Westchester/Veterans & Crenshaw/Imperial Transit Oriented District (TOD)

DRAFT Traffic Impact Analysis

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Submitted to:

J# 05151 | Prepared by **Iteris, Inc.**

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TABLE OF CONTENTS

1.0 Introduction 1
1.1 Project Description 1
1.2 Study Area 3
1.3 Study Periods 5
1.4 Proposed Project 7
2.0 Environmental setting 7
2.1 Freeway Network 7
2.2 Arterial and Collector Network 8
2.3 Existing Multimodal Modality 14
3.0 Traffic Operations Analysis Methodology 16
3.1 Thresholds of Significance 18
4.0 Existing Conditions 19
5.0 Traffic Volume Development 23
5.1 Travel Model Methodology 23
5.2 Cumulative Projects 23
5.3 Modeled Land Use 23
5.4 Model Outputs 27
5.5 Project Trip Generation and Distribution 27
6.0 Existing Plus Project Conditions 28
6.1 Existing Plus Project Intersection Levels of Service 28
7.0 Future Year 2040 Without Project Conditions 33
7.1 Future Year 2040 Without Project Intersection Levels of Service 33
8.0 Future Year 2040 With Project Conditions 37
8.1 Future Year 2040 With Project Intersection Levels of Service 37
9.0 Congestion Management Program Analysis (CMP) 42
9.1 CMP Intersection Analysis 43
10.0 Caltrans Off-ramp Queuing Analysis 43
11.0 Potential Mitigation Measures 45
12.0 Conclusions 48

TABLES

Table 1: Proposed Project Land Use 3
Table 2: Study Area Transit Facilities 14
Table 3: Intersection Level of Service Definitions – ICU Methodology 17
Table 4: Intersection Level of Service Definitions – HCM Methodology 18
Table 5: Intersection Significant Impact Criteria 19
Table 6: Intersection Significant Impact Criteria (City of Los Angeles intersections) 19
Table 7: Existing Intersection Peak Hour Level of Service 20
Table 8: Socio-Economic Data (SED) Summary 26
Table 9: Project Trips Generated per TOD Area 27
Table 10: Study Area Vehicle Miles Traveled (VMT) 28
Table 11: Existing Plus Project Intersection Peak Hour Level of Service 30
Table 12: Future Year 2040 Without Project Intersection Peak Hour Level of Service 35
Table 13: Future Year 2040 With Project Intersection Peak Hour Level of Service 39
Table 13: CMP Intersection Analysis 43
Table 15: Future Year 2040 With Project Freeway Off-ramp Queue Lengths 44
Table 16: Intersection Peak Hour Level of Service – With Mitigated Conditions 47

FIGURES

Figure 1: Study Area 2
Figure 2: Intersection Locations 6
Figure 3: Existing Peak Hour Intersection Volumes 13
Figure 4: Existing Intersection Lane Configurations 22
Figure 5: SCAG Traffic Analysis Zone Boundaries 25
Figure 6: Existing Plus Project Peak Hour Intersection Traffic Volumes 29
Figure 7: Future Year 2040 Without Project Peak Hour Intersection Traffic Volumes 34
Figure 8: Future Year 2040 With Project Peak Hour Intersection Traffic Volumes 38

1.0 INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared to identify the potential transportation impacts of two Transit-Oriented Districts (TODs) in the City of Inglewood. The TODs are located around: 1) the new Westchester/Veterans Station as part of the Crenshaw/LAX light trail transit (LRT), which is currently under construction, and 2) the Crenshaw Station of the existing Metro Green Line LRT. The location of the two TODs within the study area is illustrated in **Figure 1**.

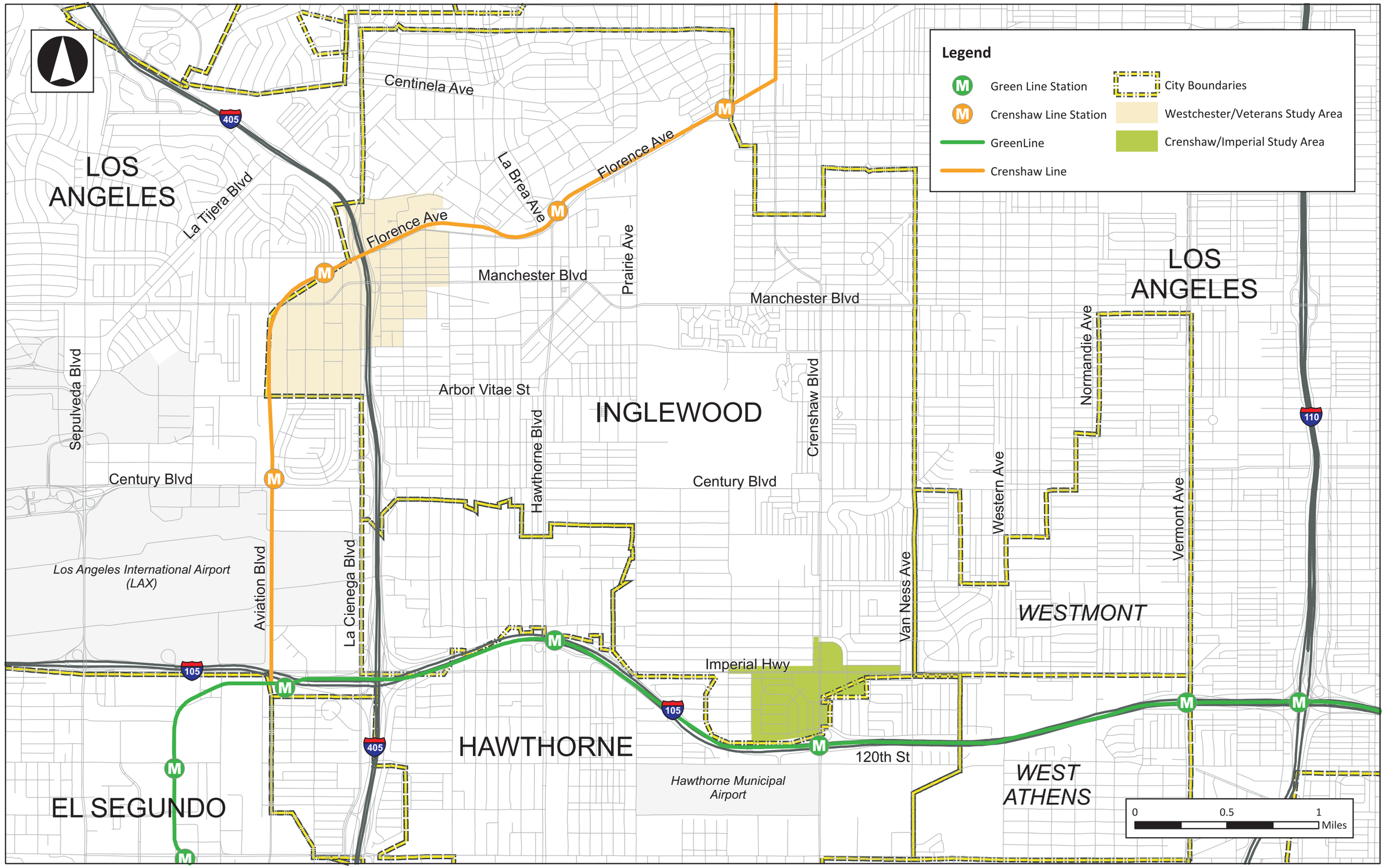
The 8.5 mile Crenshaw/LAX Light Rail Transit (LRT), which is currently under construction, will connect the existing Exposition Line LRT and the Green Line LRT near Los Angeles International Airport (LAX). Eight new transit stations are planned, including three stations in the City of Inglewood, one of which is the Westchester/Veterans Station near the intersection of Florence Avenue and Hindry Avenue. The planned stations are projected to begin operations in 2020 and therefore, the stations were included as part of the Future Year 2040 project scenarios only.

Completed in 1995, the 20-mile Metro Green Line LRT connects the City of Norwalk to LAX and the South Bay, running mostly along the I-105 (Century Freeway) corridor. It contains 14 stations. While technically located within the City of Hawthorne, the Crenshaw Station is close enough to the City of Inglewood boundary that the TOD for the station is partially within the City of Inglewood.

This TIA presents the results of an analysis evaluating existing traffic operations details the impacts of potential future developments associated with the TODs for the future year 2040. The traffic analysis follows the City of Inglewood guidelines, the Los Angeles County Public Works 1997 Traffic Impact Analysis guidelines, the Caltrans Guide for the Preparation of Traffic Impact Studies, and the 2010 Los Angeles County Congestion Management Program (CMP) guidelines.

1.1 Project Description

The proposed project consists of redeveloping the TODs around the Crenshaw LRT Station (Green Line) and the new (under construction at the time of this report) Westchester/Veterans LRT station with mixed land use patterns and multi-modal transportation facilities. The proposed developments within the TODs, which are referred in this document as the “With Project” scenario, are described in **Table 1**.



Westchester/Veterans & Crenshaw/Imperial Transit-Oriented Development
Traffic Impact Analysis
City of Inglewood

Figure 1
Study Area

Table 1: Proposed Project Land Use

	Residential (units)	Population	Non-Residential (s.f.)	Jobs
Westchester/Veterans				
Existing Development	1,596	4,617	5,008,003	7,217
Future Demolition	37	102	465,087	772
Future Development	1,143	3,155	1,412,676	6,297
Development at Buildout	**2,702**	**7,670**	**5,955,592**	**12,742**
Crenshaw/Imperial				
Existing Development	1,044	3,281	920,259	3,578
Future Demolition	83	229	663,432	858
Future Development	3,067	8,465	421,810	1,017
Development at Buildout	**4,028**	**11,517**	**678,638**	**3,737**
Project Total				
Existing Development	2,640	7,898	5,928,262	10,795
Future Demolition	120	331	1,128,519	1,630
Future Development	4,210	11,620	1,834,486	7,314
Development at Buildout	**6,730**	**19,187**	**6,634,229**	**16,479**

1.2 Study Area

The general boundaries of the TOD plan areas were defined in consultation with the City of Inglewood and are briefly described below:

Westchester/Veterans TOD Site
The Westchester/Veterans TOD encompasses the land parcels generally within a half-mile radius of the under-construction Crenshaw/LAX LRT's Westchester/Veterans station in the City of Inglewood. The station will be at-grade and will be located west of I-405 near the intersection of Florence Avenue and Hindry Avenue. The current land uses in the study area are primarily industrial and commercial within the City of Inglewood and residential north of the station in the City of Los Angeles.

Crenshaw/Imperial TOD Site
The Crenshaw/Imperial TOD encompasses the land parcels generally within a half-mile radius of the Green Line LRT's Crenshaw station. The station itself is located in the City of Hawthorne and the study area is located north of the station in the City of Inglewood. The current land uses in the corresponding TOD study area are mainly residential, but also include commercial developments along Imperial Highway and Crenshaw Boulevard.

Additionally, the analysis study area consists of intersections that are considered to potentially be impacted as a result of traffic generated by TOD land uses. The study area includes the following 40 intersections, which were selected along arterials that provide primary access and circulation to the two TOD areas:

1. Sepulveda Boulevard & Manchester Boulevard (City of Los Angeles);
2. La Tijera Boulevard & Manchester Boulevard (City of Los Angeles);
3. Airport Boulevard & Manchester Boulevard (City of Los Angeles);
4. La Tijera Boulevard & I-405 Northbound Ramps (Caltrans);
5. La Tijera Boulevard & I-405 Southbound Ramps (Caltrans);
6. Osage Avenue & 77th Street (City of Los Angeles);
7. Aviation Boulevard & Manchester Boulevard (City of Inglewood);
8. Aviation Boulevard & Arbor Vitae Street (City of Inglewood) ;
9. Aviation Boulevard & Century Boulevard (County of Los Angeles);
10. Hindry Avenue & Florence Avenue (City of Inglewood);
11. Hindry Avenue & Manchester Boulevard/Olive Street (City of Inglewood);
12. La Cienega Boulevard & La Tijera Boulevard (City of Inglewood);
13. La Cienega Boulevard & Centinela Avenue (City of Inglewood);
14. La Cienega Boulevard & Florence Avenue (City of Inglewood);
15. La Cienega Boulevard & Manchester Avenue (City of Inglewood);
16. La Cienega Boulevard & Olive Street & I-405 Southbound Ramp (Caltrans);
17. La Cienega Boulevard & Arbor Vitae Street (City of Inglewood);
18. La Cienega Boulevard & I-405 SB Ramps (north of Century Boulevard) (Caltrans);
19. La Cienega Boulevard & Century Boulevard (City of Inglewood);
20. La Cienega Boulevard & I-405 SB Ramps (south of Century Boulevard) (Caltrans);
21. La Cienega Boulevard & Imperial Highway (County of Los Angeles);
22. Ash Avenue/I-405 Off Ramp & Manchester Avenue (Caltrans);
23. I-405 Northbound Off Ramp & Century Boulevard (City of Inglewood);
24. Inglewood Avenue & Florence Avenue (City of Inglewood);
25. Inglewood Avenue & Manchester Avenue (City of Inglewood);
26. Eucalyptus Avenue & Florence Avenue (City of Inglewood);
27. La Brea Avenue & Fairview Boulevard (City of Inglewood);
28. La Brea Avenue & Centinela Avenue (City of Inglewood);
29. La Brea Avenue & Hyde Park Boulevard (City of Inglewood);
30. Hawthorne Boulevard & I-105 Westbound Ramps (Caltrans);
31. Hawthorne Boulevard & Imperial Highway (City of Hawthorne);
32. I-105 Eastbound Ramps & Imperial Highway (City of Inglewood);
33. Prairie Avenue & I-105 Westbound Ramps (Caltrans);
34. Prairie Avenue & Imperial Highway (City of Inglewood);

35. I-105 Eastbound Ramps & 120th Street (Caltrans);
36. Crenshaw Boulevard & Imperial Highway (City of Inglewood);
37. Crenshaw Boulevard & 118th Place/I-105 Ramps (Caltrans);
38. Crenshaw Boulevard & 120th Street (City of Hawthorne);
39. Van Ness Avenue & Imperial Highway (City of Inglewood); and
40. Western Avenue & Imperial Highway (County of Los Angeles).

