

**DRAFT ENVIRONMENTAL IMPACT REPORT  
GRAYSON REPOWERING PROJECT**

Appendix J Traffic Technical Report  
September 15, 2017

**Appendix J TRAFFIC TECHNICAL REPORT**

# **GRAYSON REPOWERING PROJECT**

## **Traffic and Circulation Study**

**City of Glendale, CA**

**September 6, 2017**

**P.O. 20571233001**

**Prepared By:**



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Appendix 4 – HCM Intersection Level of Service Calculation Worksheets
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## INTRODUCTION

Stantec has prepared the following revised traffic and circulation study for the Grayson Repowering Project. The traffic and circulation study provides an assessment of the existing and near future traffic conditions within the study area, determines the trip generation and trip distribution for demolition and construction related traffic, evaluates the potential traffic impacts to the vicinity roadways and intersections, and provides feasible mitigations where applicable. An updated discussion of the proposed site access and circulation plan is also provided.

## PROJECT DESCRIPTION

The Grayson power Plant is located at 800 Air Way, Glendale, California 91201, just northeast of the Interstate 5 and Highway 134 interchange. Exhibit 1 illustrates the location of the project site within the City of Glendale. The project proposes to replace all the existing generation facilities, units, and their related infrastructure, except for Unit 9, by removing existing aboveground and belowground equipment, and facilities and building new power generation facilities. Exhibit 2 shows the plant's proposed layout.

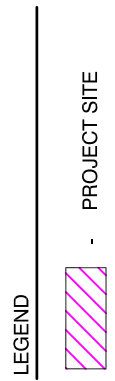
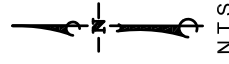
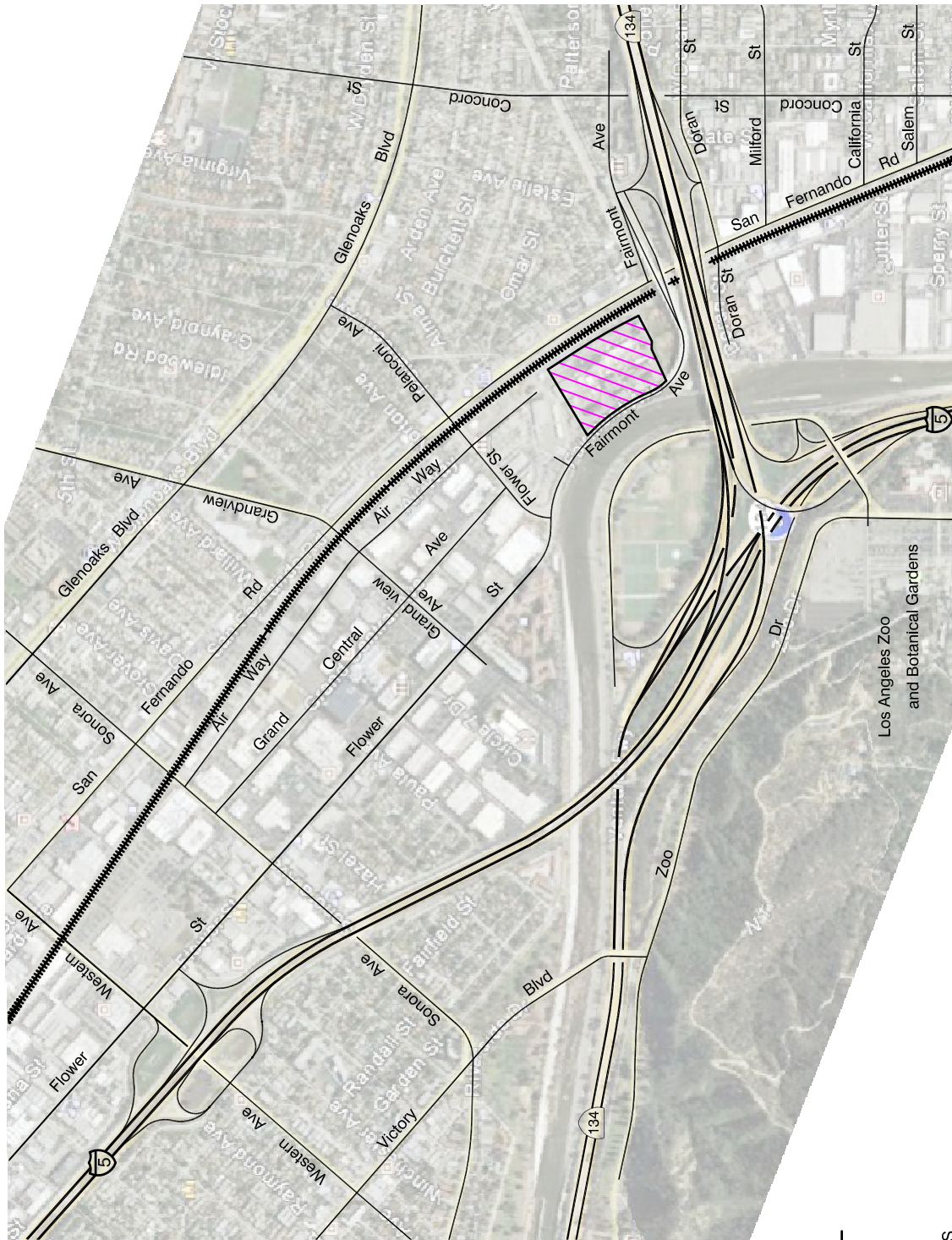
The Grayson Power Plant, an operating power plant, is located within the Glendale Water & Power Utility Operation Center. The site is bounded to the south by the Verdugo Wash and Highway 134, to the west by the Los Angeles River and Interstate 5, to the north by commercial properties, and to the east by commercial and residential properties. Access to the site is provided via the existing Utility Operations Center entrance driveway on Fairmont Avenue. Secondary access is provided via the gated entrance on Flower Street opposite Air Way and the gated driveway access to the Glendale Water Treatment Plant at 800 and 830 Flower Street.

The Grayson Power Plant is currently fully operational. The repowering project does not propose a change in existing employee levels and operational characteristics. Existing employees levels and delivery and service requirements are not anticipated to change after completion of repowering project. Therefore, any changes in power plant traffic after commissioning are expected to be minimal. All trips generated by the project will be related to demolition, construction and commissioning, and are considered short-term in nature. The proposed schedule is summarized in Table 1.

**Table 1**  
**Grayson Repower Project Schedule**

<b>Project Component</b>	<b>Period</b>
Demolition	June 2018 – March 2019
Construction	April 2019 – December 2020
Commissioning	January 2020 – June 2021

As shown, the repowering project is expected to take three years, with an anticipated start in June 2018, and commissioning in June 2021.

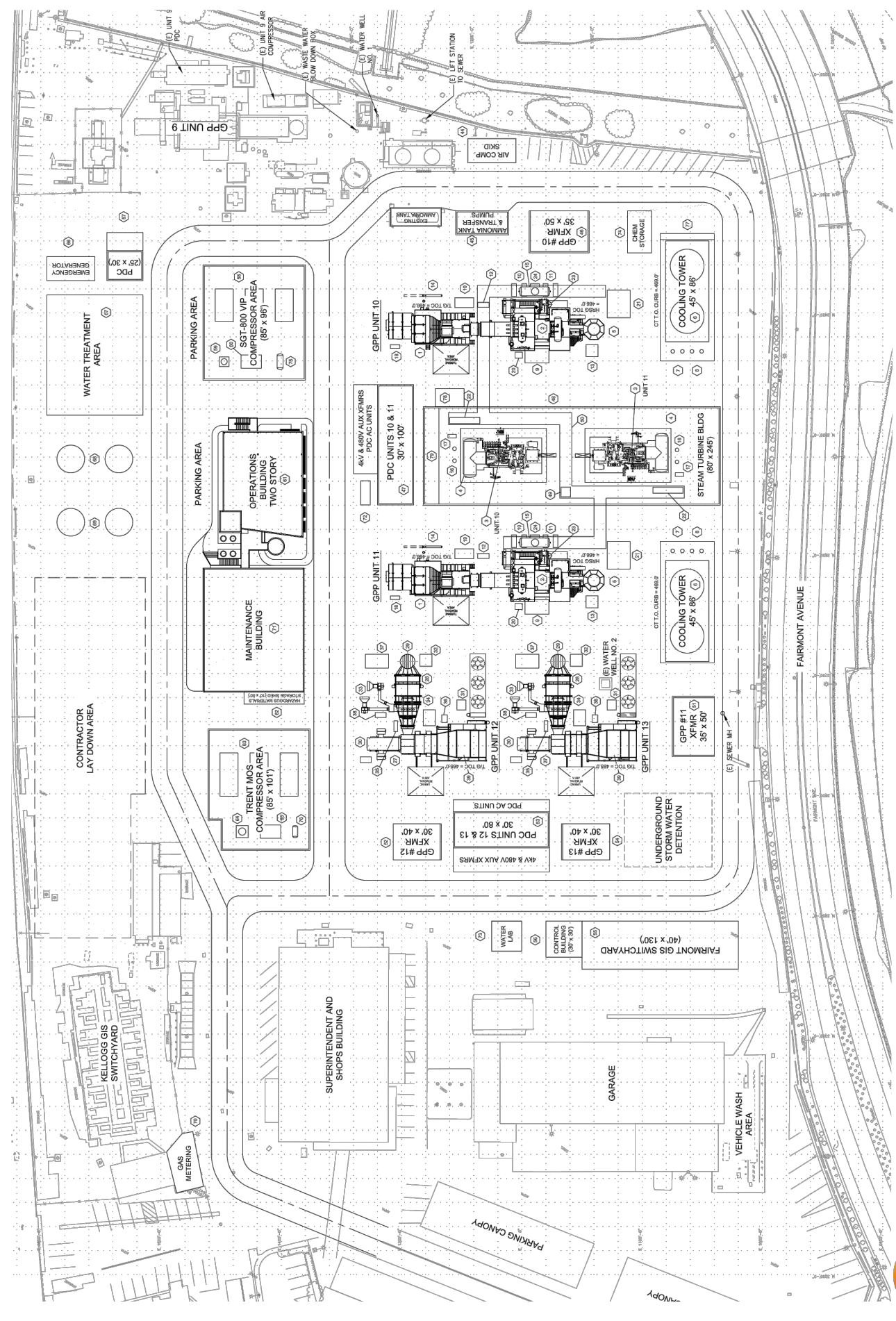


# EXHIBIT 1

## EXISTING STREET NETWORK/ PROJECT SITE LOCATION



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# EXHIBIT 2

## PROJECT SITE PLAN



N.T.S.



