts to study intersections. Further, the project

<sup>3</sup> Email correspondence from Jose Pereyra, Utilities Engineer, CPUC, dated March 27, 2014.



would be required to prepare a Construction Management Plan (see Mitigation Measure TRA-1) in order to reduce the impact of construction-related traffic upon the local circulation system within the project area. The cumulative development projects would also be required to reduce construction traffic impacts on the local circulation system and implement any required mitigation measures that may be prescribed pursuant to CEQA provisions. Therefore, the project's contribution to cumulative construction traffic impacts is not considered considerable.

**Mitigation Measures:** Refer to Mitigation Measure TRA-1.

**Level of Significance:** Less Than Significant With Mitigation Incorporated.

### Operational Traffic Impacts

The *Traffic Report* prepared for the project included the 41 identified cumulative projects in the forecast existing plus project and forecast short-range plus project conditions. As such, despite the implementation of mitigation, the project would result in significant cumulative impacts related to the following intersections:

- I-605/Mount Olive Avenue and Huntington Drive;
- Irwindale Avenue/Foothill Boulevard; and
- Irwindale Avenue/I-210 Eastbound On and Off Ramps.

**Mitigation Measures:** Refer to Mitigation Measures TRA-2 through TRA-5.

**Level of Significance:** Significant and Unavoidable Impact.

### CMP Impacts

#### CMP Intersections

Two CMP intersections, San Gabriel Avenue/Foothill Boulevard intersection, and the Azusa Avenue/Foothill Boulevard intersection, would operate at LOS D or better under Existing Plus Project and/or Short-Range (Year 2015) Plus Project conditions with the addition of project-generated traffic. LOS E is the acceptable LOS under CMP guidelines. The CMP analysis included in the *Traffic Report* included trip generation from the 41 identified cumulative projects. Thus, project impacts to CMP intersections are less than significant and are not cumulatively considerable.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance:** Less Than Significant Impact.

### Hazardous Design Impacts

No identified cumulative projects are located within the immediate vicinity of the project site in part because the surrounding area is already largely built-out. The project would not interact with identified cumulative development in a way that would create a cumulatively considerable hazardous traffic condition. Further, the proposed project would improve the project entrance at the North Todd Avenue/Tenth Street intersection to ensure safe operations near the UPRR rail alignment.



Project impacts would not be cumulatively considerable and impacts in this regard would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance:** Less Than Significant Impact With Mitigation Incorporated.

## 5.2.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Despite compliance with mitigation measures, the proposed project would result in significant and unavoidable impacts regarding the following:

- I-605/Mount Olive Avenue and Huntington Drive – Project-generated trips would result in a significant impact at the intersection of I-605/Mount Olive Avenue and Huntington Drive for p.m. peak hours for both Existing Plus Project and Short-Range (Year 2015) Plus Project conditions. Implementation of Mitigation Measure TRA-2 would result in a reduction of traffic levels below agency thresholds. However, the intersection of I-605/Mount Olive Avenue and Huntington Drive has a shared jurisdiction between both the City of Duarte and Caltrans. Thus, the City of Azusa (lead agency under CEQA) would have no control over the implementation of recommended mitigation and associated timing for construction. As such, impacts at this intersection would remain significant and unavoidable. These significant and unavoidable impacts are also cumulatively considerable.
- Irwindale Avenue/Foothill Boulevard – Project-generated trips would result in a significant impact at the intersection of Irwindale Avenue/Foothill Boulevard for p.m. peak hours for both Existing Plus Project and Short-Range (Year 2015) Plus Project conditions. Implementation of Mitigation Measure TRA-2 would result in a reduction of traffic levels below agency thresholds. However, the City of Irwindale has jurisdiction over the intersection of Irwindale Avenue/Foothill Boulevard. Thus, the City of Azusa (lead agency under CEQA) would have no control over the implementation of recommended mitigation and associated timing for construction. As such, impacts at this intersection would remain significant and unavoidable. These significant and unavoidable impacts are also cumulatively considerable.
- Irwindale Avenue/I-210 Eastbound On and Off Ramps – Project-generated trips would result in significant impact at the intersection of Irwindale Avenue/I-210 eastbound ramps for the weekday a.m. peak hour only for both Existing Plus Project and Short-Range (Year 2015) Plus Project conditions. Mitigation Measure TRA-3 would result in a reduction of traffic levels below agency thresholds. However, the City of Irwindale and Caltrans have jurisdiction over the intersection Irwindale Avenue/I-210 eastbound ramps. Thus, the City of Azusa (lead agency under CEQA) would have no control over the implementation of recommended mitigation and associated timing for construction. As such, impacts at this intersection would remain significant and unavoidable. These significant and unavoidable impacts are also cumulatively considerable.

If the City of Azusa approves the project, the City shall be required to make findings in accordance with CEQA Guidelines Section 15091 and adopt a Statement of Overriding Considerations in accordance with CEQA Guidelines Section 15093.



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