The locations of the study intersections are illustrated in **Figure 2**.

1.3 Study Periods

Traffic operations were evaluated for each of the following scenarios during the weekday a.m. and p.m. peak hours:

- **Existing (2018) Conditions**: The existing conditions analysis is based on 2018 traffic count data provided by the City of Inglewood at the study intersections.
- **Existing (2018) Plus Project Conditions**: The existing plus project conditions analysis is based on the existing traffic conditions plus the traffic expected to be generated from the buildout of the TOD. The eight new Crenshaw LRT stations in the study area are not included in the analysis as a result of the expected 2020 opening year.
- **Future Year 2040 Without Project Conditions**: The future year conditions analysis is based on the future traffic conditions expected without the proposed project. The future traffic growth from regional ambient growth and cumulative projects is included, and the eight new Crenshaw LRT stations in the study area are included in the analysis as a result of the expected 2020 opening year.
- **Future Year 2040 With Project Conditions**: The future year with project conditions analysis is based on the future without project as a baseline and adds the project trips expected to be generated by the planned TOD land uses. The eight new transit stations in the study area are included in the analysis as a result of the expected 2020 opening year.

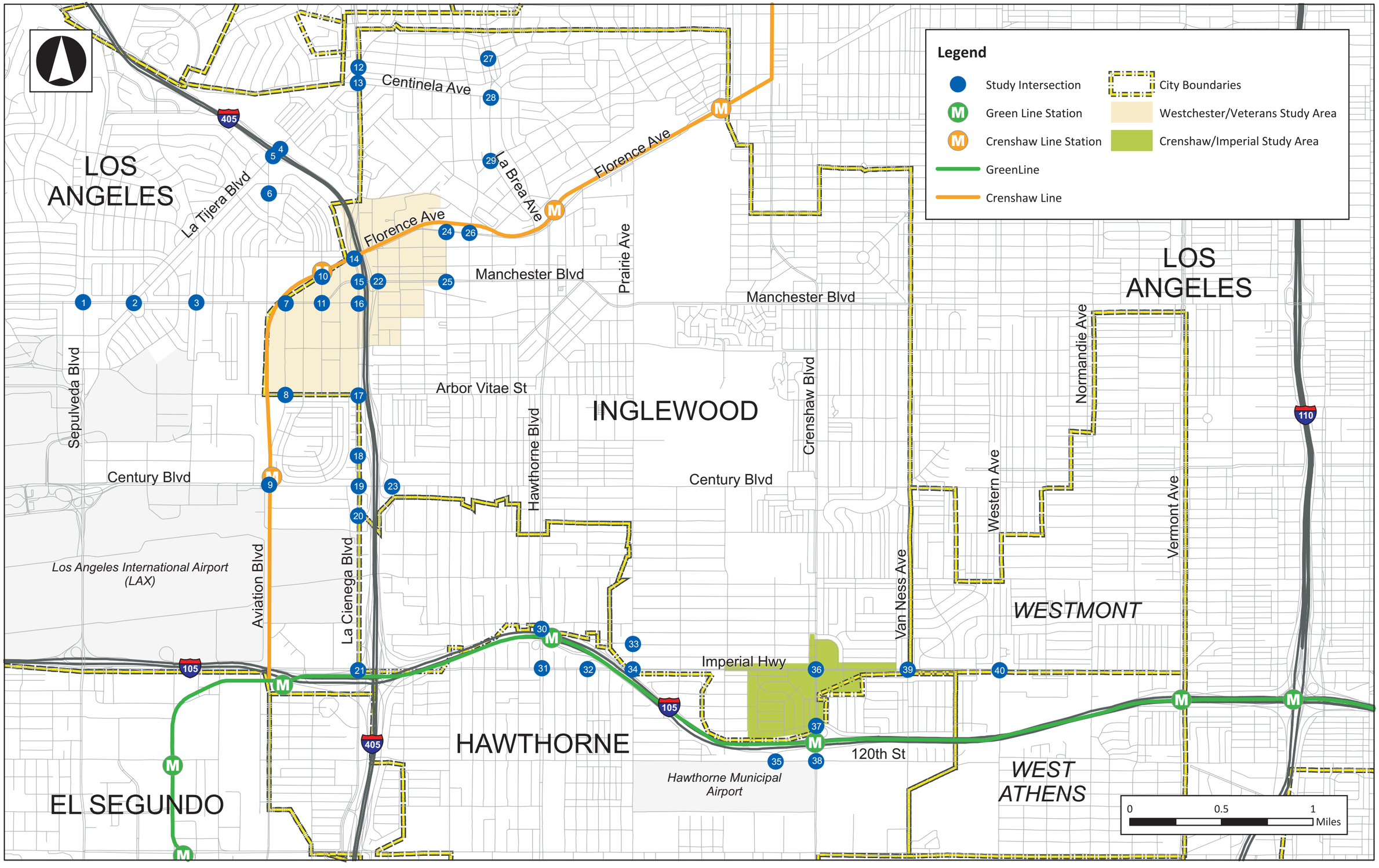


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Figure 2
Intersection Locations

1.4 Proposed Project

This section describes the transportation characteristics of the proposed project. The TODs would offer increased mobility for all modes of transportation, including:

- Roadway System Configurations: The existing street system would maintain the current configuration with the exception of
  - Isis Avenue between Florence Avenue and Manchester Avenue. This segment of Isis Avenue will be closed to vehicular traffic.
  - Olive Street between Manchester Avenue and Glasgow Avenue is proposed as a one-way only roadway in the eastbound direction.
  - At the Inglewood Avenue/Manchester Boulevard intersection, the dedicated right-turn lanes would be removed in lieu of protected bike lanes.
- Green Boulevards: Proposed Complete Streets within the study area, labeled "Green Boulevards", would consist of wide sidewalks, protected bicycle lanes and cycletracks, landscaped buffers between bicycle lanes and travel lanes and raised medians to provide pedestrian refuge. Complete Streets provide the ultimate balance between all modes of transportation along the corridor including passenger cars, buses, bicycles, goods movement vehicles, parking, and pedestrian activities. Complete Streets offer the residents, business community and visitors the complete range of choices for mobility within the project area.

2.0 ENVIRONMENTAL SETTING

This section presents an overview of the existing environmental setting within each TOD study area.

2.1 Freeway Network

The following is a description of the freeway network that provides regional access to the study area. All freeways near the study area are part of the CMP network.

I-405 (San Diego Freeway) is a major north-south freeway that runs along the western edge of Inglewood. I-405 connects the San Fernando Valley to Orange County by traversing western Los Angeles. I-405 through Inglewood varies between four and five lanes in each direction with several sections having auxiliary lanes between successive on- and off-ramps. Access to I-405 from Florence Avenue is provided by an atypical interchange, with only a southbound off-ramp connecting to Florence Avenue at La Cienega Boulevard. La Cienega Boulevard south of Industrial Avenue splits into one-way segments in each direction that cross over I-405 and merge at Florence Avenue. The southbound segment merges with the southbound freeway on- and off-ramps before intersecting Florence Avenue. The northbound segment of La Cienega Boulevard merges with the northbound off-ramp (which begins south of Manchester Boulevard) before intersecting Industrial Avenue.

I-105 (Glenn Anderson Freeway & Transitway) is an east-west freeway that runs along the southern edge of Inglewood. I-105 consists of one HOV lane and three general purpose traffic lanes in each direction. The Metro Green Line LRT route is located within the median of I-105.

I-110 (Harbor Freeway and Transit Way) is a major north-south freeway that runs approximately two miles east of the City of Inglewood. I-110 connects San Pedro community to Pasadena by traversing through Los Angeles. I-110 varies from six to eight lanes in each direction with several sections having auxiliary lanes between successive on- and off-ramps. Regional access to I-110 is provided through the I-105 interchange and Imperial Highway.

2.2 Arterial and Collector Network

A brief description of each roadway type, as defined in the City of Inglewood 1992 General Plan, is provided below:

- A Major Arterial functions primarily as an inter-city route that is generally designed to carry over 30,000 vehicles per day. Major arterials typically have a minimum of two full-time through lanes in each direction in addition to a separate median lane (raised or painted) to accommodate left turn movements.
- A Minor Arterial functions in a similar manner as a major arterial, but may be discontinuous within the City, and is generally designed to carry 15,000 to 30,000 vehicles per day. Minor arterials typically have a minimum of two travel lanes in each direction, and maintain a separate (generally painted) median lane to accommodate left turn movement if there is sufficient roadway width.
- A Collector functions as a transitional street between arterials and local streets, and is generally designed to carry 3,000 to 10,000 vehicles per day. Collectors typically have at least one travel lane in each direction.

The existing configurations of the roadways within the study area are described below:

- ***Arbor Vitae Street*** runs in an east-west orientation in the project area from Airport Boulevard to Prairie Avenue and then continues from Crenshaw Boulevard to Van Ness Avenue. The street from Airport Boulevard to La Brea Avenue has two travel lanes in each direction, and from La Brea Avenue to Prairie Avenue has one travel lane in each direction, and from Crenshaw Boulevard to Van Ness Avenue has one travel lane and one bike lane in each direction. On-street parking is partially allowed on both sides. The street is mostly directionally divided by a painted median. The established speed limit is 35 mph.

- ***Ash Avenue*** runs in a north-south orientation in the project area between Florence Avenue and Hillcrest Boulevard. The street consists of one travel lane in each direction, with on-street parking on both sides. The speed limit is established as 25 mph.

- ***Airport Boulevard*** runs a north-south orientation in the project study area between Century Boulevard and La Tijera Boulevard. Airport Boulevard from Century Boulevard to Interceptor Street-Car Rental Agency has two travel lanes in the northbound direction and three travel lanes in the southbound direction, and from Interceptor Street-Car Rental Agency to La Tijera Boulevard

has two travel lanes in each direction. Airport Boulevard is mostly directionally divided by a painted median. On-street parking is allowed along the northbound travel direction. The established speed limit is 35 mph.

- ***Aviation Boulevard*** runs in a north-south orientation in the project area between Arbor Vitae Street and Manchester Boulevard. The corridor consists of two travel lanes in each direction, with on-street parking only along the northbound travel direction. The speed limit is established as 40 mph.

- ***Centinela Avenue*** runs in a north-south orientation in the project area beginning at Florence Avenue and continuing north through Hyde Park Boulevard, where it curves to the west and runs in an east-west direction through La Cienega Boulevard and continues to the west under I-405. Centinela Avenue is classified as a major arterial in the City's General Plan Circulation Element and consists of two travel lanes in each direction. There is on-street parking on both sides within the project area. The speed limit is established as 40 mph.

- ***Century Boulevard*** is a major arterial that provides access to LAX, car rental companies, I-405, and I-110. It runs in an east-west orientation in the project area from SR-1/LAX entrance to I-110. The number of lanes varies from two to four travel lanes in each direction. The corridor is directionally divided by either a raised median or a painted median. On-street parking is available on both sides, although it is restricted when travel lanes drop to two lanes and near the LAX. The speed limit varies from 35 mph and 40 mph along the corridor. It is established as 35 mph from SR-1/LAX entrance to Inglewood Avenue, as 40 mph from Inglewood Avenue to Van Ness Avenue, and 35 mph from Van Ness Avenue to I-110.

- ***Crenshaw Boulevard*** runs in a north-south orientation with three travel lanes in each direction. Crenshaw Boulevard is classified as a major arterial in the City's General Plan Circulation Element. Crenshaw Boulevard provides access to I-105 on the southern edge of Inglewood, and to I-10 north of the City. There is on-street parking on both sides of the street within the project area. The speed limit is established as 35 mph.

- ***Eucalyptus Avenue*** lies west of La Brea Avenue and runs in a north-south orientation for the entire length of the city limits with one travel lane in each direction. Eucalyptus Avenue is classified as a minor arterial in the City's General Plan Circulation Element. There is on-street parking in the project area south of Manchester Boulevard, and limited parking in certain segments north of Manchester Boulevard. The speed limit is established as 30 mph.

- ***Fairview Boulevard*** runs in an east-west orientation, joining Hyde Park Boulevard on the east and La Cienega Boulevard on the west. The portion of the street within the project area is designated as a collector in the City's General Plan Circulation Element. The street consists of one travel lane in each direction, with on-street parking on both sides. The speed limit is established as 25 mph.

- ***Florence Avenue*** traverses the project area in an east-west orientation with two travel lanes in each direction. There is also a bike lane in each direction between Locust Street and Redondo Boulevard. Florence Avenue is classified as a major arterial in the City's General Plan Circulation

Element and provides an east-west connection from I-110 through Inglewood to I-405. There is no on-street parking in the project area, and Florence Avenue is part of the County's CMP network. The designated speed limit is established as 40 mph.

- ***Hawthorne Boulevard*** traverses the project area in a north-south orientation, beginning at Imperial Highway and terminating at Century Boulevard, with three travel lanes in each direction. The corridor is directionally divided by a raised median. There is a bike lane in each direction between 104th Street and 111th Street. Hawthorne Boulevard is a major arterial that provides access to I-105. On-street parking is permitted on both northbound and southbound directions. The designated speed limit is established as 35 mph.