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Demolition, construction and commissioning activity will occur entirely within the project site boundary, except for the following construction components:

- The currently unused property located on the east side of Flower Street opposite the Flower Street/I-5 Northbound Ramps will be used for equipment and materials layoff site during the construction phase. This site is expected to be used intermittently during peak activity.
- The Caltrans/City of Glendale storage yard located under the SR 134, between the Verdugo Wash and Doran Street, will be converted to a temporary parking lot to accommodate construction worker parking for between 176 and 210 spaces during peak construction periods. Access to the storage yard is provided via two driveways on Doran Street west of San Fernando Road. A pedestrian bridge is provided between the yard and the project site for direct construction worker access.

## STUDY AREA

The study area and the location of the project site are illustrated in Exhibit 1. Based on consultation with City staff, the following intersections were included in the traffic analysis.

**Table 2  
Study Area Intersections**

Intersections	
1. Flower St/Western Ave	8. Flower St/Fairmont Ave
2. Western Ave/I-5 SB Ramps	9. San Fernando Rd/Fairmont Ave
3. Flower St/I-5 NB Ramps	10. Fairmont Ave/SR 134 WB Ramps
4. Flower St/Sonora Ave	11. Fairmont Ave/Concord St
5. Flower St/Grandview Ave	12. San Fernando Rd/Doran St
6. San Fernando Rd/Flower St	13. Doran St/SR 134 EB Ramps
7. Flower St/Air Way	14. Doran St/Concord St

## STUDY METHODOLOGY

### Traffic Analysis Scenarios

As discussed in the Project Description, the repowering project does not propose a change in existing employee levels and operational characteristics. All trips generated by the project will be related to demolition, construction and commissioning, and will be generated within the June 2018 – June 2021 period. Project construction traffic is expected to peak between January and May of 2020. The traffic analysis therefore focusses on the following traffic scenarios:

- Existing (2017) Conditions
- Year 2020 Conditions
- Year 2020 plus Project Conditions

## Level of Service Criteria

The traffic analysis focuses on key intersections within the study area during the AM and PM commute periods, when peak traffic volumes typically occur. A level of service (LOS) ranking scale is used to identify the operating condition at intersections. This scale compares traffic volumes to intersection capacity and assigns a letter value to this relationship. The letter scale ranges from A to F with LOS A representing free flow conditions and LOS F representing congested conditions. The level of service criteria are summarized in Table 3.

All study area intersections are located within the City of Glendale. The City of Glendale considers LOS C or better acceptable for intersection operations. Caltrans has established the cusp of the LOS C/D range as the target level of service standard for State Highway facilities. The target level of service applies to the freeway ramp intersections with City streets in the study area.

**Table 3**  
**Intersection Level of Service Criteria**

LOS	Signalized Intersections (V/C Ratio)	Signalized Intersections (Sec. of Delay)	Unsignalized Intersections (Sec. of Delay)	Definition
A	< 0.60	≤ 10	≤ 10	Conditions of free unobstructed flow, no delays and all signal phases sufficient in duration to clear all approaching vehicles.
B	0.61 – 0.70	> 10 and ≤ 20	> 10 and ≤ 15	Conditions of stable flow, very little delay, a few phases are unable to handle all approaching vehicles.
C	0.71- 0.80	> 20 and ≤ 35	> 15 and ≤ 25	Conditions of stable flow, delays are low to moderate, full use of peak direction signal phases is experienced.
D	0.81 – 0.90	> 35 and ≤ 55	> 25 and ≤ 35	Conditions approaching unstable flow, delays are moderate to heavy, significant signal time deficiencies are experienced for short durations during the peak traffic period.
E	0.91 – 1.00	> 55 and ≤ 80	> 35 and ≤ 50	Conditions of unstable flow, delays are significant, signal phase timing is generally insufficient, congestion exists for extended duration throughout the peak period.
F	> 1.00	> 80	> 50	Conditions of forced flow, travel speeds are low and volumes are well above capacity. This condition is often caused when vehicles released by an upstream signal are unable to proceed because of back-ups from a downstream signal

Source: Highway Capacity Manual, 2010 Edition.

## Level of Service Calculation Methodology

City of Glendale. The *Intersection Capacity Utilization (ICU) Methodology* was used to determine levels of service for signalized intersections, and the results are shown as a volume-to-capacity (V/C) ratio. The ICU calculations assume a lane capacity of 1,600 vehicles per hour per lane for all movements and 2,880 per hour per lane for dual turn lanes. A clearance interval capacity reduction of V/C 0.10 is applied to each intersection. In addition, at intersections located directly

adjacent to the Metrolink railroad, a 10% capacity reduction is assumed for turning movements affected by train activity. This is consistent with previous studies<sup>1</sup>.

The affected intersections are as follows:

- San Fernando Road/Flower Street
  - NB LT, SB RT
  - EB RT
- Flower Street/Air Way
  - SB LT, EBT
- San Fernando Road/Dora Street
  - NB LT, SB ST, EWB T
  - EB LTR

Levels of service for the unsignalized intersections in the study area were calculated using the methodologies outlined in the Highway Capacity Manual (HCM)<sup>2</sup> and the results are presented as seconds of delay. Levels of service for unsignalized intersections were calculated using *HCS software*<sup>3</sup>.

Caltrans. Pursuant to the *Caltrans Guide for the Preparation of Traffic Impact Studies (2002)*, levels of service for State intersections were analyzed based on the HCM methodologies. Intersection levels of service were calculated using Synchro<sup>4</sup> software, which implements the HCM methodology to determine intersection levels of service, control delays and 85<sup>th</sup> percentile queue lengths for each approach.

## EXISTING CONDITIONS

### Roadway Network

The roadway system in the study area is comprised of a network of freeways, arterials and collectors. A brief description of the major components is provided below.

Interstate 5 Freeway (I-5) is a north-south freeway that extends from the U.S.-Mexico border in San Diego to the U.S.-Canadian border north of Seattle, Washington. In the vicinity of the project, I-5 consists of five mixed-flow travel lanes in each direction. Regional access from I-5 to the project site is provided via the interchange with Western Avenue and Flower Street.

State Route 134 (SR-134) is an east-west freeway that extends from I-210 in Pasadena to U.S. 101 in Toluca Lake. The freeway contains four mixed flow travel lanes and one High Occupancy Vehicle (HOV) lane in each direction in the Glendale area. Regional access is provided via the freeway-to-freeway connector with I-5 and the San Fernando interchange consists of hook ramps that connect to Fairmont Avenue and Doran Street.

San Fernando Road is a four-lane, north-south roadway that extends parallel to and on the east side of the railroad tracks. It is classified as a Major Arterial in the City of Glendale *Circulation*

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<sup>1</sup> Disney GC3, Transportation/Circulation and Parking Technical Report, Kaku Associates, 2000.

Doran St and Broadway/Brazil Safety and Access Project, PSR (Equivalent), HNTB, 2015.

<sup>2</sup> Highway Capacity Manual, Transportation Research Board, 2010.

<sup>3</sup> Highway Capacity Software 2010 Unsignal, Version 6.8, McTrans, 2017.

<sup>4</sup> Synchro plus SimTraffic, Version 8, Trafficware Ltd., 2013.



*Element*<sup>5</sup>. It currently accommodates approximately 26,500 vehicles per day (vpd) south of Doran Street. On-street parking is prohibited on the west side but allowed on the east side. Sidewalks are provided on the east side. The posted speed limit is 40 mph. The intersections with Flower Street, Fairmont Avenue and Doran Street are signalized.

Fairmont Avenue is an east-west roadway that extends parallel to and on the north side of SR-134. The roadway is classified as Major Arterial Between San Fernando Road and the SR-134 WB Ramps, and on-street parking is not allowed on both sides. East of the SR-134 WB Ramps, Fairmont Avenue is classified as a Minor Arterial with parking allowed on both sides of the street. West of the SR-134 WB Ramp intersection, Fairmont Avenue continues on a flyover structure over the railroad tracks, and extends northerly parallel to the Los Angeles River until it connects to Flower Street. The posted speed limit is 35 mph. This segment of Fairmont Avenue accommodates approximately 7,500 vpd.

Flower Street extends as an east-west two-lane Minor Arterial from San Fernando Road to Fairmont Avenue, where it turns northerly and continues as a four-lane facility parallel to I-5 until it terminates at Olive Street. Parking is allowed intermittently along the two-lane and four-lane segments. The posted speed limit is 30 mph. The roadway provides direct access to the project site via the existing power plant gate.

Doran Street is an east-west roadway that extends parallel to and on the south side of SR-134. The roadway is classified as Major Arterial between San Fernando Road and the SR-134 EB Ramps, and on-street parking is not allowed. East of the SR-134 EB Ramps, Doran Street is classified as an Urban Collector with parking allowed on both sides of the street. West of San Fernando Road, Doran Street crosses the railroad tracks and terminates in a cul-de-sac street as a Local Street in the City of Los Angeles. This segment provides access to the Caltrans Maintenance Station located under the SR-134.

## **Bicycle Facilities**

No designated bicycle lanes are currently provided on the study area roadways. The City's Bicycle Transportation Plan<sup>6</sup> includes the following bicycle network improvements:

- Multipurpose path along north side of the Los Angeles River from Flower St. to Verdugo Wash/Los Angeles River confluence (near Fairmont Ave flyover).
- Flower Street – Class III Bike route with sharrows from Western Ave to San Fernando Rd.
- Fairmont Avenue – B-type sharrows from Flower St to Concord St.
- Doran Street – Class II colored bike lane from San Fernando Rd to Concord St.
- Western Avenue - Class III Bike route with sharrows from Glenoaks Blvd to Flower St. Class II colored bike lanes between Flower St and Lake St, including pylons at I-5 ramps to separate merging vehicles from bicycles.
- Concord Street – Class III bike route with sharrows from South St to Broadway. Class II colored bike lanes between Fairmont Ave and Doran St.

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<sup>5</sup> City of Glendale Circulation Element of the General Plan, Planning and Public Works Divisions, August 1998.

<sup>6</sup> City of Glendale Bicycle Transportation Plan, City of Glendale, September 2012.

## **Railways**

The Southern California Regional Rail Authority (SCRRA) maintains and operates the railroad tracks located immediately east of the project site, which is used by approximate 85 Metrolink, Amtrak and UPR trains on a daily basis. The Glendale Transportation Center Station is located on 400 W Cerritos Ave approximately 2 miles south of the project site. The railway corridor is included in the future California High Speed Rail Palmdale/Los Angeles segment.

## **Transit**

The Metropolitan Transportation Authority (MTA) and the City of Glendale Beeline provide fixed route service in the study area. Within the study area, MTA Routes 94, 183 and 794 provide regional service along San Fernando Road with bus stops located in the vicinity of the project site. MTA Route 183 also provides service along Doran Street. Beeline Route 12 provides bus service between the Glendale Transportation Center and the Burbank Transportation Center, with bus stops along San Fernando Road and Flower Street.

## **Existing Intersection Operations**

Existing intersection turning volumes for the AM and PM peak commute periods (7AM to 9AM and 4PM to 6PM) were derived from counts collected on April 5, 2017. Intersection turning counts are included in the Technical Appendix for reference. The existing lane geometry and control for the intersections within the study area are shown in Exhibit 3 and the AM and PM peak hour volumes are illustrated in Exhibit 4.

Levels of service were calculated for the study area intersections based on the level of service methodology outlined previously, including lane capacity reductions for turning movements affected by train activity. Level of service calculation worksheets are included in the Technical Appendix. The existing intersection levels of service are summarized in Table 4.

As shown, all the study area intersections currently operate at LOS C or better during both peak hours, except the Western Avenue/I-5 Southbound Ramps and Doran Street/Concord Street intersections, which operate in the LOS D range during the AM and PM peak hours, respectively.



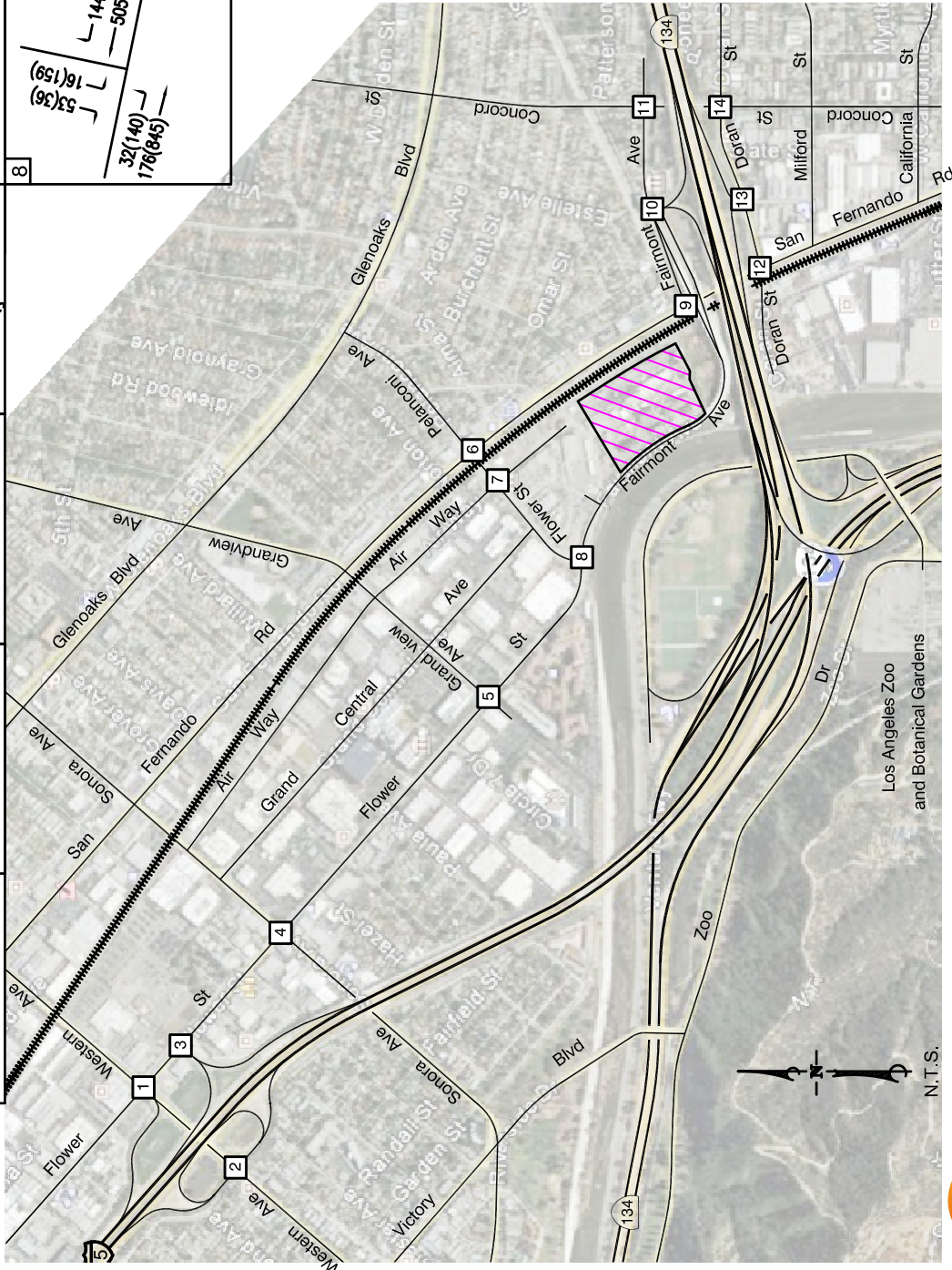


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**LEGEND**

XX(XX) - AM(PM) Peak Hour Volume  
 - Traffic Movement



**EXHIBIT 4**  
**EXISTING AM AND PM PEAK HOUR**  
**INTERSECTION TRAFFIC VOLUMES**

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**Table 4  
Existing Intersection Peak Hour Levels of Service**

Intersection	Control	AM Peak Hour		PM Peak Hour	
		ICU V/C Ratio	HCM Delay	ICU V/C Ratio	HCM Delay
1. Flower St/Western Ave	Signal	0.55/LOS A	-	0.76/LOS C	-
2. Western Ave/I-5 SB Ramps	Two-Way Stop	-	<b>29.9/LOS D</b>	-	23.2/LOS C
3. Flower St/I-5 NB Ramps	Signal	0.54/LOS A	13.7/LOS B	0.72/LOS C	23.5/LOS C
4. Flower St/Sonora Ave	Signal	0.71/LOS C	-	0.78/LOS C	-
5. Flower St/Grandview Ave	All-Way Stop	-	10.6/LOS B	-	21.6/LOS C
6. San Fernando Rd/Flower St <sup>a</sup>	Signal	0.42/LOS A	-	0.60/LOS B	-
7. Flower St/Air Way <sup>a</sup>	Signal	0.14/LOS A	-	0.25/LOS A	-
8. Flower St/Fairmont Ave	All-Way Stop	-	16.8/LOS C	-	10.6/LOS B
9. San Fernando Rd/Fairmont Ave	Signal	0.55/LOS A	-	0.64/LOS B	-
10. Fairmont Ave/SR 134 WB Ramps	Signal	0.69/LOS B	19.5/LOS B	0.74/LOS C	21.0/LOS C
11. Fairmont Ave/Concord St	Signal	0.68/LOS B	-	0.72/LOS C	-
12. San Fernando Rd/Doran St <sup>a</sup>	Signal	0.67/LOS B	-	0.80/LOS C	-
13. Doran St/SR 134 EB Ramps	Signal	0.54/LOS A	21.9/LOS C	0.66/LOS B	24.3/LOS C
14. Doran St/Concord St	Signal	0.65/LOS B	-	<b>0.83/LOS D</b>	-

<sup>a</sup> Capacity adjusted for movements affected by trains.  
Bolded values exceed City or Caltrans LOS standard.

### YEAR 2020 CONDITIONS

As discussed in the Project description section, any changes in existing traffic generated by the power plant are expected to be minimal after completion of the repowering project. All trips generated by the project will be related to demolition, construction and commissioning, and are considered short-term in nature. Maximum construction related traffic levels are anticipated to occur from January to May, 2020. Year 2020 (baseline) traffic volumes were developed by applying an annual growth rate of 1% per year from 2017 to 2020 to account for area-wide growth, and incorporation of near-future development projects and transportation projects in the study area.

### Approved and Pending Projects

Review of the City of Glendale Community Development – Current Projects list indicates that there are no approved or pending development projects proposed that would add traffic to the study area in the near future. The Disney Grand Central Creative Campus (GC3) Project, a long range redevelopment master plan for the Grand Central Business Center located north of the project site, is ongoing with an updated buildout schedule of 2035. However, no current replacement or rehabilitation projects are currently underway that would result in traffic additions by 2020.



## Doran Street and Broadway/Brazil Grade Separation Project

The Los Angeles County Metropolitan Transportation Authority (Authority) in cooperation with the cities of Glendale and Los Angeles, the Southern California Regional Rail Authority (SCRRA), and the California High Speed Rail Authority (CHSRA), has programmed a grade separation project that addresses safety and mobility at the existing at-grade railroad crossings at Doran Street and Broadway/Brazil Street.