- ***Hindry Avenue*** runs in a north-south orientation in the project area between Arbor Vitae Street and Florence Avenue. The corridor consists of one travel lane in each direction, with on-street parking on both sides. The speed limit is established as 30 mph.
- ***Hyde Park Boulevard*** runs in an east-west orientation north of Florence Avenue. It is designated as a collector in the City's General Plan. Hyde Park Boulevard consists of one travel lane in each direction, with on-street parking on both sides. The speed limit is established as 30 mph.
- ***Imperial Highway*** is a major arterial that runs in an east-west orientation from Sepulveda Boulevard to I-110 within the project area. It provides access to LAX, I-105, I-405, I-110, and several major arterials within the project area. The corridor mainly consists of three travel lanes in each direction west of Vermont Avenue, though there are portions where it drops to two lanes on each side. East of Vermont Avenue, there are two travel lanes in each direction. The corridor is directionally divided by either a raised median or a painted median. There is on-street parking on both sides, though it is partially restricted. The speed limit varies from 35 to 45 mph along the corridor. It is established as 45 mph on west of Nash Street, 40 mph from the Nash Avenue to La Cienega Boulevard, 35 mph from La Cienega Boulevard to Yukon Avenue, 40 mph on from Yukon Avenue to Vermont Avenue, and 35 mph on east of Vermont Avenue.
- ***Inglewood Avenue*** has a north-south orientation and is classified as a collector in the City's General Plan Circulation Element. Inglewood Avenue has one travel lane in each direction and provides on-street parking on both sides.
- ***Juniper Street*** has an east-west orientation and is classified as a collector in the City's General Plan Circulation Element, connecting Eucalyptus Avenue to La Brea Avenue and Hyde Park Boulevard. The street has one travel lane in each direction and provides on-street parking on both sides.

- ***La Brea Avenue*** traverses the project area in a north-south orientation with two travel lanes in each direction. La Brea Avenue is classified as a major arterial in the City's General Plan Circulation Element and provides the project area with access to I-10 and Mid-City, and connects to Hawthorne Boulevard and links up to I-105. There is on-street parking on both sides of La Brea Avenue within the project area. The speed limit is established as 35 mph.

- ***La Cienega Boulevard*** runs in a north-south orientation from La Tijera Boulevard to Imperial Highway. It is a major arterial that provides access to I-405, I-105, and some major arterials within the project area including Florence Avenue, Manchester Avenue, Arbor Vitae Street, and Century Boulevard. The corridor consists of three travel lanes in each direction north of Hyde Park Boulevard and two travel lanes in each direction south of Hyde Park Boulevard. There is on-street parking on both sides, which is partially restricted or restricted during a.m. and p.m. peak period. The speed limit is established as 45 mph north of Florence Avenue, 40 mph south of Florence Avenue.

- ***La Tijera Boulevard*** is located on the northwest corner of the project study area connecting Manchester Avenue to La Cienega Boulevard. La Tijera Boulevard has three travel lanes in each direction and from Manchester Avenue to I-405 Southbound Ramps is directionally divided by either a raised median or painted median. On-street parking on both sides is allowed only from I-405 Northbound Ramps to La Cienega Boulevard. The speed limit is established as 40 mph.
- ***Manchester Boulevard*** runs in an east- west orientation with two travel lanes in the westward direction and two travel lanes west of Hillcrest Boulevard and three travel lanes east of Hillcrest Boulevard in the eastward direction. Manchester Boulevard is classified as a major arterial in the City's General Plan Circulation Element and provides an east-west connection from I-110 through the heart of Inglewood and continues west to Playa Del Rey. Manchester Boulevard passes by multiple key locations in the study area including the Inglewood Park Cemetery, The Forum, and Inglewood High School. There is on-street parking on both sides of the boulevard within the project area. Manchester Boulevard is part of the CMP network. The speed limit is established as 35 mph.

- ***Market Street*** begins east of La Brea Avenue at Florence Avenue, and meets La Brea Avenue further south. Market Street is classified as a minor arterial according to the City's General Plan Circulation Element. There is one travel lane in each direction with a median lane to accommodate left turn movements. There is also a mixture of parallel and angled street parking along both sides of the street. The speed limit is established as 25 mph.

- ***Olive Street*** runs in an east-west orientation in the project area between Manchester Boulevard and La Cienega Boulevard and serves as a collector. Olive Street consists of one travel lane in each direction from Manchester Boulevard to Glasgow Avenue, and one travel lane in the westward direction and two travel lanes in the eastward direction from Glasgow Avenue to La Cienega Boulevard. There is on-street parking on both sides except for the eastbound direction with two travel lanes.

- ***Osage Avenue*** runs in a north-south orientation between Manchester Avenue and La Tijera Boulevard. It serves as a collector. The Avenue has one travel lane in each direction, with on-street parking on both sides. The established speed limit is 30 mph.

- ***Prairie Avenue*** runs in a north-south orientation. There are two travel lanes in each direction and it is designated as a major arterial in the City's General Plan Circulation Element. There is no on-street parking available. The speed limit in the project area is established as 40 mph.

- ***Sepulveda Boulevard*** runs in a north-south orientation west of La Tijera Boulevard. It is classified as a major arterial. The boulevard consists of three travel lanes plus one bike lane in each direction. On-street parking is permitted along the northbound travel direction. The speed limit is established as 40 mph.

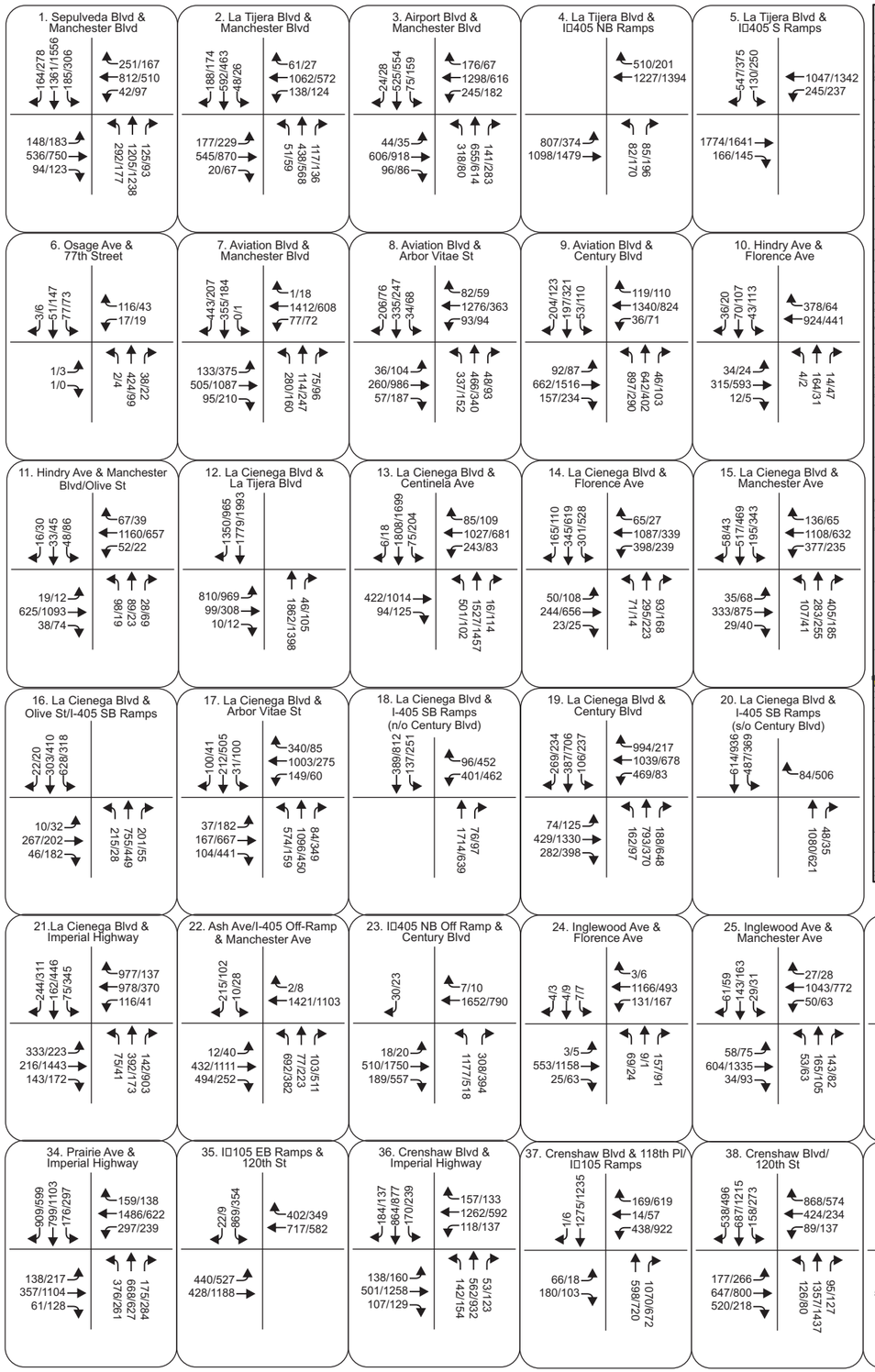
- ***Western Avenue*** runs in a north-south orientation from Florence Avenue to Imperial Highway. Western Avenue is a minor arterial and consists of two travel lanes in each direction. There is on-street parking on both sides of the corridor. The speed limit is established as 40 mph on the south of West Park Terrace and 35 mph on the north of West Park Terrace.

- ***Van Ness Avenue*** runs in a north-south orientation from Imperial Highway to Florence Avenue and is located at the eastern boundary of the City of Inglewood. The corridor has two travel lanes in each direction from Imperial Highway to Century Boulevard and one travel lane in each direction from Century Boulevard to Florence Avenue. From Century Boulevard to 80th Street, the corridor is directionally divided by a painted median serving as a two-way left-turn lane (TWLTL). There is on-street parking on both sides of the corridor within the project area. The designated speed limit is established as 35 mph.

- ***120th Street*** runs in an east-west orientation from Aviation Boulevard to Van Ness Avenue within the project area. It provides access to I-105. The corridor consists of two travel lanes in each direction except for the eastward direction from I-105 ramps to Van Ness Avenue that consists of three travel lanes. There is on-street parking on both sides from Aviation Boulevard to Prairie Avenue. The speed limit is established as 40 mph.

2.2.1 Existing Traffic Volumes

Existing (2018) traffic counts were provided by the City of Inglewood at all 40 study intersections. All counts were conducted during the a.m. peak period (7:00 – 9:00) and p.m. peak period (4:00 – 6:00) in April 2018. The traffic impact analysis is based on the highest single hour of traffic during each time period at each location. Detailed vehicle turning movement data are included in **Appendix A**. **Figure 3** shows the existing peak hour volumes at the study intersections.