The project consists of an interim safety improvement and several ultimate improvements:

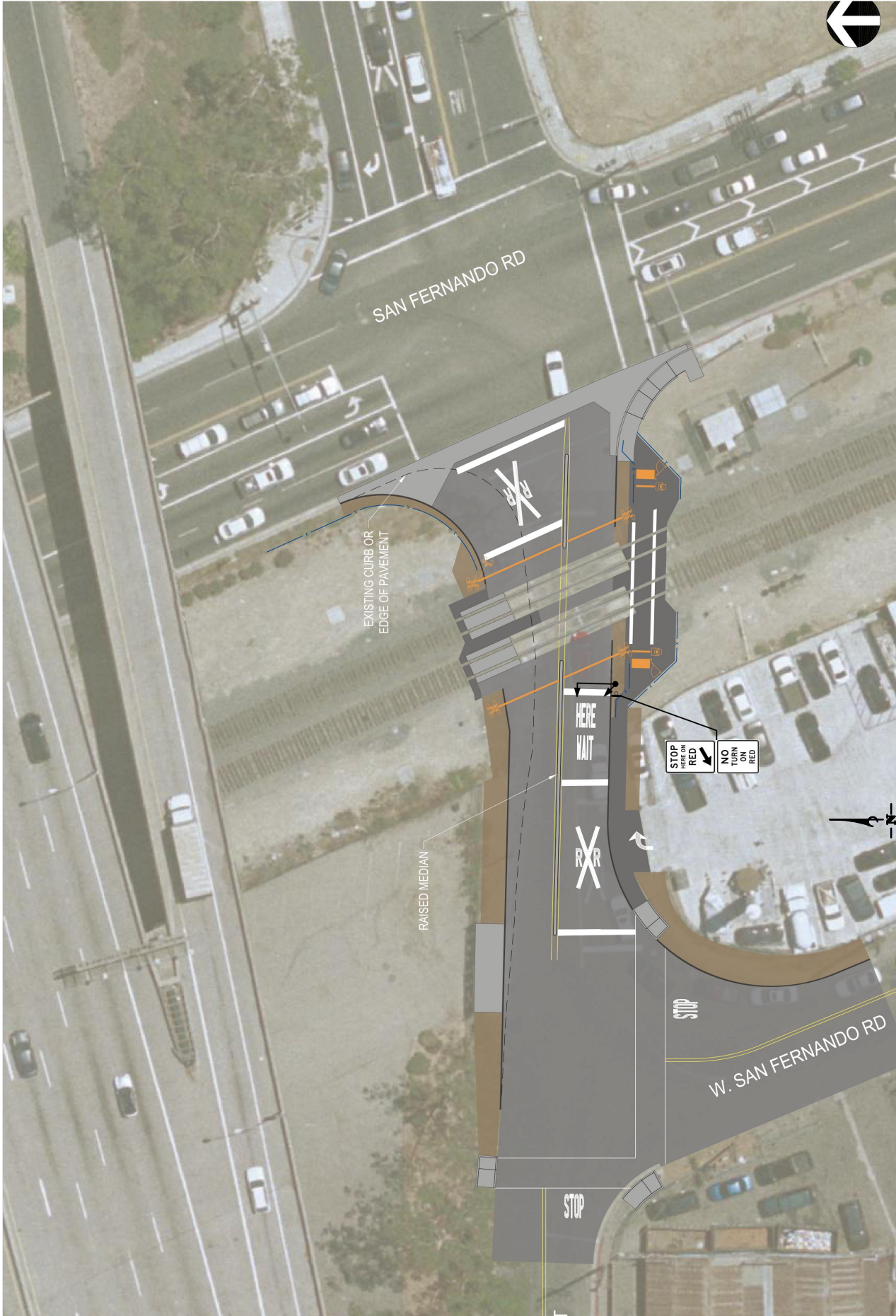
- Interim safety improvement:
  - Widening of west leg at Doran Street railroad crossing to the north and installation of a raised median.
  - Conversion to guarded crossing and installation of advanced traffic signal for eastbound traffic.
  - Striping improvements.
- Ultimate grade separation improvements:
  - Closure of the Doran Street and Broadway/Brazil Street at-grade crossings.
  - Construction of an overpass from Sperry Street to Salem Street.
  - Extension of West San Fernando Road from Doran Street to Fairmont Ave (Fairmont Connector).

The interim safety improvement at the Doran Street crossing (illustrated in Exhibit 5) is programmed to be constructed between June 2018 to February 2019. The crossing will be open during this construction period, except for an approximate 6-week period when median construction and railway work necessitate roadway closure. The ultimate improvements are scheduled to commence in November 2020 and be completed in December 2022. The construction schedule is summarized in Table 5.

**Table 5**  
**Doran Street and Broadway/Brazil Grade Separation Project**  
**Construction Schedule**

<b>Project Component</b>	<b>Period</b>
Interim safety improvements	June 2018 – February 2019
ultimate improvements	November 2020 – December 2022

The start of construction of the interim safety improvement at the Doran Street crossing coincides with the start of the Grayson Repowering Project (June 2018) and will be completed prior to the construction phase of the project starts (April 2019). The interim safety improvement is therefore assumed to be in place for the Year 2020 analysis. The start of construction of the ultimate grade separation improvements coincides with the end of the Grayson Repowering Project construction phase (December 2020), which is after the project's peak trip generation period (January – April 2020). A qualitative discussion of potential impacts is provided in the Access and Parking section of this report.



**EXHIBIT 5**  
**DORAN STREET INTERIM SAFETY IMPROVEMENTS**



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## Year 2020 Intersection Operations

The Year 2020 AM and PM peak hour volumes are illustrated in Exhibit 6. Levels of service were recalculated for the study area intersections and the Year 2020 (without project) intersection levels of service are summarized in Table 6. As shown, the following intersections are expected to operate below the City or Caltrans level of service standard:

- 2. Western Ave/I-5 SB Ramps (AM/PM)
- 4. Flower St/Sonora Ave (PM)
- 12. San Fernando Rd/Doran St (PM)
- 14. Doran St/Concord St (PM)

**Table 6**  
**Year 2020 Intersection Peak Hour Levels of Service**

Intersection	Control	AM Peak Hour		PM Peak Hour	
		ICU V/C Ratio	HCM Delay	ICU V/C Ratio	HCM Delay
1. Flower St/Western Ave	Signal	0.57/LOS A	-	0.78/LOS C	-
2. Western Ave/I-5 SB Ramps	Two-Way Stop	-	<b>33.8/LOS D</b>	-	<b>25.1/LOS D</b>
3. Flower St/I-5 NB Ramps	Signal	0.54/LOS A	13.8/LOS B	0.73/LOS C	25.0/LOS C
4. Flower St/Sonora Ave	Signal	0.73/LOS C	-	<b>0.81/LOS D</b>	-
5. Flower St/Grandview Ave	All-Way Stop	-	10.8/LOS B	-	23.8/LOS C
6. San Fernando Rd/Flower St <sup>a</sup>	Signal	0.44/LOS A	-	0.61/LOS B	-
7. Flower St/Air Way <sup>a</sup>	Signal	0.14/LOS A	-	0.25/LOS A	-
8. Flower St/Fairmont Ave	All-Way Stop	-	10.8/LOS B	-	17.9/LOS C
9. San Fernando Rd/Fairmont Ave	Signal	0.56/LOS A	-	0.66/LOS B	-
10. Fairmont Ave/SR 134 WB Ramps	Signal	0.71/LOS C	20.6/LOS B	0.76/LOS C	22.7/LOS C
11. Fairmont Ave/Concord St	Signal	0.69/LOS B	-	0.73/LOS C	-
12. San Fernando Rd/Doran St <sup>a</sup>	Signal	0.69/LOS B	-	<b>0.82/LOS D</b>	-
13. Doran St/SR 134 EB Ramps	Signal	0.55/LOS A	21.9/LOS C	0.68/LOS B	25.4/LOS C
14. Doran St/Concord St	Signal	0.66/LOS B	-	<b>0.85/LOS D</b>	-

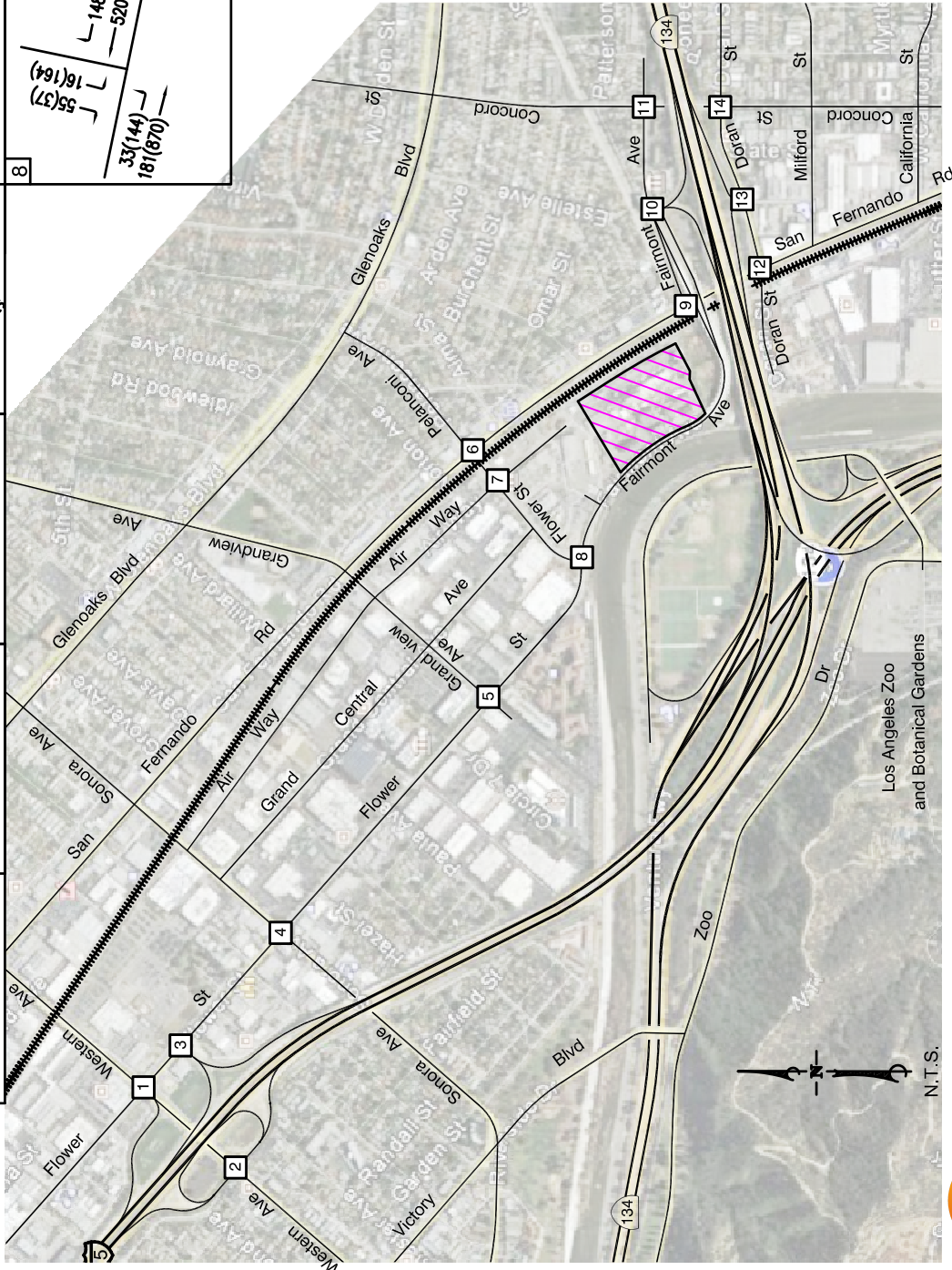
<sup>a</sup> Capacity adjusted for movements affected by trains.  
Bolded values exceed City or Caltrans LOS standard.



7	<p>31(165)</p> <p>5(5)</p> <p>102(42)</p> <p>11(16)</p> <p>18(12)</p> <p>10(12)</p> <p>8(13)</p> <p>10(12)</p> <p>10(12)</p>	6	<p>42(270)</p> <p>16(10)</p> <p>10(12)</p> <p>10(12)</p> <p>10(12)</p> <p>10(12)</p> <p>10(12)</p> <p>10(12)</p>	5	<p>9(0)</p> <p>9(0)</p> <p>9(0)</p> <p>9(0)</p> <p>9(0)</p> <p>9(0)</p> <p>9(0)</p>	4	<p>92(243)</p> <p>39(27)</p> <p>30(305)</p> <p>38(141)</p> <p>4(108)</p> <p>4(108)</p> <p>4(108)</p> <p>4(108)</p>	3	<p>64(368)</p> <p>46(128)</p> <p>8(674)</p> <p>137(447)</p> <p>8(674)</p> <p>8(674)</p> <p>8(674)</p>	2	<p>42(307)</p> <p>44(305)</p> <p>36(144)</p> <p>59(27)</p> <p>12(119)</p> <p>16(119)</p> <p>16(119)</p>	1	<p>32(15)</p> <p>45(23)</p> <p>45(23)</p> <p>45(23)</p> <p>45(23)</p> <p>45(23)</p> <p>45(23)</p>
10	<p>186(320)</p> <p>430(241)</p> <p>81(39)</p> <p>84(660)</p> <p>167(673)</p> <p>266(643)</p>	9	<p>238(427)</p> <p>184(98)</p> <p>134(165)</p> <p>587(1,197)</p> <p>109(91)</p> <p>1,194(1,426)</p>	8	<p>148(40)</p> <p>520(647)</p> <p>33(144)</p> <p>18(670)</p> <p>55(37)</p> <p>16(164)</p>	11	<p>3(5)</p> <p>3(5)</p> <p>3(5)</p> <p>3(5)</p> <p>3(5)</p> <p>3(5)</p>	12	<p>217(225)</p> <p>134(28)</p> <p>235(76)</p> <p>570(992)</p> <p>15(10)</p> <p>96(83)</p> <p>1,010(1,001)</p> <p>198(47)</p> <p>163(75)</p> <p>39(156)</p> <p>31(91)</p> <p>13(13)</p>	13	<p>55(171)</p> <p>11(45)</p> <p>151(612)</p> <p>243(384)</p> <p>266(450)</p> <p>20(18)</p> <p>3(5)</p> <p>3(5)</p> <p>3(5)</p>	14	<p>184(277)</p> <p>75(59)</p> <p>10(11)</p> <p>261(320)</p> <p>30(19)</p> <p>18(13)</p> <p>346(509)</p> <p>289(344)</p> <p>113(141)</p> <p>84(127)</p> <p>63(128)</p> <p>24(42)</p>

**LEGEND**

- XX(XX) - AM(PM) Peak Hour Volume
- ┌──┐ - Traffic Movement



**EXHIBIT 6**  
**YEAR 2020 AM AND PM PEAK HOUR**  
**INTERSECTION TRAFFIC VOLUMES**



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## PROJECT SPECIFIC CONDITIONS

### Traffic Impact Thresholds

City of Glendale. A significant impact to signalized intersections would occur if a proposed project increases the V/C ratio by 0.020 or more and LOS D, E, or F occurs. A project generates a significant impact at unsignalized (two-way or four way stop-controlled) intersections if project traffic causes an increase in intersection delay of three (3) seconds or more and LOS D, E or F occurs.

Caltrans. Caltrans has established the cusp of the LOS C/D range as the target level of service standard for State Highway intersections. If an existing State Highway facility is operating at less than the target LOS, the existing Measure of Effectiveness (MOE) should be maintained.

### Project Trip Generation and Distribution

Project Trip Generation. Short-term trip generation estimates for the proposed project were developed based on employee and demolition/construction truck data provided by the applicant for each month from June 2018 to June 2021.

Trips are generated by construction workers (manpower) commute traffic and hauling/delivery trucks. Because the construction worker shift will be from 6:30 AM to 2:30 PM, commute traffic will occur outside of the AM peak commute period (7 AM – 9 AM) and PM peak commute period (4 PM – 6 PM). A detailed table showing the demolition and construction manpower levels, on-site equipment on the site and number of trucks delivering materials to the project site on a monthly basis is included in the Technical Appendix.

Truck traffic consists of two major components. The first component consists of hauling/delivery trucks (waste hauling, materials and supplies delivery, equipment delivery and removal), with a relatively uniform trip generation during the demolition/construction period. The second component consists of concrete trucks (concrete and foundation pile delivery), with a peak concrete delivery demand during the construction period between July and December, 2019. The construction period therefore has an average and maximum trip estimate to account for peak concrete delivery days. A brief summary of construction worker levels and truck traffic is provided below.

*Demolition phase (June 2018 – March 2019).* During the demolition phase the project will require between 25 and 60 construction workers on a daily basis. Between 5 and 22 trucks delivering equipment or hauling demolition materials will travel to and from the project site daily.

*Construction phase (April 2019 – December 2020).* During the construction phase the project will require between 35 and 150 construction workers on a daily basis, with a peak demand of between 170 to 240 workers during the December 2019 – May 2020 period. Between 2 and 9 trucks delivering equipment or hauling demolition materials are expected to travel to and from the project site daily. In addition, soils import will require up to 50 hauling trucks per day during the first two months (April - May 2019) and up to 25 trucks per day during December 2019 and January 2020. Concrete delivery for foundation pilings will require an average of up to 12 trucks per day, with a maximum of 36 trucks for two days per month during four months (total of eight days during the life of the project).



Commissioning (January 2021 – June 2021). During the commissioning phase the project will require between 25 and 85 construction workers on a daily basis. The number of hauling/delivery trucks will be reduced to an average of 2 trucks per day.

Trip generation estimates were calculated for each month based on the manpower and truck levels provided by the applicant and the following trip generation factors:

- Truck trips were converted to passenger car trips by applying a passenger car equivalent (PCE) of 2.5, which is consistent with the SCAG Heavy Duty Truck Model.
- Truck arrival and departure pattern is expected to be even throughout the workday, with 13% of truck traffic arriving and leaving during the AM and PM peak hours.
- Manpower trip generation estimates assume an average vehicle occupancy of 1.15 persons per vehicle.
- The construction worker shift will be from 6:30 AM to 2:30 PM. However, per City staff direction, the manpower trip generation estimates assume that 25% of construction workers arrive during the AM peak hour and 50% of construction workers depart during the PM peak hour to provide for a conservative analysis.

A trip generation worksheet outlining the trip generation components and average daily and peak hour trip estimates for hauling and delivery trucks and passenger vehicles for each month is included in the Technical Appendix. Table 7 summarizes the maximum trip generation per project phase and Table 8 shows the detailed trip generation estimates for the peak month per project phase.

**Table 7  
Project Trip Generation Summary**

Project Component	Peak Month	Average Daily Trips (ADT)	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Demolition	September 2018	214 ADT	20 PHT	7 PHT	27 PHT	7 PHT	33 PHT	40 PHT
Construction	January 2020	513 ADT	52 PHT	13 PHT	65 PHT	13 PHT	91 PHT	104 PHT
Commissioning	February 2021	71 ADT	9 PHT	0 PHT	9 PHT	0 PHT	17 PHT	17 PHT

As shown, the project is expected to result in a short-term addition of 214 ADT, 27 AM peak hour trips and 40 PM peak hour trips during the demolition period. During the construction period, a short-term addition of 513 ADT, 65 AM peak hour trips and 104 PM peak hour trips would be generated. During the commissioning period, 71 ADT, 9 AM peak hour trips and 17 PM peak hour trips would be generated. The peak construction phase trip generation is used for the following project specific analysis.