1. Sepulveda Blvd & Manchester Blvd
164/278 136/1556 185/306
251/167 812/510 42/97
148/183 536/750 94/123
292/177 1205/1238 125/93
2. La Tijera Blvd & Manchester Blvd
188/174 592/463 48/26
61/27 1062/572 138/124
177/229 545/870 20/67
51/59 438/568 117/136
3. Airport Blvd & Manchester Blvd
24/28 525/554 75/159
176/67 1298/616 245/182
44/35 606/918 96/86
655/614 318/80 141/283
4. La Tijera Blvd & I405 NB Ramps
510/201 1227/1394
807/374 1098/1479
82/170 85/196
5. La Tijera Blvd & I405 S Ramps
547/375 130/250
1047/1342 245/237
1774/1641 166/145
6. Osage Ave & 77th Street
3/6 51/147 77/73
116/43 17/19
1/3 1/0
2/4 424/99 38/22
7. Aviation Blvd & Manchester Blvd
443/207 355/184 0/1
1/18 1412/608 77/72
133/375 505/1087 95/210
280/160 114/247 75/96
8. Aviation Blvd & Arbor Vitae St
206/76 335/247 34/68
82/59 1276/363 93/94
36/104 260/986 57/187
337/152 466/340 48/93
9. Aviation Blvd & Century Blvd
204/123 197/321 33/110
119/110 1340/824 36/71
92/87 662/1516 157/234
642/402 897/290 46/103
10. Hindry Ave & Florence Ave
36/20 70/107 43/113
378/64 924/441
34/24 315/593 12/5
4/2 164/31 14/47
11. Hindry Ave & Manchester Blvd/Olive St
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89/23 98/19 28/69
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186/2/1398 46/105
13. La Cienega Blvd & Centinela Ave
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85/109 1027/681 243/83
422/1014 94/125
501/1102 1527/1457 16/114
14. La Cienega Blvd & Florence Ave
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65/27 1087/339 398/239
50/108 244/656 23/25
71/14 295/223 93/168
15. La Cienega Blvd & Manchester Ave
58/43 517/469 195/343
136/65 1108/632 377/235
35/68 333/875 29/40
107/41 283/255 405/185
16. La Cienega Blvd & Olive St/I-405 SB Ramps
22/20 303/410 628/318
10/32 267/202 46/182
215/28 755/449 201/55
17. La Cienega Blvd & Arbor Vitae St
100/41 212/505 31/100
340/85 1003/275 149/60
37/182 167/667 104/441
574/159 1096/450 84/349
18. La Cienega Blvd & I-405 SB Ramps (n/o Century Blvd)
389/812 137/251
96/452 401/462
76/97 1714/639
19. La Cienega Blvd & Century Blvd
269/234 387/706 106/237
994/217 1039/678 469/83
74/125 429/1330 282/398
793/370 162/97 188/648
20. La Cienega Blvd & I-405 SB Ramps (s/o Century Blvd)
614/936 487/369
84/506
48/35 1080/621
21.La Cienega Blvd & Imperial Highway
244/311 162/446 75/345
977/137 978/370 116/41
333/223 216/1443 143/172
75/41 392/173 142/903
22. Ash Ave/I-405 Off-Ramp & Manchester Ave
215/102 10/28
2/8 1421/1103
12/40 432/1111 494/252
692/382 77/223 103/511
23. I405 NB Off Ramp & Century Blvd
30/23
7/10 1652/790
18/20 510/1750 189/557
1177/518 308/394
24. Inglewood Ave & Florence Ave
4/3 4/6 4/7
3/6 1166/493 131/167
3/5 553/1158 25/63
9/1 69/24 157/91
25. Inglewood Ave & Manchester Ave
61/59 143/163 29/31
27/28 1043/772 50/63
58/75 604/1335 34/93
165/105 53/63 143/82
26. Eucalyptus Ave & Florence Ave
461/315 220/256 53/64
55/36 832/352 15/37
243/261 474/943 15/38
17/9 289/229 9/29
27. La Brea Ave & Fairview Blvd
68/53 1301/1333 24/40
30/17 376/197 169/86
41/84 195/391 34/32
79/16 1392/1278 150/285
28. La Brea Ave & Centinela Ave
152/133 1046/976 175/305
327/188 689/460 103/84
94/176 393/971 124/199
150/162 1137/1068 32/56
29. La Brea Ave & Hyde Park Blvd/Juniper St
86/45 269/136 788/911 11/19
28/26 131/35 106/68 48/26
175/208 48/74 22/20 1 / 1
112/202 56/128 25/26
5/5 60/37 1033/836 16/37
30. Hawthorne Blvd & I105 WB Ramps
1620/2015
672/576 219/396
895/858
31. Hawthorne Blvd & Imperial Highway
307/169 798/1109 142/206
149/106 834/323 127/121
149/107 504/1316 85/113
197/138 684/671 183/305
32. I105 EB Ramps & Imperial Highway
400/354 1161/538 16/37
302/458 428/1308 13/22
96/190 34/25 13/34
33. Prairie Avenue & I105 WB Ramps
1530/1474 24/37
49/26 67/28
417/723 33/110 279/537
959/919 22/35
34. Prairie Ave & Imperial Highway
909/599 769/1013 176/297
159/138 1486/622 297/239
138/217 357/1104 61/128
668/627 376/261 175/284
35. I105 EB Ramps & 120th St
22/9 869/354
402/349 717/582
440/527 428/1188
36. Crenshaw Blvd & Imperial Highway
184/137 864/877 170/239
157/133 1262/592 118/137
138/160 501/1258 107/129
142/154 562/932 53/123
37. Crenshaw Blvd & 118th Pl/ I105 Ramps
1/6 1275/1235
169/619 14/57 438/922
66/18 180/103
1070/672 598/720
38. Crenshaw Blvd/ 120th St
538/496 687/1215 158/273
868/574 424/234 89/137
177/266 647/800 520/218
95/127 1357/1437 126/80
39. Van Ness Ave & Imperial Highway
193/104 784/591 102/67
52/52 1470/769 171/133
62/143 582/1323 76/202
149/192 615/741 119/107
40. Western Ave & Imperial Highway
157/141 615/782 126/164
208/194 1294/654 208/179
123/103 604/1193 244/164
201/195 941/801 300/223
Legend
Study Intersection
Green Line Station
Crenshaw Line Station
GreenLine
Crenshaw Line
City Boundaries
Westchester/Veterans Study Area
Crenshaw/Imperial Study Area
LOS ANGELES
INGLEWOOD
HAWTHORNE
EL SEGUNDO
WESTMONT
WEST ATHENS
LOS ANGELES
Centinela Ave
La Tijera Blvd
Florence Ave
La Brea Ave
Manchester Blvd
Prairie Ave
Sepulveda Blvd
Arbor Vitae St
Century Blvd
Hawthorne Blvd
Crenshaw Blvd
Normandie Ave
Western Ave
Vermont Ave
Van Ness Ave
Aviation Blvd
La Cienega Blvd
Imperial Hwy
120th St
Los Angeles International Airport (LAX)
Hawthorne Municipal Airport
405
105
110
0
0.5
1
Miles

2.3 Existing Multimodal Modality

This section presents a description of existing facilities and routes that serve multimodal mobility needs within each of the TODs in the study area. The City has developed and invested in many existing transportation and mobility options including: truck routes, bus routes and stops, bicycle routes, sidewalks, and multi-purpose paths.

2.3.1 Truck Circulation

The City of Inglewood's truck routes as described in the City's Municipal Code Section 3-85 include the following:

- Arbor Vitae Street from West City Limits to La Brea Avenue;
- Aviation Boulevard from Manchester Boulevard to South City Limits;
- Centinela Avenue from West City Limits to Florence Avenue;
- Century Boulevard from West City Limits to East City Limits;
- Crenshaw Boulevard from North City Limits to South City Limits;
- Eucalyptus Avenue from Florence Avenue to Juniper Street;
- Florence Avenue from Manchester Boulevard to East City Limits;
- Hawthorne Boulevard from Century Boulevard to South City Limits;
- Hyde Park Boulevard from Hyde Park Place to East City Limits;
- Hyde Park Place from Centinela Avenue to Hyde Park Boulevard;
- Imperial Highway from West City Limits to East City Limits;
- Juniper Street from Eucalyptus Avenue to La Brea Avenue;
- La Brea Avenue from North City Limits to South City Limits;
- La Cienega Boulevard from North City Limits to South City Limits;
- Manchester Boulevard from West City Limits to East City Limits;
- Prairie Avenue from Florence Avenue to South City Limits; and
- 102nd Street from Prairie Avenue to Yukon Avenue.

2.3.2 Public Transit

The transit system currently serving the study areas is comprised of bus services provided by the Metropolitan Transportation Authority (Metro). **Table 2** lists the transit lines near each study area along with descriptions and corresponding characteristics including routes and frequencies.

Table 2: Study Area Transit Facilities

Study Area	Service Agency/ Type	Route Name	From/To	To/From	Peak Hour Frequency (minutes)	
					AM	PM
Westchester/Veterans TOD	Big Blue Bus	3	Aviation Station	Arizona & 5th	20	20
	Metro Local	40	South Bay Galleria	Union Station	10-20	10-20
	Metro Local	102	LAX City Bus Center	Palm & Seville	35-45	35-40
	Beach Cities Transit	109	LAX City Bus Center	Redondo Beach Riviera Village	40-50	40-50

Study Area	Service Agency/ Type	Route Name	From/To	To/From	Peak Hour Frequency (minutes)	
					AM	PM
	Metro Local	110	E.A. Way & Jefferson	Granger & Florence	10-30	20-30
	Metro Local	111	LAX City Bus Center	Norwalk Station	10-30	20-30
	Metro Local	115	Vista Del Mar & Culver	Norwalk Station	15-30	20-40
	Metro Local	117	LAX City Bus Center	Green Line Station	15-20	15-20
	Metro Local	211-215	South Bay Galleria	Redondo Beach Station	35-60	30-50
	Metro Local	212-312	Hawthorne/Lennox Station	Hollywood Way/Vine Station	10-25	15-30
	Metro Local	217	Los Angeles Jefferson Station	Hollywood Vine Station	15-25	10-15
	Metro Local	607	Inglewood Transit Center	Inglewood Transit Center	50-60	50-60
Crenshaw/Imperial TOD	Metro Rail	Green Line	Redondo Beach	Norwalk	6	6
	Torrance Transit	5	Pacific Coast Hwy at Crenshaw Bl	Crenshaw Station	55-65	55-65
	Torrance Transit	10	Crenshaw Bl at Pacific Coast Hwy	Crenshaw Station	25-30	30
	Metro Local	40	South Bay Galleria	Union Station	10-20	10-20
	Metro Local	115	Vista Del Mar & Culver	Norwalk Station	15-30	20-40
	Metro Local	117	LAX City Bus Center	Green Line Station	15-20	15-20
	Metro Local	120	Aviation/ LAX Station	Whittwood Town Center	35-40	30-60
	Metro Local	126	Manhattan Beach & Valley Drive	Hawthorne Station	65	70
	Metro Local	207	Western & Imperial	Hollywood & Western	10-15	10-15
	Metro Local	209	Vermont/ Athens Station	Wilshire/ Western Station	50-60	50-60
	Metro Local	210	South Bay Galleria	Vine & Hollywood	15-20	20-35
	Metro Local	211-215	South Bay Galleria	Redondo Beach Station	35-60	30-50
	Metro Local	212-312	Hawthorne/Lennox Station	Hollywood Way/Vine Station	10-25	15-30
	Metro Local	442	Hawthorne/Lennox Station	Patsaouras Transit Plaza/Union Station	45	45
	Metro Rapid	710	South Bay Galleria	Wilshire/ Western Purple Line Station	10-15	10-20
	Metro Rapid	740	South Bay Galleria	Expo/Crenshaw Station	15-20	20
	Metro Rapid	757	Crenshaw Green Line Station	Hollywood/Western Station	10-15	10-15

2.3.3 Pedestrian and Bicycle Facilities

Existing pedestrian facilities within the study area generally consist of traditional sidewalks and pedestrian street crossings. The existing facilities are typically lacking in pedestrian enhancements such as landscaping, medians, pathways, alleys, and other pedestrian friendly amenities including shading, furniture, signage and other comforts. Figures illustrating the pedestrian facilities in each TOD study area are provided in **Appendix B**.

Currently, there are no formal bicycle facilities in the TOD study areas; however, the City of Inglewood General Plan Circulation Element designates the following streets as Class III bicycle routes:

- Queen Street from Oak Street to City Hall;
- Kelso Street from Oak Street to Prairie Avenue;
- Arbor Vitae Street from Metro R.O.W, on the west, to Oak Street;
- Oak Street from Queen Street to Arbor Vitae Street;
- 111th Place from Yukon Avenue to Crenshaw Boulevard; and
- Yukon Avenue from Century Boulevard to 118th Place.

Figures illustrating the existing bicycle facilities and the proposed bicycle facilities listed in the City of Inglewood Circulation Element are provided in **Appendix B**.

3.0 TRAFFIC OPERATIONS ANALYSIS METHODOLOGY

The quality of traffic operations is characterized using the concept of level of service (LOS). Level of service is defined by a range of grades from A (best) to F (worst). At intersections, LOS "A" represents relatively free flow operating conditions with little or no delay. LOS "F" is characterized by extremely unstable flow conditions, severe congestion and delays with traffic volumes at or near the intersection's design capacity. This typically results in long vehicular queues extending from all approaches of the intersection.

In this report, analysis of traffic operations was conducted according to the traffic impact analysis guidelines used by the City of Inglewood. The City of Inglewood uses the Los Angeles County Public Works' 1997 Traffic Impact Analysis guidelines. Utilizing these guidelines, intersection operating conditions were quantified using the Intersection Capacity Utilization (ICU) method. The ICU methodology is used for signalized intersections. The ICU methodology does not apply to non-signalized intersections. Volume-to-capacity (V/C) ratios and corresponding LOS were calculated at study intersections during the weekday a.m. and p.m. peak hours. It should be noted that three of the study intersections are located in the City of Los Angeles; therefore, these intersections were analyzed using the Critical Movement Analysis (CMA) methodology, per City of Los Angeles Guidelines. Both ICU and CMA methodologies are commonly used to determine V/C ratios.

Table 3 presents a brief description of each level of service letter grade, as well as the range of V/C ratios associated with each grade for signalized intersections.

Table 3: Intersection Level of Service Definitions – ICU Methodology

Level of Service	Description	Intersection Volume to Capacity (V/C) Ratio
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.000-0.600
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	>0.600-0.700
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>0.700-0.800
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues.	>0.800-0.900
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	>0.900-1.000
F	Forced flow. Represents jammed conditions. Backups form locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	> 1.000

Source: Highway Capacity Manual 2000, Transportation Research Board, Washington, D.C., 2000.

For intersections operated under Caltrans' jurisdiction, unsignalized intersections, and the 5-legged intersection at Hyde Park Boulevard/Juniper Street/La Brea Avenue, analysis of traffic operations were conducted utilizing the Highway Capacity Manual (HCM) methodology, which uses vehicular delay criteria to determine LOS. The ICU methodology does not support analysis of 5-legged intersections. **Table 4** presents a brief description of each level of service letter grade, as well as the range of HCM average intersection delay associated with each grade for signalized and unsignalized intersections.

Table 4: Intersection Level of Service Definitions – HCM Methodology

Level of Service	Description	Signalized Intersection Delay (seconds per vehicle)	Unsignalized Intersection Delay (seconds per vehicle)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10	≤ 10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	>10 and ≤ 20	>10-15
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20 and ≤ 35	>15-25
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues.	>35 and ≤ 55	>25-35
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	>55 and ≤ 80	>35-50
F	Forced flow. Represents jammed conditions. Backups form locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	> 80	>50

Source: Highway Capacity Manual 2000, Transportation Research Board, Washington, D.C., 2000.

3.1 Thresholds of Significance

Consistent with Los Angeles County Public Works traffic impact review guidelines, a project's traffic impact is evaluated based on ICU and is considered significant if the change in V/C ratio relative to the "without project" signalized intersection LOS meets or exceeds the thresholds listed in **Table 5**. These thresholds are applied at intersections within Inglewood, unincorporated Los Angeles County, and City of Hawthorne.

Table 5: Intersection Significant Impact Criteria

Intersection LOS in Pre-Project Conditions	V/C	Project V/C Increase
C	0.71 to 0.80	0.04 or more
D	0.81 to 0.90	0.02 or more
E / F	0.91 or more	0.01 or more

Table 6 summarizes the thresholds of significance applied by the City of Los Angeles.