**Table 8  
Project Trip Generation**

Project Component	Demolition	Construction	Commissioning
	Sept 2018	Jan 2020	Feb 2021
<b>Trucks (hauling/equipment etc.)</b>			
<i>Number of trucks - average/day</i>	22	9	2
Passenger car equivalent multiplier	2.5	2.5	2.5
ADT trucks - average/day	110	45	10
<b>Trucks (delivering soil)</b>			
<i>Number of trucks - average/day</i>		25	
Passenger car equivalent multiplier	2.5	2.5	2.5
ADT trucks - average/day	0	125	0
<b>Trucks (concrete/pilings)</b>			
<i>Number of trucks - average/day</i>		6	
Passenger car equivalent multiplier	2.5	2.5	2.5
ADT trucks - average/day	0	30	0
<i>Number of trucks - maximum/day</i>	0	10	0
Passenger car equivalent multiplier	2.5	2.5	2.5
ADT maximum any one day	0	50	0
<i>Total ADT trucks - average day</i>	110	200	10
<i>AM peak hour - average day (7AM - 9AM)</i>	14	26	1
<i>PM peak hour - average day (4PM - 6PM)</i>	14	26	1
<i>Total ADT trucks - maximum day</i>	110	220	10
<i>AM peak hour - maximum day (7AM - 9AM)</i>	14	29	1
<i>PM peak hour - maximum day (4PM - 6PM)</i>	14	29	1
<b>Manpower</b>			
<i>Number of persons</i>	60	180	35
Average vehicle occupancy (AVO)	1.15	1.15	1.15
ADT Manpower	104	313	61
<i>Total ADT manpower - average day</i>	104	313	61
<i>AM peak hour - average day (25% 7AM - 9AM)</i>	13	39	8
<i>PM peak hour - average day (50% 4PM - 6PM)</i>	26	78	15
<b>ADT Total (trucks and manpower) - average day</b>	214	513	71
<b>AM peak hour - average day (7AM - 9AM)</b>	27	65	9
<b>PM peak hour - average day (4PM - 6PM)</b>	40	104	17

Truck trips converted to passenger car equivalent trips by applying a conversion factor of 2.5 per SCAG Heavy Duty Truck Model.

Trip generation estimates for truck trips assumes that 13% of ADT arrive and depart during both AM and PM peak hours. Manpower trips assume 25% arrive during AM peak hour and 50% depart during PM peak hour.

Project Trip Distribution. Peak project trips (Construction phase, January 2020) were distributed and assigned to the local street network based on the location of the project site, knowledge of the local street network and anticipated truck route and commute travel patterns. The distribution assumes that all truck trips are generated to and from the project site. Trucks trips will be generated during the life of the project to and from the materials lay-off site located on Flower Street opposite the I-5 NB Ramps, but because the number of trips is expected to be minimal the project specific analysis does not assume any trips to and from the lay-off site.

Truck routes will be regional in nature and truck traffic will use the I-5 and SR 134 to reach the project site. Construction worker traffic is expected to be both regional and local. As discussed, construction worker parking will be provided on the Caltrans/City of Glendale storage yard between the Verdugo Wash and Doran Street, which will be converted to a temporary parking lot with between 176 and 210 spaces during peak construction periods. Access to the storage yard is provided via a driveway on Doran Street west of San Fernando Road. A pedestrian bridge is provided between the yard and the project site for direct construction worker access. During the peak construction phase, a total parking demand of 156 spaces (180 workers) would be generated. This parking demand can be entirely accommodated on the temporary parking lot. All construction worker traffic is therefore assumed to travel to and from the parking lot.

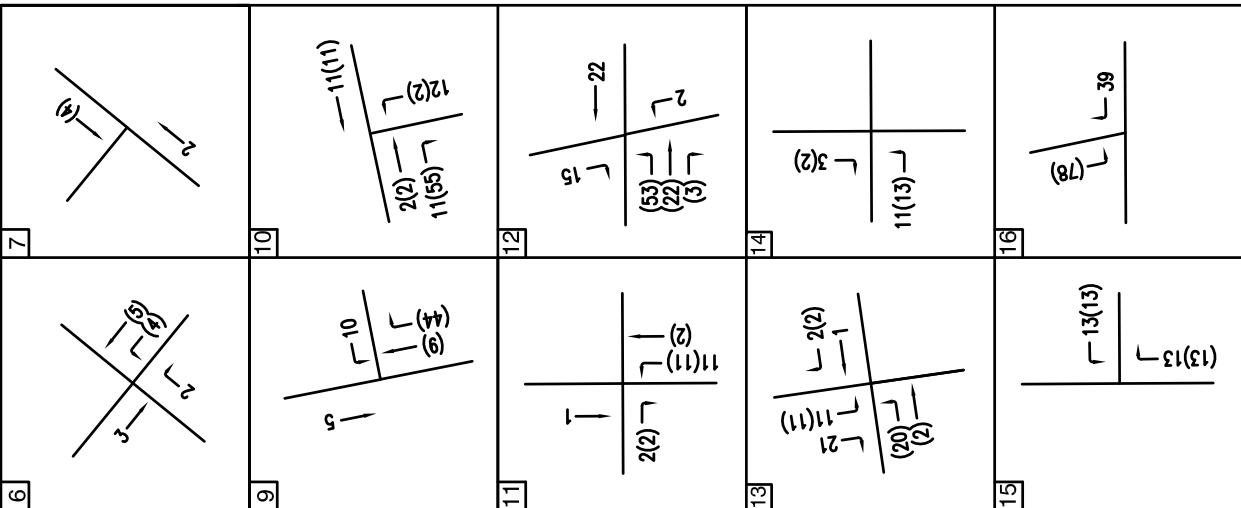
The trip distribution percentages are shown in Table 9 and the project-added trips are illustrated in Exhibit 7.

**Table 9  
Project Construction Trip Distribution**

<b>Street (to/from)</b>	<b>Direction</b>	<b>Percentage of Truck Trips</b>	<b>Percentage of Manpower Trips</b>
I-5	North	35%	20%
	South	30%	20%
SR 134	East	15%	25%
	West	20%	15%
San Fernando Rd	North	-	5%
	South	-	5%
Flower St	North	-	5%
Glenoaks Blvd	East	-	3%
Grandview Ave	North	-	2%
<b>Total</b>		<b>100%</b>	<b>100%</b>

**Year 2020 plus Project Intersection Operations**

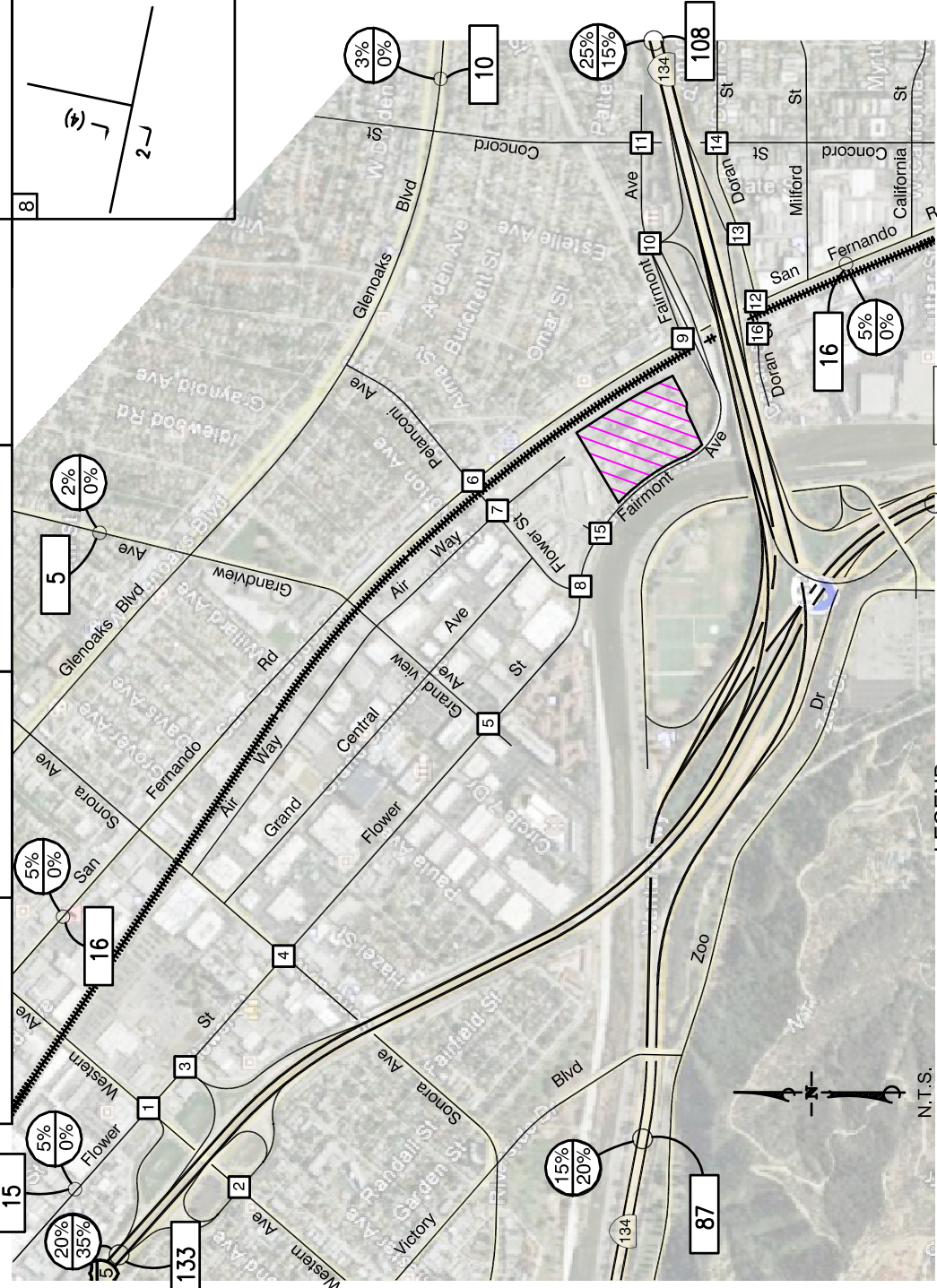
Project generated traffic volumes were added to the existing peak hour traffic volumes and levels of service were recalculated assuming existing plus project conditions. As discussed previously, the interim safety improvement at the Doran Street crossing is programmed to be constructed prior to the Grayson construction phase. The interim safety improvement would not change the San Fernando Road/Doran Street intersection geometry or restrict access to the temporary parking lot used by construction workers. The existing plus project traffic volumes are illustrated in Exhibit 8 and Tables 10 and 11 summarize the LOS calculations.