Table 6: Intersection Significant Impact Criteria (City of Los Angeles intersections)

Intersection LOS in Post-Project Conditions	V/C	Project V/C Increase
C	0.71 to 0.80	0.04 or more
D	0.81 to 0.90	0.02 or more
E / F	0.91 or more	0.01 or more

At a Caltrans facility, a project impact is considered significant if the project traffic results in a worsening of the level of service from LOS D or better to LOS E or F. In addition, a project impact is considered significant if a Caltrans facility is currently operating at LOS E or F and the project traffic results in an increase in average vehicle delay.

4.0 EXISTING CONDITIONS

A level of service analysis was conducted to evaluate existing intersection operations during the a.m. and p.m. peak hours at the forty (40) study intersections. **Table 7** summarizes the existing LOS at the study intersections. LOS calculation sheets are provided in **Appendix C**. **Figure 4** summarizes the existing intersection lane configurations.

Table 7: Existing Intersection Peak Hour Level of Service

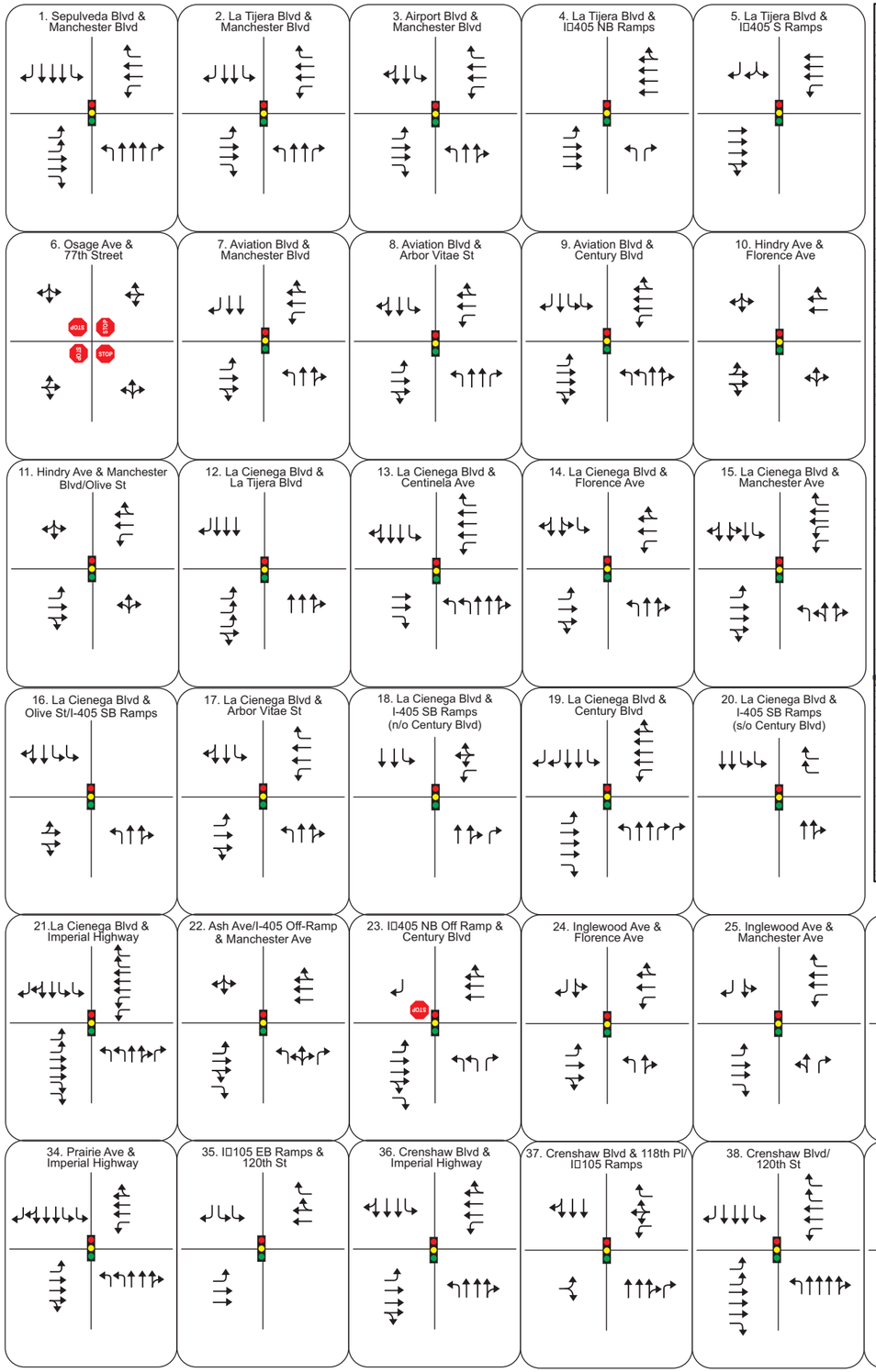
Intersection		Control Type	AM Peak Hour		PM Peak Hour	
			V/C or Delay	LOS	V/C or Delay	LOS
1	Sepulveda Blvd/Manchester Ave	signalized	0.797	C	0.766	C
2	La Tijera Blvd/Manchester Ave	signalized	0.603	B	0.479	A
3	Airport Blvd/Manchester Ave	signalized	0.802	D	0.776	C
4	La Tijera Blvd/I-405 NB Ramps**	signalized	40.1	D	24.3	C
5	La Tijera Blvd/I-405 SB Ramps**	signalized	29.9	C	25.6	C
6	Osage Ave/77th St[1]	unsignalized	12.1	B	9.0	A
7	Aviation Blvd/Manchester Blvd	signalized	**1.078**	**F**	0.782	C
8	Aviation Blvd/Arbor Vitae St	signalized	**0.936**	**E**	0.747	C
9	Aviation Blvd/Century Blvd	signalized	0.873	D	0.809	D
10	Hindry Ave/Florence Ave	signalized	0.641	B	0.417	A
11	Hindry Ave/Manchester Blvd/Olive St	signalized	0.651	B	0.582	A
12	La Cienega Blvd/La Tijera Blvd	signalized	**1.100**	**F**	0.865	D
13	La Cienega Blvd/Centinela Ave	signalized	**0.925**	**E**	**0.921**	**E**
14	La Cienega Blvd/Florence Ave	signalized	0.801	D	0.837	D
15	La Cienega Blvd/Manchester Blvd	signalized	**0.932**	**E**	0.711	C
16	La Cienega Blvd/Olive St/I-405 SB Ramp**	signalized	28.6	C	19.8	B
17	La Cienega Blvd/Arbor Vitae St	signalized	0.866	D	0.759	C
18	La Cienega Blvd/I-405 SB Ramps (north of Century Blvd) **	signalized	24.3	C	22.9	C
19	La Cienega Blvd/Century Blvd	signalized	**1.085**	**F**	0.749	C
20	La Cienega Blvd/I-405 SB Ramps (south of Century Blvd) **	signalized	16.3	B	18.7	B
21	La Cienega Blvd/Imperial Hwy	signalized	0.639	B	0.789	C
22	Ash Ave/I-405 Off Ramp/Manchester Blvd**	signalized	37.9	D	37.6	D
23	I-405 NB Off Ramp/Century Blvd**	signalized	24.0	D	19.9	B
24	Inglewood Ave/Florence Ave	signalized	0.556	A	0.648	B
25	Inglewood Ave/Manchester Blvd	signalized	0.579	A	0.674	B
26	Eucalyptus Ave/Florence Ave	signalized	0.850	D	0.634	B
27	La Brea Ave/Fairview Blvd	signalized	0.839	D	0.881	D
28	La Brea Ave/Centinela Ave	signalized	0.835	D	**0.975**	**E**
29	La Brea Ave/Hyde Park Blvd*	signalized	27.6	C	32.7	C
30	Hawthorne Blvd/I-105 WB Ramps**	signalized	15.0	B	16.4	B
31	Hawthorne Blvd/Imperial Hwy	signalized	0.752	C	0.779	C
32	I-105 EB Ramps/Imperial Hwy**	signalized	27.6	C	28.1	C
33	Prairie Ave/I-105 WB Ramps**	signalized	18.6	B	23.3	C

Intersection		Control Type	AM Peak Hour		PM Peak Hour	
			V/C or Delay	LOS	V/C or Delay	LOS
34	Prairie Ave/Imperial Hwy	signalized	**0.911**	**E**	0.858	D
35	I-105 EB Ramps/120th St**	signalized	37.6	D	26.9	C
36	Crenshaw Blvd/Imperial Hwy	signalized	0.808	D	0.837	D
37	Crenshaw Blvd/118th Place/I-105 Ramps**	signalized	19.8	B	30.6	C
38	Crenshaw Blvd/120th St	signalized	0.859	D	0.762	C
39	Van Ness Ave/Imperial Hwy	signalized	0.882	D	0.831	D
40	Western Ave/Imperial Hwy	signalized	**1.028**	**F**	0.842	D

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service.
Intersections operating at LOS E or F are shown in **bold.**
1 = Unsignalized intersection analyzed utilizing HCM delay-based stop-controlled intersection methodologies.
* Intersection analyzed utilizing HCM delay-based methodology, as ICU does not support 5-legged intersection analysis.
**Caltrans intersection, utilizing HCM delay-based methodology to evaluate intersection operations.

As shown in **Table 7**, the following intersections are currently operating at LOS E or F during peak hours:

- Aviation Boulevard/Manchester Boulevard (a.m. peak hour);
- Aviation Boulevard/Arbor Vitae Street (a.m. peak hour);
- La Cienega Boulevard/La Tijera Boulevard (a.m. peak hour);
- La Cienega Boulevard/Centinela Avenue (both a.m. and p.m. peak hour);
- La Cienega Boulevard/Manchester Boulevard (a.m. peak hour);
- La Cienega Boulevard/Century Boulevard (a.m. peak hour);
- La Brea Avenue/Centinela Avenue (p.m. peak hour);
- Prairie Avenue/Imperial Highway (a.m. peak hour); and
- Western Avenue/Imperial Highway (a.m. peak hour).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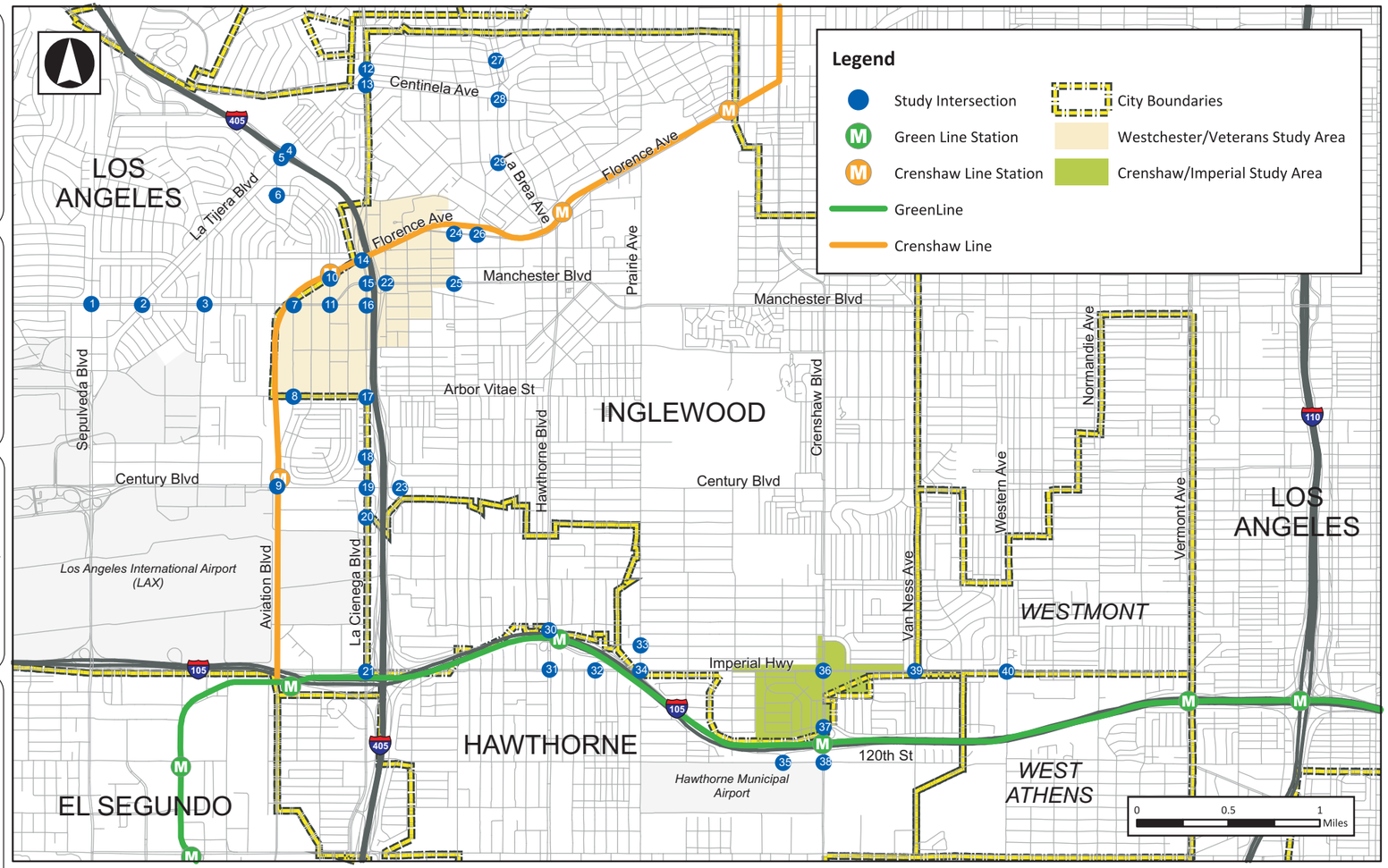
3. Airport Blvd & Manchester Blvd
4. La Tijera Blvd & I405 NB Ramps
5. La Tijera Blvd & I405 S Ramps
6. Osage Ave & 77th Street
7. Aviation Blvd & Manchester Blvd
8. Aviation Blvd & Arbor Vitae St
9. Aviation Blvd & Century Blvd
10. Hindry Ave & Florence Ave
11. Hindry Ave & Manchester Blvd/Olive St
12. La Cienega Blvd & La Tijera Blvd
13. La Cienega Blvd & Centinela Ave
14. La Cienega Blvd & Florence Ave
15. La Cienega Blvd & Manchester Ave
16. La Cienega Blvd & Olive St/I-405 SB Ramps
17. La Cienega Blvd & Arbor Vitae St
18. La Cienega Blvd & I-405 SB Ramps (n/o Century Blvd)
19. La Cienega Blvd & Century Blvd
20. La Cienega Blvd & I-405 SB Ramps (s/o Century Blvd)
21.La Cienega Blvd & Imperial Highway
22. Ash Ave/I-405 Off-Ramp & Manchester Ave
23. I405 NB Off Ramp & Century Blvd
24. Inglewood Ave & Florence Ave
25. Inglewood Ave & Manchester Ave
26. Eucalyptus Ave & Florence Ave
27. La Brea Ave & Fairview Blvd
28. La Brea Ave & Centinela Ave
29. La Brea Ave & Hyde Park Blvd/Juniper St
30. Hawthorne Blvd & I105 WB Ramps
31. Hawthorne Blvd & Imperial Highway
32. I105 EB Ramps & Imperial Highway
33. Prairie Avenue & I105 WB Ramps
34. Prairie Ave & Imperial Highway
35. I105 EB Ramps & 120th St
36. Crenshaw Blvd & Imperial Highway
37. Crenshaw Blvd & 118th Pl/ I105 Ramps
38. Crenshaw Blvd/ 120th St
39. Van Ness Ave & Imperial Highway
40. Western Ave & Imperial Highway


Legend
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City Boundaries
Westchester/Veterans Study Area
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WEST ATHENS
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La Brea Ave
Manchester Blvd
Prairie Ave
Sepulveda Blvd
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Century Blvd
Hawthorne Blvd
Crenshaw Blvd
Normandie Ave
Western Ave
Vermont Ave
Van Ness Ave
Aviation Blvd
La Cienega Blvd
Imperial Hwy
120th St
Los Angeles International Airport (LAX)
Hawthorne Municipal Airport
405
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Miles

5.0 TRAFFIC VOLUME DEVELOPMENT

Traffic volume development was completed using a combination of the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) travel demand model and the 2010 Los Angeles County Congestion Management Program (CMP).

5.1 Travel Model Methodology

The SCAG model was used as a basis for developing plus project and long range travel demand forecasts for this project. The base year (2016) and forecast year (2040 baseline) SCAG travel demand model roadway networks were modified to include all study intersections and roadway segments within the study area.

The transit network was verified in the future scenarios within the study area to ensure consistency with the Crenshaw/LAX LRT transit project and station locations. Land use inputs were adjusted in the "with project" scenarios using the planned TOD land use information (as discussed in Section 1.0 of this report). Separate model networks were developed for each of the following scenarios:

- Existing (2016);
- Existing Plus Project (2016);
- Forecast Year (2040) Without Project; and
- Forecast Year (2040) With Project.

Note that traffic model runs for the 2016 model scenario were only used for the purposes of distributing project trips through the network. As mentioned, the existing conditions analysis (ie, "no project") utilizes 2018 traffic counts provided by the City to develop the intersection LOS.

5.2 Cumulative Projects

Cumulative project traffic growth is growth due to specific, known development projects in the area surrounding the study locations that may affect future year traffic circulation. A list of cumulative projects within the region was provided by the City of Inglewood and is included in **Appendix D**. These cumulative projects were coded into the future year 2040 baseline travel demand model where necessary.

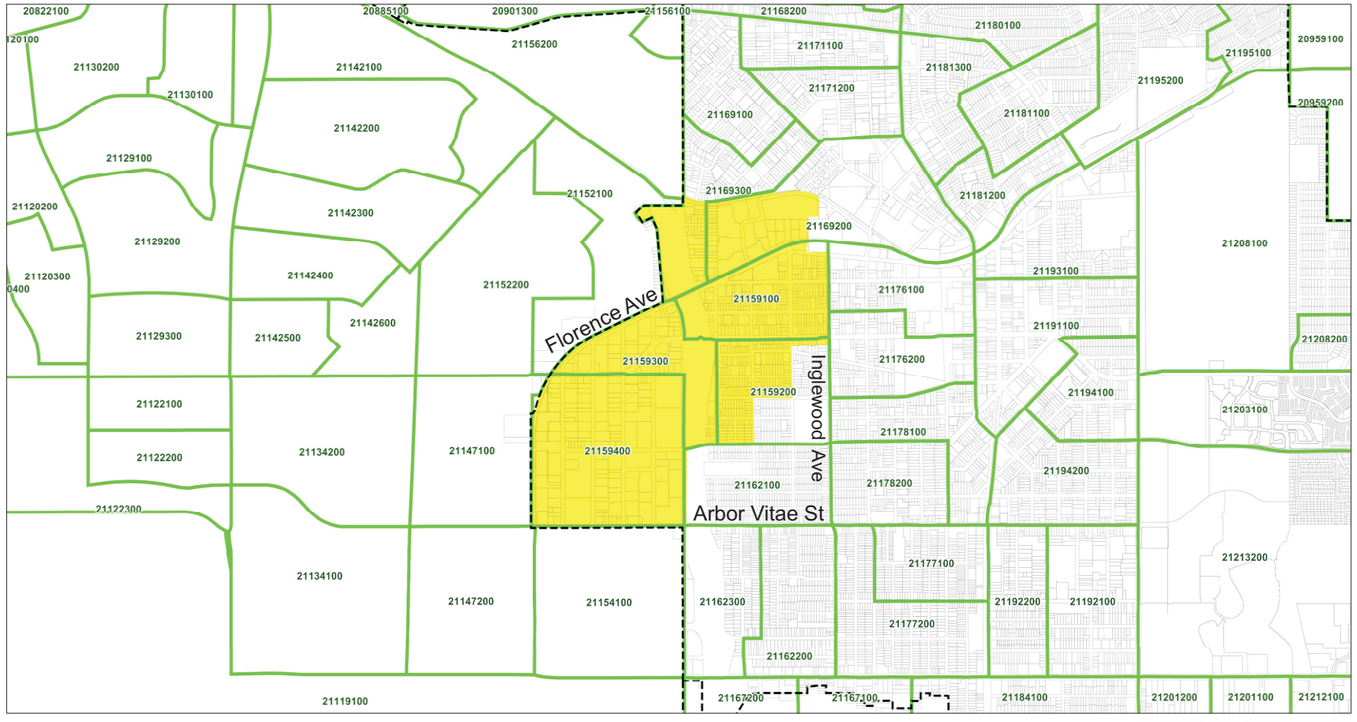
5.3 Modeled Land Use

The land use assumptions for the "existing" scenario were assumed to be consistent with SCAG 2016 RTP land use inputs. The future year "without" project scenario was modified slightly to include known cumulative projects within the City of Inglewood that were not included in the 2016 RTP land use inputs.

The zone structure in the SCAG model does not directly align with the boundaries for the two TOD districts (Westchester/Veterans and Crenshaw/Imperial). The SCAG Traffic Analysis Zones (TAZ's) that include any portion of the TOD areas were selected for the modeling exercise, with the total data summarized in the tables in this section. As a result, a larger demographic area from the SCAG model is extracted and

modified in this analysis when compared to the sizes of the TOD areas themselves. **Figure 5** shows the SCAG TAZ boundaries in relation to the two TOD areas. **Table 8** shows a summary of the Year 2016 and Year 2040 socioeconomic data (SED) of the SCAG TAZ's that include any portion of the TOD areas. The table shows the values prior to inclusion of additional known cumulative projects, the adjusted values accounting for cumulative projects, and the values including the proposed project. The cumulative projects discussed in Section 5.2 of this report were converted from land use to socio-economic data, and were added to the 2040 "without" project scenario as background assumptions. Project only land use (as summarized in **Table 1**) was converted to SED and was then added to the "Socioeconomic Data per Adjusted SCAG Model" values to develop the "with TOD" scenario in 2040.

Westchester / Veterans TOD



Crenshaw / Imperial TOD

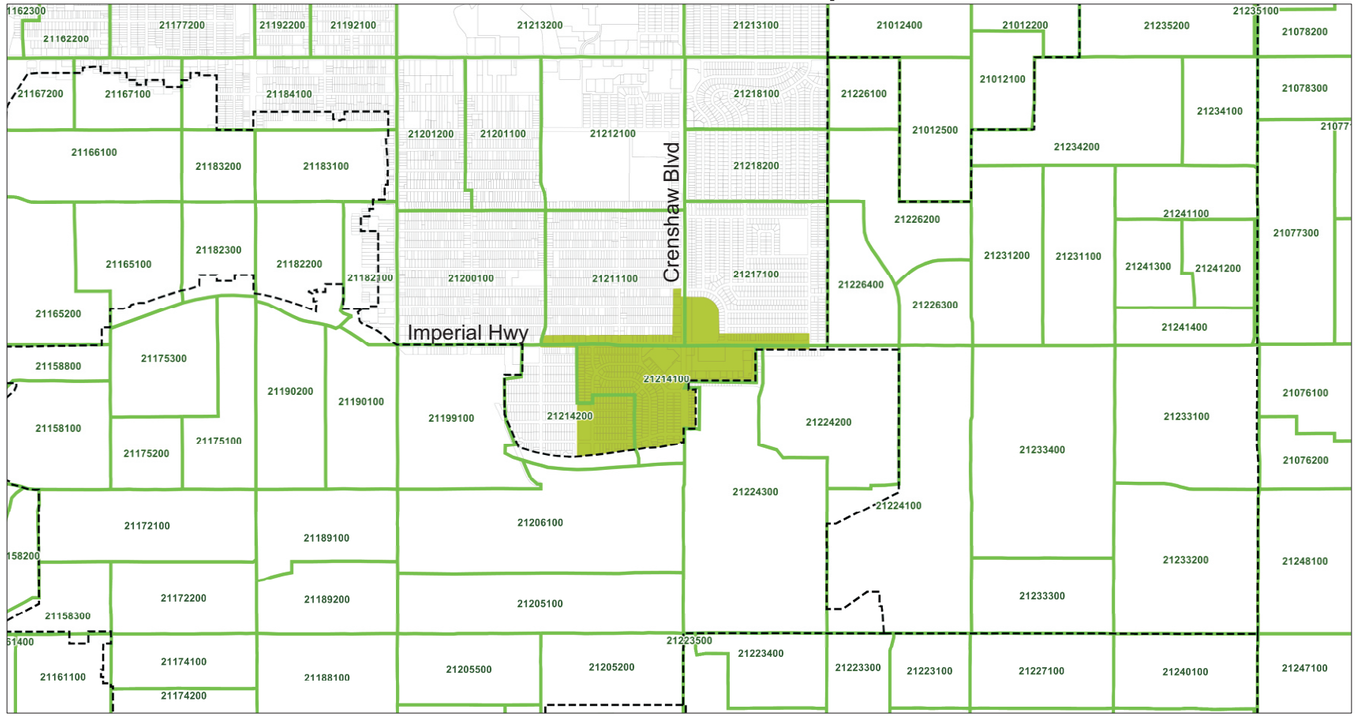


Table 8: Socio-Economic Data (SED) Summary

TOD Area	Population			Households			Total Employment		
	2016	2040	Diff (2040-2016)	2016	2040	Diff (2040-2016)	2016	2040	Diff (2040-2016)
Socioeconomic Data per SCAG Model (unadjusted)									
Westchester/Veterans	11,907	12,494	587	4,434	4,718	284	6,865	7,907	1,042
Crenshaw/Imperial	9,197	9,683	486	2,678	2,874	196	1,851	2,255	404
TOTAL	**21,104**	**22,177**	**1,073**	**7,112**	**7,592**	**480**	**8,716**	**10,162**	**1,446**
Cumulative Projects-related Socioeconomic Changes									
Westchester/Veterans	0	0	0	0	0	0	0	0	0
Crenshaw/Imperial	0	6,621	6,621	0	2,792	2,792	0	2,200	2,200
TOTAL	**0**	**6,621**	**6,621**	**0**	**2,792**	**2,792**	**0**	**2,200**	**2,200**
Socioeconomic Data per Adjusted SCAG Model									
Westchester/Veterans	11,907	12,494	587	4,434	4,718	284	6,865	7,907	1,042
Crenshaw/Imperial	9,197	16,304	7,107	2,678	5,666	2,988	1,851	4,455	2,604
TOTAL	**21,104**	**28,798**	**7,694**	**7,112**	**10,384**	**3,272**	**8,716**	**12,362**	**3,646**
Proposed Project-related Socioeconomic Changes									
Westchester/Veterans	3,053	3,053	0	1,106	1,106	0	5,525	5,525	0
Crenshaw/Imperial	8,236	8,236	0	2,984	2,984	0	160	160	0
TOTAL	**11,289**	**11,289**	**0**	**4,090**	**4,090**	**0**	**5,685**	**5,685**	**0**
Total Socioeconomic Changes Analyzed for the Westchester/Veterans and Crenshaw/Imperial TOD Plans									
Westchester/Veterans	14,960	15,547	587	5,540	5,824	284	12,390	13,432	1,042
Crenshaw/Imperial	17,433	24,540	7,107	5,662	8,650	2,988	2,011	4,615	2,604
TOTAL	**32,393**	**40,087**	**7,694**	**11,202**	**14,474**	**3,272**	**14,401**	**18,047**	**3,646**

5.4 Model Outputs

Raw model link volumes (approaches and departures) were obtained from the above four model runs, and were summarized and post-processed for use in intersection analysis. An NCHRP-255 delta process was used to determine final project turning movements. A conservative methodology was applied, which used a combination of model volumes and a growth rate of 5 percent (total) for the future year 2040 without project. This conservative approach was developed based on the 2010 CMP traffic growth forecast.