# EXHIBIT 7

## PROJECT-ADDED TRAFFIC VOLUMES

### CONSTRUCTION PHASE



- LEGEND**
- XXXX - Average Daily Traffic
  - XX(XX) - AM(PM) Peak Hour Volume
  - 20% - Trip Distribution Percentage - Manpower
  - 25% - Trip Distribution Percentage - Trucks

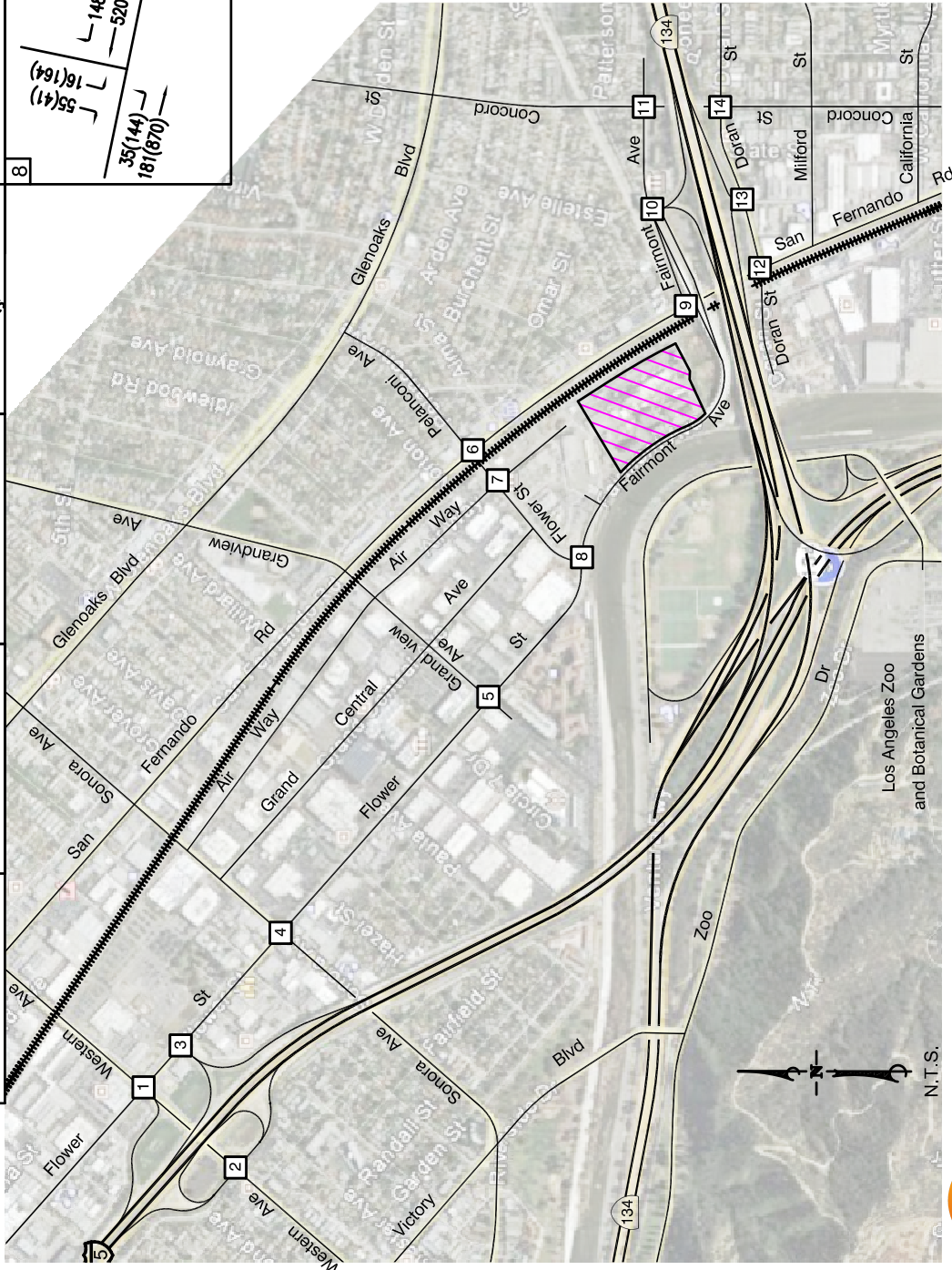
**Stantec**  
 111 East Victoria Street,  
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7	<table border="1"> <tr> <td>59(5)</td> <td>53(165)</td> </tr> <tr> <td>11(116)</td> <td>102(46)</td> </tr> <tr> <td>18(12)</td> <td>14(21)</td> </tr> <tr> <td>18(12)</td> <td>14(21)</td> </tr> </table>	59(5)	53(165)	11(116)	102(46)	18(12)	14(21)	18(12)	14(21)	10	<table border="1"> <tr> <td>197(331)</td> <td>430(241)</td> </tr> <tr> <td>81(139)</td> <td>556(662)</td> </tr> <tr> <td>169(675)</td> <td>277(698)</td> </tr> </table>	197(331)	430(241)	81(139)	556(662)	169(675)	277(698)		
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44(270)	16(10)																		
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5	<table border="1"> <tr> <td>90(0)</td> <td>90(0)</td> </tr> <tr> <td>90(0)</td> <td>90(0)</td> </tr> <tr> <td>90(0)</td> <td>90(0)</td> </tr> <tr> <td>90(0)</td> <td>90(0)</td> </tr> </table>	90(0)	90(0)	90(0)	90(0)	90(0)	90(0)	90(0)	90(0)	8	<table border="1"> <tr> <td>148(40)</td> <td>520(647)</td> </tr> <tr> <td>16(164)</td> <td>55(41)</td> </tr> <tr> <td>35(144)</td> <td>181(670)</td> </tr> </table>	148(40)	520(647)	16(164)	55(41)	35(144)	181(670)		
90(0)	90(0)																		
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42(25)	38(126)																		
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289(537)	289(537)																		
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32(15)	45(23)																		
45(23)	174(138)																		
174(138)	99(9)																		
99(9)	174(138)																		
184(277)	75(59)																		
75(59)	10(11)																		
113(141)	349(51)																		
289(344)	95(140)																		

**LEGEND**

- XX(XX) - AM(PM) Peak Hour Volume
- ┌──┐ - Traffic Movement



**EXHIBIT 8**

**YEAR 2020 + PROJECT AM AND PM PEAK HOUR INTERSECTION TRAFFIC VOLUMES**



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**Table 10**  
**Year 2020 plus Project**  
**Intersection AM Peak Hour Levels of Service**

Intersection	Control	AM Peak Hour		Change in V/C or Delay	Temporary Impact?
		ICU V/C Ratio	HCM Delay		
1. Flower St/Western Ave	Signal	0.57/LOS A	-	0.0	No
2. Western Ave/I-5 SB Ramps	Two-Way Stop	-	<b>33.8/LOS D</b>	0.0	No
3. Flower St/I-5 NB Ramps	Signal	0.55/LOS A	13.8/LOS B	0.001/	No
4. Flower St/Sonora Ave	Signal	0.73/LOS C	-	0.001	No
5. Flower St/Grandview Ave	All-Way Stop	-	10.9/LOS B	0.1	No
6. San Fernando Rd/Flower St <sup>a</sup>	Signal	0.44/LOS A	-	0.001	No
7. Flower St/Air Way <sup>a</sup>	Signal	0.14/LOS A	-	0.0	No
8. Flower St/Fairmont Ave	All-Way Stop	-	10.8/LOS B	0.0	No
9. San Fernando Rd/Fairmont Ave	Signal	0.56/LOS A	-	0.003	No
10. Fairmont Ave/SR 134 WB Ramps	Signal	0.72/LOS C	20.6/LOS B	0.001/	No
11. Fairmont Ave/Concord St	Signal	0.70/LOS B	-	0.008	No
12. San Fernando Rd/Doran St <sup>a</sup>	Signal	0.69/LOS B	-	0.006	No
13. Doran St/SR 134 EB Ramps	Signal	0.56/LOS A	21.9/LOS C	0.01/	No
14. Doran St/Concord St	Signal	0.68/LOS B	-	0.009	No

<sup>a</sup> Capacity adjusted for movements affected by trains.  
 Bolded values exceed City or Caltrans LOS standard.

Tables 10 and 11 indicate that the project would generate a short-term impact at the San Fernando Road/Doran Street intersection by adding V/C 0.05 during the PM peak hour, which would exceed the City's threshold of V/C 0.02 FOR signalized intersections operating at LOS D, E, or F. The additional traffic is directly related to construction worker parking on the temporary lot on Doran Street. Mitigation measures to reduce the temporary increase in congestion are discussed in the Mitigations section.

**Table 11  
Year 2020 plus Project  
Intersection PM Peak Hour Levels of Service**

Intersection	Control	AM Peak Hour		Change in V/C or Delay	Temporary Impact?
		ICU V/C Ratio	HCM Delay		
1. Flower St/Western Ave	Signal	0.78/LOS C	-	0.0	No
2. Western Ave/I-5 SB Ramps	Two-Way Stop	-	<b>25.1/LOS D</b>	0.0	No
3. Flower St/I-5 NB Ramps	Signal	0.73/LOS C	25.0/LOS C	0.001	No
4. Flower St/Sonora Ave	Signal	<b>0.81/LOS D</b>	-	0.0	No
5. Flower St/Grandview Ave	All-Way Stop	-	23.9/LOS C	0.1	No
6. San Fernando Rd/Flower St <sup>a</sup>	Signal	0.61/LOS B	-	0.0	No
7. Flower St/Air Way <sup>a</sup>	Signal	0.25/LOS A	-	0.0	No
8. Flower St/Fairmont Ave	All-Way Stop	-	18.0/LOS C	0.1	No
9. San Fernando Rd/Fairmont Ave	Signal	0.66/LOS B	-	0.002	No
10. Fairmont Ave/SR 134 WB Ramps	Signal	0.76/LOS C	22.7/LOS C	0.001/	No
11. Fairmont Ave/Concord St	Signal	0.74/LOS C	-	0.008	No
12. San Fernando Rd/Doran St <sup>a</sup>	Signal	<b>0.82/LOS D</b>	-	<b>0.05</b>	<b>Yes</b>
13. Doran St/SR 134 EB Ramps	Signal	0.69/LOS B	25.4/LOS C	0.01/	No
14. Doran St/Concord St	Signal	<b>0.86/LOS D</b>	-	0.009	No

<sup>a</sup> Capacity adjusted for movements affected by trains.  
Bolded values exceed City or Caltrans LOS standard.