5.5 Project Trip Generation and Distribution

Land use was modified in the SCAG model for the "with project" scenarios to develop traffic generation estimates for the proposed project. The land use for each TOD area is shown in **Table 1**.

The SCAG 2016 travel demand model was used to estimate trip productions and trip attractions based on land use and network configurations (including transit network configuration and station location). The model then assigned the project trips to the existing roadway network in a dynamic method. The methodology used for the modeling process allowed for the SCAG model to estimate trip reductions based on mode availability in the future year 2040.

Table 9 shows the a.m. and p.m. peak hour, as well as daily project trips generated by each TOD study area.

Table 9: Project Trips Generated per TOD Area

TOD	Existing Plus Project Scenario			Future Year 2040 With Project Scenario		
	AM Peak Hour	PM Peak Hour	Daily	AM Peak Hour	PM Peak Hour	Daily
Westchester/Veterans	4,764	5,478	25,090	4,722	5,512	25,579
Crenshaw/Imperial	2,694	3,335	14,626	2,716	3,344	14,709
Total Trips	**7,458**	**8,813**	**39,716**	**7,438**	**8,856**	**40,288**

As shown in **Table 9**, the project zones are forecast to generate a total of 7,458 a.m. peak hour trips, 8,813 p.m. peak hour trips and 39,716 daily trips in the existing plus project scenario. In the future year 2040 with project scenario, the project zones are forecast to generate a total of 7,438 a.m. peak hour trips, 8,856 p.m. peak hour trips and 40,288 daily trips.

As shown, the total amount of daily project-related trips generated by the TAZ's that encompass the TOD plan areas are approximately 1% greater in the 2040 scenario than the existing (2016 model) scenario. This is due primarily to the increased development built out within the area, adding more trip generators.

The project's average daily Vehicle Miles Traveled (VMT) output produced in the SCAG model, however, is lower in the future year 2040 scenario than the existing scenario. The primary reasons for a reduction

in project VMT are reduced trip lengths to and from trip generators as well as increased transit use. **Table 10** summarizes the average daily VMT for each scenario for the two TOD areas (i.e., TAZ's that encompass both TOD plan areas), as well as the City of Inglewood.

Table 10: TOD Area Vehicle Miles Traveled (VMT)

Study Area	Existing Conditions VMT			Future Year 2040 Conditions VMT		
	Without Project	With Project	Proposed Project Difference	Without Project	With Project	Proposed Project Difference
Westchester/Veterans	603,919	608,388	4,470	614,331	616,270	1,938
Crenshaw/Imperial	72,559	73,371	812	74,143	74,761	618
TOD Total	**676,478**	**681,759**	**5,282**	**688,474**	**691,030**	**2,556**
City of Inglewood Total	**2,228,507**	**2,247,939**	**19,432**	**2,291,368**	**2,303,958**	**12,590**

As shown in **Table 10**, the proposed project difference in VMT for the combined TOD areas is approximately 2,726 VMT lower in future year 2040 conditions than in existing. In addition, the city-wide total of VMT is approximately 6,842 VMT lower in future year 2040 conditions than in existing.

6.0 EXISTING PLUS PROJECT CONDITIONS

Existing plus project volumes were developed as described in the "Traffic Volume Development" section and take into account the described roadway system configuration changes at Olive Street, Isis Street, and at the Inglewood Avenue/Manchester Boulevard intersection. As mentioned, the new Crenshaw LRT stations are not included in the existing plus project analysis as a result of the expected 2020 opening year for the transit line.

Figure 6 illustrates the existing plus project traffic volumes at the study intersections.

6.1 Existing Plus Project Intersection Levels of Service

A level of service analysis was conducted to evaluate existing plus project intersection operations during the a.m. and p.m. peak hours at the study intersections. **Table 11** summarizes the existing plus project level of service at the study intersections. Level of service calculation worksheets are included in **Appendix C**.

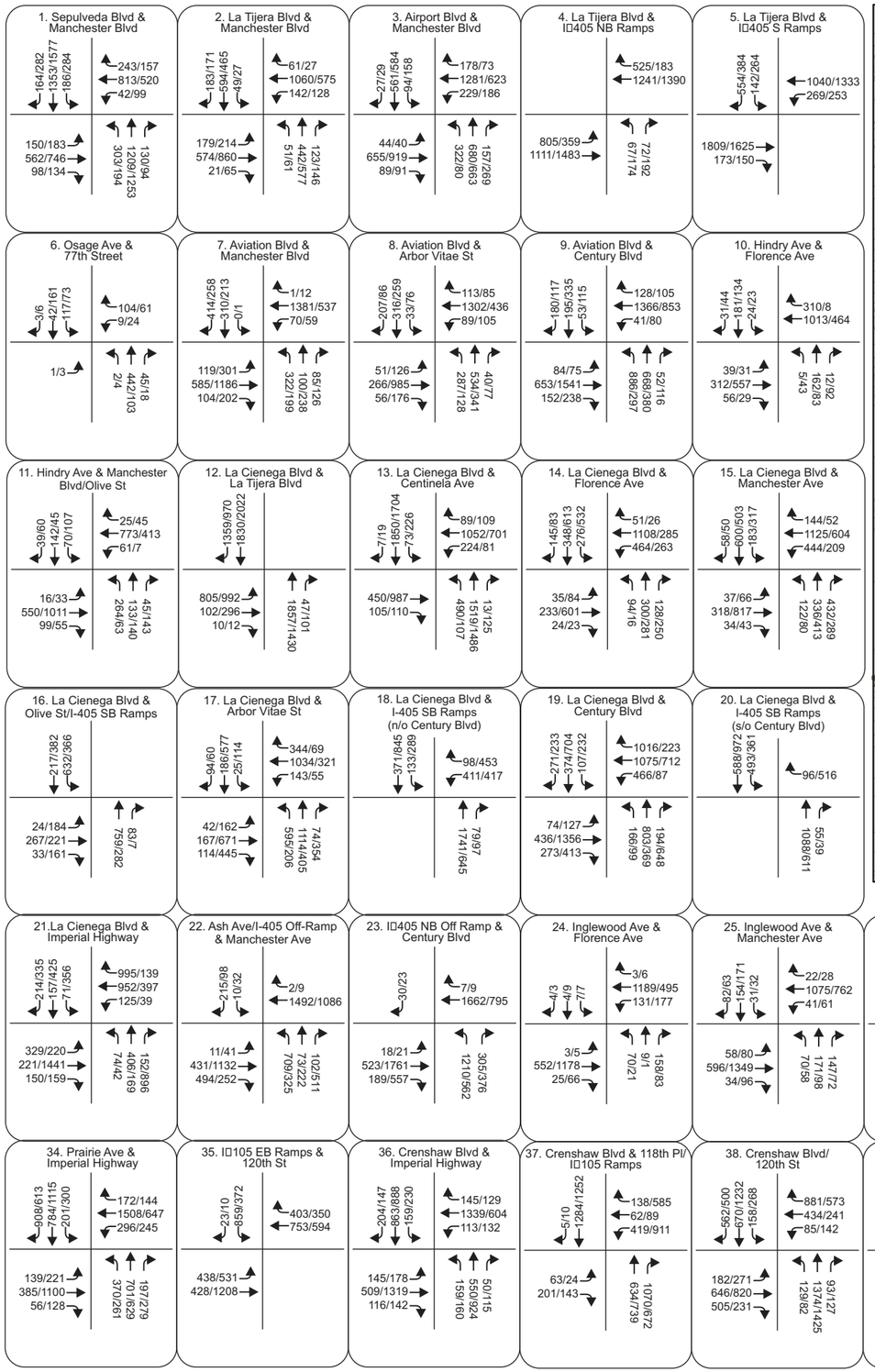

1. Sepulveda Blvd & Manchester Blvd
164/282 135/1577 186/284
243/157 813/520 42/99
150/183 562/746 98/134
303/194 1209/1253 130/94
2. La Tijera Blvd & Manchester Blvd
183/171 594/465 49/27
61/27 1060/575 142/128
179/214 574/860 21/65
51/61 442/577 123/146
3. Airport Blvd & Manchester Blvd
27/29 561/584 94/158
178/73 1281/623 229/186
44/40 655/919 89/91
680/663 322/80 157/269
4. La Tijera Blvd & I405 NB Ramps
525/183 1241/1390
805/359 1111/1483
67/174 72/192
5. La Tijera Blvd & I405 S Ramps
554/384 142/264
1040/1333 269/253
1809/1625 173/150
6. Osage Ave & 77th Street
3/6 42/161 117/73
104/61 9/24
1/3
2/4 442/103 45/18
7. Aviation Blvd & Manchester Blvd
414/258 310/213 0/1
1/12 1381/537 70/59
119/301 585/1186 104/202
322/199 100/238 85/126
8. Aviation Blvd & Arbor Vitae St
207/86 316/259 33/76
113/85 1302/436 89/105
51/126 266/985 56/176
287/128 534/341 40/77
9. Aviation Blvd & Century Blvd
180/117 195/335 53/115
128/105 1366/853 41/80
84/75 653/1541 152/238
668/380 886/297 52/116
10. Hindry Ave & Florence Ave
31/44 181/134 24/23
310/8 1013/464
39/31 312/557 56/29
5/43 162/83 12/92
11. Hindry Ave & Manchester Blvd/Olive St
39/60 142/45 70/107
25/45 773/413 61/7
16/33 550/1011 99/55
264/63 133/140 45/143
12. La Cienega Blvd & La Tijera Blvd
1359/970 1830/2022
805/992 102/296 10/12
1857/1430 47/101
13. La Cienega Blvd & Centinela Ave
7/19 1850/1704 73/226
89/109 1052/701 224/81
450/987 105/110
490/107 151/91/1486 131/125
14. La Cienega Blvd & Florence Ave
145/83 348/613 276/532
51/26 1108/285 464/263
35/84 233/601 24/23
300/281 94/16 128/250
15. La Cienega Blvd & Manchester Ave
58/50 600/503 183/317
144/52 1125/604 444/209
37/66 318/817 34/43
336/413 122/80 432/289
16. La Cienega Blvd & Olive St/I-405 SB Ramps
217/382 632/366
24/184 267/221 33/161
759/282 83/7
17. La Cienega Blvd & Arbor Vitae St
94/60 186/577 25/114
344/69 1034/321 143/55
42/162 167/671 114/445
595/206 1114/405 74/354
18. La Cienega Blvd & I-405 SB Ramps (n/o Century Blvd)
371/845 133/289
98/453 411/417
1741/645 79/87
19. La Cienega Blvd & Century Blvd
271/233 374/704 107/232
1016/223 1075/712 466/87
74/127 436/1356 273/413
166/99 803/369 194/648
20. La Cienega Blvd & I-405 SB Ramps (s/o Century Blvd)
588/972 493/361
96/516
1088/611 55/39
21.La Cienega Blvd & Imperial Highway
214/335 157/425 71/356
995/139 952/397 125/39
329/220 221/1441 150/159
74/42 406/169 152/896
22. Ash Ave/I-405 Off-Ramp & Manchester Ave
215/98 10/32
2/9 1492/1086
11/41 431/1132 494/252
709/325 73/222 102/511
23. I405 NB Off Ramp & Century Blvd
30/23
7/9 1662/795
18/21 523/1761 189/557
1210/562 305/376
24. Inglewood Ave & Florence Ave
4/3 6/9 7/7
3/6 1189/495 131/177
3/5 552/1178 25/66
70/21 9/1 158/83
25. Inglewood Ave & Manchester Ave
82/63 154/171 31/32
22/28 1075/762 41/61
58/80 596/1349 34/96
70/58 171/98 147/72
26. Eucalyptus Ave & Florence Ave
442/315 247/268 53/63
59/37 874/364 18/40
239/264 476/950 17/41
17/9 293/234 9/30
27. La Brea Ave & Fairview Blvd
69/55 1322/1333 24/41
31/17 386/202 173/85
42/88 196/405 35/33
78/16 1376/1291 144/283
28. La Brea Ave & Centinela Ave
161/130 1055/981 183/303
322/190 708/467 101/87
90/175 386/979 118/203
155/164 1122/1077 32/57
29. La Brea Ave & Hyde Park Blvd/Juniper St
86/45 269/136 810/919 11/19
28/26 165/51 106/68 48/26
180/258 48/74 22/20 1 / 1
112/202 56/128 25/26
5/5 60/37 1024/843 16/37
30. Hawthorne Blvd & I105 WB Ramps
1597/2035
687/581 220/392
909/852
31. Hawthorne Blvd & Imperial Highway
306/163 785/1108 137/203
143/110 853/349 128/136
148/101 516/1316 89/115
216/142 705/666 194/322
32. I105 EB Ramps & Imperial Highway
399/345 1174/582 16/36
311/477 447/1301 13/23
34/28 96/189 13/32
33. Prairie Avenue & I105 WB Ramps
1537/1504 23/38
47/26 69/28
400/711 32/109 283/535
1003/930 23/36
34. Prairie Ave & Imperial Highway
908/613 784/1115 201/300
172/144 1508/647 296/245
139/221 385/1100 56/128
370/261 701/629 197/279
35. I105 EB Ramps & 120th St
23/10 859/372
403/350 753/594
438/531 428/1208
36. Crenshaw Blvd & Imperial Highway
204/147 863/888 159/230
145/129 1339/604 113/132
145/178 509/1319 116/142
159/160 550/924 50/115
37. Crenshaw Blvd & 118th Pl/ I105 Ramps
5/10 1284/1252
138/585 62/89 419/911
63/24 201/143
634/739 1070/672
38. Crenshaw Blvd/ 120th St
562/500 670/1232 159/268
881/573 434/241 85/142
182/271 646/820 505/231
129/82 1374/1425 93/127
39. Van Ness Ave & Imperial Highway
198/102 788/561 110/67
60/52 1502/773 171/136
66/144 572/1366 70/210
107/109 632/746 141/198
40. Western Ave & Imperial Highway
193/150 806/784 120/159
206/191 1324/649 203/168
126/115 588/1220 247/173
307/226 933/807 189/181
Legend
Study Intersection
Green Line Station
Crenshaw Line Station
GreenLine
Crenshaw Line
City Boundaries
Westchester/Veterans Study Area
Crenshaw/Imperial Study Area
LOS ANGELES
La Tijera Blvd
Centinela Ave
Florence Ave
La Brea Ave
Prairie Ave
Manchester Blvd
Sepulveda Blvd
Arbor Vitae St
INGLEWOOD
Hawthorne Blvd
Crenshaw Blvd
Normandie Ave
Western Ave
Vermont Ave
Century Blvd
Los Angeles International Airport (LAX)
Aviation Blvd
La Cienega Blvd
WESTMONT
Van Ness Ave
Imperial Hwy
120th St
HAWTHORNE
Hawthorne Municipal Airport
WEST ATHENS
EL SEGUNDO
0 0.5 1 Miles