### Year 2020 plus Project Ramp Queuing

Queue lengths were calculated for the I-5 Northbound and Southbound Off-Ramps and SR 134 Eastbound and Westbound Off-Ramps in the study area to determine if the existing ramp accommodates 95<sup>th</sup> Percentile peak hour queues under project-specific conditions. Table 12 summarizes the ramp queuing calculations. Calculation worksheets are attached for reference.

Table 12 indicates that the 95<sup>th</sup> percentile queue during the AM and PM peak hours are expected to be 270 feet or less. The existing storage length of each off-ramp in the study-area is sufficient to accommodate the expected peak hour queues under existing plus project conditions.

**Table 12  
I-5 and SR 134 Off-Ramps  
95<sup>th</sup> Percentile Queues**

Ramp	Ramp Storage Length <sup>a</sup>	Year 2020 + Project	
		AM Peak Hour	PM Peak Hour
I-5 Northbound Off-Ramp (2 lanes)	1,200 feet per lane	150 feet	270 feet
I-5 Southbound Off-Ramp – to NB Western Ave I-5 Southbound Off-Ramp – to SB Western Ave	600 feet 700 feet	200 feet 25 feet	100 feet 25 feet
SR-134 Eastbound Off-Ramp	950 feet	100 feet	250 feet
SR-134 Eastbound Off-Ramp	1,000 feet	250 feet	175 feet

<sup>a</sup> Ramp length measured from ramp gore point to limit line at local street intersection.

## PROJECT SITE ACCESS AND PARKING

### Project Site Access

Access to the site is provided via the existing Utility Operations Center entrance on Fairmont Avenue. Secondary access is provided via the gated driveway on Flower Street opposite Air Way, and a gated driveway on Fairmont Avenue approximately 450 feet south of the main entrance. Construction worker access and truck access is discussed separately below.

Project worker traffic would use the Utility Operations Center entrance. The entrance contains two inbound and two outbound lanes, which are separated by fencing and a guardhouse. A southbound left-turn lane and a northbound right-turn lane are provided on Fairmont Avenue.

During the demolition phase the entrance will be used by 25 to 60 construction on a daily basis. During the construction phase the entrance will be used by approximately 40 to 50 construction workers (the remainder will use the temporary parking lot on Doran Street, which will have between 176 and 210 spaces) on a daily basis. Existing employee traffic will be removed during the life of the project as the plant will not be in operation.

The Fairmont Avenue/ Utility Operations Center intersection is controlled by a stop sign on the plant exit and is expected to operate acceptably. Traffic on Fairmont Avenue is metered by the all-way stop control at Flower Street to the north and the traffic signal at the SR 134 WB Ramps to the south, and sufficient gaps are provided to enter and exit the project site without significant delays. Review of the entrance intersection indicates that adequate corner and stopping sight distance lines are provided.

Project truck traffic would use the gated driveway on Fairmont Avenue approximately 450 feet south of the main entrance to enter and exit the project site. During the demolition phase the driveway will be used by 5 to 22 trucks delivering equipment or hauling demolition materials on a daily basis. During the construction phase the entrance will be used by approximately 6 to 62 trucks on a daily basis.



The gated driveway is approximately 35 feet wide. A truck turning analysis will have to be completed to determine truck turning requirements for larger trucks (up to CA-Legal size) to enter and exit the site. In addition, no turning lanes are provided on Fairmont Avenue at the gated driveway. A construction traffic control plan will have to be developed and implemented by the applicant to provide adequate traffic control and safety during truck arrival and departure periods. Traffic control will include but is not limited to implementation of (electronic) advance warning signage and temporary lane closures.

### **Temporary Parking Lot Access**

Access to the proposed temporary construction worker parking lot on Doran Street will be via two existing driveways for the Caltrans/City of Glendale maintenance yard, located approximately 90 feet and 400 feet west of the railroad tracks, respectively. To provide for sufficient spacing from the railroad tracks and the proposed median that will be installed on Doran Street as part of the railroad crossing interim safety improvements (see Exhibit 5), and to provide sufficient queuing capacity, it is recommended that the driveway adjacent to the tracks is limited to entry only and the driveway located 400 west of the tracks is limited to exit only.

The manpower trip generation estimates assume that 25% of construction workers arrive during the AM peak hour and 50% of construction workers depart during the PM peak hour to provide for a conservative analysis. As discussed in the Project Trip Generation section, construction worker shifts will be from 6:30 AM to 2:30 PM. It is therefore expected that in reality, the majority of construction worker commute traffic will occur outside of the AM and PM peak hours, and that intersection delays and queuing will be less than significant.

As discussed previously, construction of the interim safety improvement at the Doran Street crossing is scheduled from June 2018 to April 2019. This coincides with the demolition phase of the project (June 2018 to March 2018) and the first month of the construction phase of the project. The manpower statistics indicate that during this period, the number of demolition and construction workers would be between 25 and 60 workers on a daily basis. Parking demand generated by these workers would be accommodated entirely on the GWP Utility Operations Center. It is not expected that the temporary parking lot would be utilized extensively until October 2019.

The start of construction of the ultimate grade separation improvements (November 2020) coincides with the end of the Grayson Repowering Project construction phase (December 2020) and commissioning phase (January 2021 to May 2021). The number of construction workers and commissioning personnel during this period would be 100 workers during November and December, and 25 to 35 workers thereafter. The start of construction of the ultimate grade separation improvements could potentially impact access to the temporary parking lot on Doran Street, which may remain in operation during November and December 2020.

### **Parking**

Parking demand generated by demolition workers is expected to be a maximum of 52 spaces (60 workers) and would be accommodated entirely on the GWP Utility Operations Center site through a combination of existing parking spaces and temporary construction parking areas.

Parking demand generated by construction workers is expected to be a maximum of 209 spaces (240 workers) and would be accommodated on the GWP Utility Operations Center site and on the temporary parking lot on Doran Street. Initial design indicates that the temporary parking lot can provide a parking supply of between 176 and 210 spaces. Assuming a total of 176 spaces on the lot, 33 spaces would be required on the GWP Utility Operations Center site to accommodate the maximum construction worker parking demand.

Parking demands during the commissioning phase would be accommodated entirely on the GWP Utility Operations Center site. It is expected that a parking demand of 30 – 35 spaces would be generated, which can be accommodated by the existing parking supply available on the site.

Truck hauling and delivery operations during typical demolition and construction days would not require a truck staging plan, as truck traffic would arrive and depart the site throughout the day. A truck staging plan should be developed for peak delivery days when high truck traffic is generated (soil delivery days, peak concrete delivery days) to ensure that truck parking/staging can be accommodated off the City streets.

## **MITIGATIONS**

### **Project Specific Mitigations**

Intersections. The Year 2020 plus project analysis indicated that the project would generate a short-term impact at the San Fernando Road/Doran Street intersection, which would operate at LOS D. The additional traffic is directly related to construction worker parking on the temporary lot on Doran Street. As shown in Exhibit 5, the interim safety improvements at the Doran Street crossing will maintain the existing eastbound single lane geometry. Review of the intersection indicates that no feasible short-term improvements can be implemented to improve operations. The impact would occur during the construction phase of the project and would be mitigated once construction worker levels decrease approaching the commissioning phase. No mitigation is therefore proposed.

Access. A truck turning analysis will have to be completed to determine truck turning requirements for larger trucks (up to CA-Legal size) to enter and exit the site via the gated driveway on Fairmont Avenue. A construction traffic control plan will have to be developed and implemented by the applicant to provide adequate traffic control and safety during truck arrival and departure periods. Traffic control will include but is not limited to implementation of (electronic) advance warning signage and temporary lane closures.

The temporary parking lot on Doran Street is served by two driveways. To provide for sufficient spacing from the railroad tracks and sufficient queuing capacity, it is recommended that the driveway adjacent to the tracks is limited to entry only and the driveway located 400 west of the tracks is limited to exit only.

Parking. The traffic and circulation study indicated that construction of the interim safety improvement at the Doran Street crossing (June 2018 to April 2019) would not have a significant impact to the street network and the project's operations. The start of construction of the ultimate grade separation improvements (November 2020) would coincide with the end of the Grayson Repowering Project construction phase (December 2020) and could potentially impact access to the temporary parking lot on Doran Street, which may remain in operation during November and December 2020 to accommodate parking for up to 100 workers. The City of Glendale and

the contractor should continue to coordinate scheduling with Metro staff and a mitigation plan identifying short-term parking supply alternatives on the project site or nearby lots should be developed in the event that potential closures of the Doran Street crossing would impact access to the temporary parking lot.

A truck staging plan for the project site should be developed for peak delivery days when high truck traffic is generated (soil delivery days, peak concrete delivery days) to ensure that truck parking/staging can be accommodated off the City streets.

## **CONGESTION MANAGEMENT PLAN ANALYSIS**

As required by the *2010 Congestion Management Program (CMP)*<sup>7</sup>, an analysis was prepared to determine the project's potential impacts on designated monitoring locations on the CMP highway system. The analysis was prepared in accordance with procedures outlined in the *2010 CMP*. The minimum level of service on the CMP network is LOS E. The following criteria apply to determine inclusion of CMP intersections, arterials and freeway segments in the analysis:

1. All CMP arterial monitoring intersections, including monitored freeway on- or off-ramp intersections, where the proposed project will add 50 or more trips during either the AM or PM weekday peak hours (of adjacent street traffic).
2. If CMP arterial segments are being analyzed rather than intersections (see Section D.3), the study area must include all segments where the proposed project will add 50 or more peak hour trips (total of both directions). Within the study area, the TIA must analyze at least one segment between monitored CMP intersections.
3. Mainline freeway monitoring locations where the project will add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

### **Intersections and Arterials**

Appendix A of the 2010 CMP indicates that there are no CMP arterial monitoring intersections located in the study-area. Therefore, no further CMP intersection analysis is required.

### **Freeways**

The I-5 and SR 134 freeways are included in the CMP network. The I-5 operates at LOS F and the SR 134 operates at LOS E or better during the AM and PM peak hours. The project would add less than 150 trips in the peak hours in either direction on both freeways. Therefore, no further CMP intersection analysis is required.



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<sup>7</sup> 2010 Congestion Management Plan, Los Angeles County Metropolitan Authority, 2010.