Table 11: Existing Plus Project Intersection Peak Hour Level of Service

Intersection		Existing Conditions				Existing Plus Project Conditions				Change in V/C or Delay		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	AM Peak Hour	PM Peak Hour	
1	Sepulveda Blvd/Manchester Ave	0.797	C	0.766	C	0.805	D	0.767	C	0.008	0.001	No
2	La Tijera Blvd/Manchester Ave	0.603	B	0.479	A	0.605	B	0.483	A	0.002	0.004	No
3	Airport Blvd/Manchester Ave	0.802	D	0.776	C	0.813	D	0.791	C	0.011	0.015	No
4	La Tijera Blvd/I-405 NB Ramps**	40.1	D	24.3	C	35.5	D	24.7	C	-4.6	0.4	No
5	La Tijera Blvd/I-405 SB Ramps**	29.9	C	25.6	C	31.1	C	26.4	C	1.2	0.8	No
6	Osage Ave/77th St[1]	12.1	B	9.0	A	12.6	B	9.3	A	0.5	0.3	No
7	Aviation Blvd/Manchester Blvd	1.078	F	0.782	C	1.067	F	0.861	D	-0.011	0.079	**Yes**
8	Aviation Blvd/Arbor Vitae St	0.936	E	0.747	C	0.926	E	0.741	C	-0.010	-0.006	No
9	Aviation Blvd/Century Blvd	0.873	D	0.809	D	0.871	D	0.833	D	-0.002	0.024	**Yes**
10	Hindry Ave/Florence Ave	0.641	B	0.417	A	0.661	B	0.417	A	0.02	0.000	No
11	Hindry Ave/Manchester Blvd/Olive St	0.651	B	0.582	A	0.674	B	0.706	C	0.023	0.124	No
12	La Cienega Blvd/La Tijera Blvd	1.100	F	0.865	D	1.104	F	0.873	D	0.004	0.008	No
13	La Cienega Blvd/Centinela Ave	0.925	E	0.921	E	0.928	E	0.934	E	0.003	0.013	**Yes**
14	La Cienega Blvd/Florence Ave	0.801	D	0.837	D	0.784	C	0.873	D	-0.017	0.036	**Yes**

Intersection		Existing Conditions				Existing Plus Project Conditions				Change in V/C or Delay		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	AM Peak Hour	PM Peak Hour	
15	La Cienega Blvd/Manchester Blvd	0.932	E	0.711	C	0.985	E	0.799	C	0.053	0.088	**Yes**
16	La Cienega Blvd/Olive St/I-405 SB Ramp**	28.6	C	19.8	B	26.4	C	20.9	C	-2.2	1.1	No
17	La Cienega Blvd/Arbor Vitae St	0.866	D	0.759	C	0.882	D	0.774	C	0.016	0.015	No
18	La Cienega Blvd/I-405 SB Ramps (north of Century Blvd) **	24.3	C	22.9	C	25.2	C	22.7	C	0.9	-0.2	No
19	La Cienega Blvd/Century Blvd	1.085	F	0.749	C	1.103	F	0.752	C	0.018	0.003	**Yes**
20	La Cienega Blvd/I-405 SB Ramps (south of Century Blvd) **	16.3	B	18.7	B	16.7	B	18.5	B	0.4	-0.2	No
21	La Cienega Blvd/Imperial Hwy	0.639	B	0.789	C	0.648	B	0.789	C	0.009	0.000	No
22	Ash Ave/I-405 Off Ramp/Manchester Blvd**	37.9	D	37.6	D	38.4	D	36.8	D	0.5	-0.8	No
23	I-405 NB Off Ramp/Century Blvd**	24.0	D	19.9	B	24.6	C	20.0	B	0.6	0.1	No
24	Inglewood Ave/Florence Ave	0.556	A	0.648	B	0.564	A	0.657	B	0.008	0.009	No
25	Inglewood Ave/Manchester Blvd	0.579	A	0.674	B	0.613	B	0.711	C	0.034	0.037	No
26	Eucalyptus Ave/Florence Ave	0.850	D	0.634	B	0.850	D	0.640	B	0.000	0.006	No
27	La Brea Ave/Fairview Blvd	0.839	D	0.881	D	0.840	D	0.894	D	0.001	0.013	No
28	La Brea Ave/Centinela Ave	0.835	D	0.975	E	0.839	D	0.982	E	0.004	0.007	No
29	La Brea Ave/Hyde Park Blvd*	27.6	C	32.7	C	28.0	C	35.2	D	0.4	2.5	No

Intersection		Existing Conditions				Existing Plus Project Conditions				Change in V/C or Delay		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	AM Peak Hour	PM Peak Hour	
30	Hawthorne Blvd/I-105 WB Ramps**	15.0	B	16.4	B	15.3	B	16.4	B	0.3	0.0	No
31	Hawthorne Blvd/Imperial Hwy	0.752	C	0.779	C	0.758	C	0.789	C	0.006	0.01	No
32	I-105 EB Ramps/Imperial Hwy**	27.6	C	28.1	C	27.6	C	28.0	C	0.0	-0.1	No
33	Prairie Ave/I-105 WB Ramps**	18.6	B	23.3	C	18.1	C	23.5	C	-0.5	0.2	No
34	Prairie Ave/Imperial Hwy	0.911	E	0.858	D	0.912	E	0.865	D	0.001	0.007	No
35	I-105 EB Ramps/120th St**	37.6	D	26.9	C	37.3	D	26.7	C	-0.3	-0.2	No
36	Crenshaw Blvd/Imperial Hwy	0.808	D	0.837	D	0.842	D	0.841	D	0.034	0.004	**Yes**
37	Crenshaw Blvd/118th Place/I-105 Ramps**	19.8	B	30.6	C	21.5	C	32.5	C	1.7	1.9	No
38	Crenshaw Blvd/120th St	0.859	D	0.762	C	0.883	D	0.769	C	0.024	0.007	**Yes**
39	Van Ness Ave/Imperial Hwy	0.882	D	0.831	D	0.889	D	0.847	D	0.007	0.016	No
40	Western Ave/Imperial Hwy	1.028	F	0.842	D	1.044	F	0.841	D	0.016	-0.001	**Yes**

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service.
1 = Unsignalized intersection analyzed utilizing HCM delay-based stop-controlled intersection methodologies.
* Intersection analyzed utilizing HCM delay-based methodology, as ICU does not support 5-legged intersection analysis.
**Caltrans intersection, utilizing HCM delay-based methodology to evaluate intersection operations.

As shown in **Table 11**, traffic generated by the proposed project is forecast to result in significant traffic impacts at the following intersections in existing plus project conditions:

- Aviation Boulevard/Manchester Boulevard;
- Aviation Boulevard/Century Boulevard;
- La Cienega Boulevard/Centinela Avenue;
- La Cienega Boulevard/Florence Avenue;
- La Cienega Boulevard/Manchester Boulevard;
- La Cienega Boulevard/Century Boulevard;
- Crenshaw Boulevard/Imperial Highway;
- Crenshaw Boulevard/120th Street; and
- Western Avenue/Imperial Highway.

7.0 FUTURE YEAR 2040 WITHOUT PROJECT CONDITIONS

Future year without project volumes were developed as described in the "Traffic Volume Development" section and take into account the following:

- Traffic growth based on a combination of SCAG 2016 RTP projected general employment growth and housing growth that occur in the SCAG region (including the study area) without the proposed TOD Plan and the 2010 CMP traffic volume growth factor (5%).
- Cumulative development projects within the study area provided by the City of Inglewood staff that were not included in the SCAG 2016 RTP forecasts.
- Two new Crenshaw LRT stations at the La Brea Avenue/Florence Avenue intersection and West Boulevard/Florence Avenue intersection.
    - Metro's proposed configuration and operational improvements as part of the Crenshaw LRT project have been taken into consideration.

7.1 Future Year 2040 Without Project Intersection Levels of Service

A level of service analysis was conducted to evaluate future year 2040 without project intersection operations during the a.m. and p.m. peak hours. **Figure 7** shows the future year 2040 without project peak hour volumes at the study intersections. **Table 12** summarizes the future year 2040 without project levels of service at the study intersections. Level of service calculation worksheets are included in **Appendix C**.

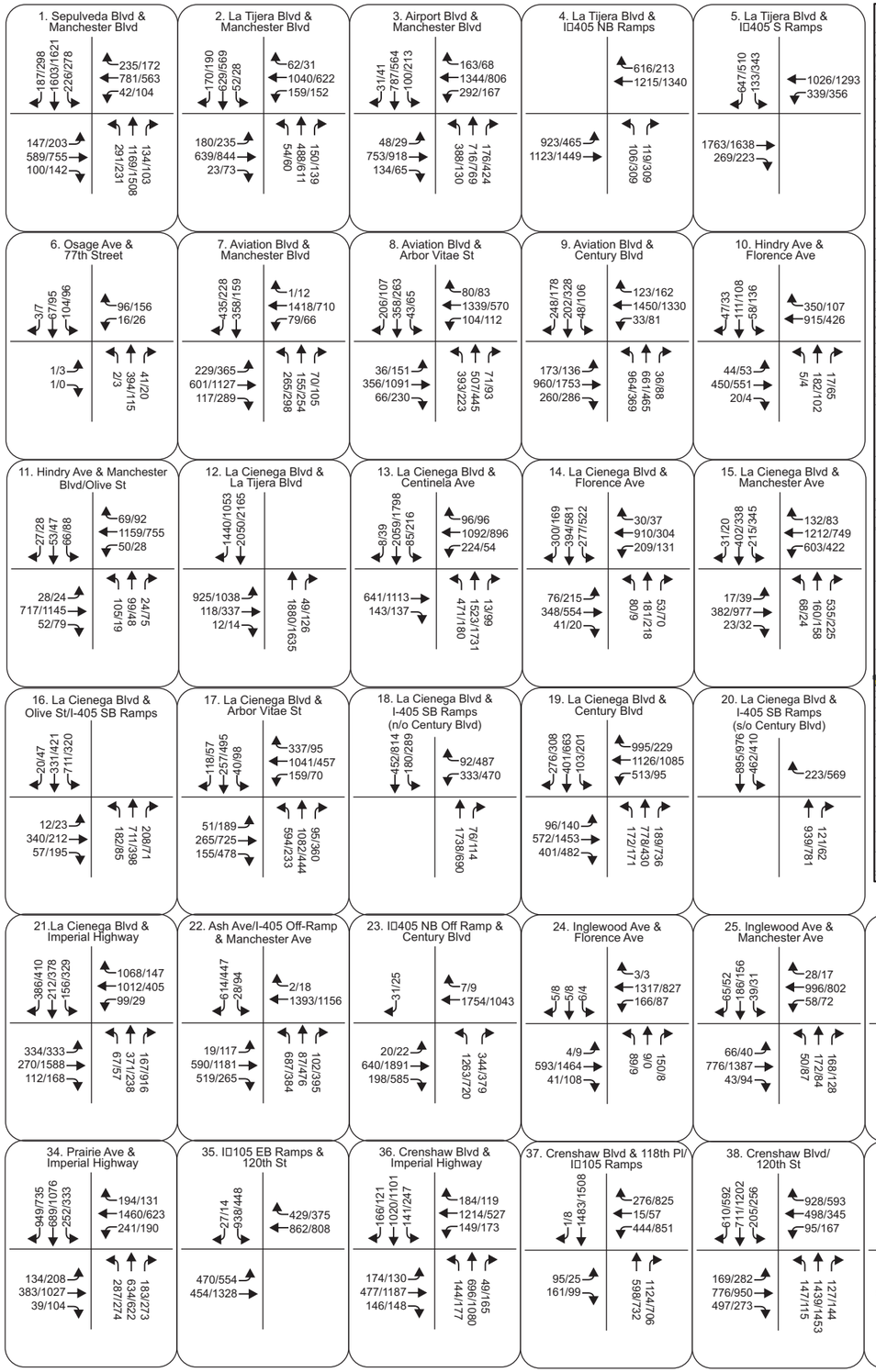

1. Sepulveda Blvd & Manchester Blvd
187/298 1603/1621 226/278
235/172 781/563 42/104
147/203 589/755 100/142
134/103 1169/1508 291/231
2. La Tijera Blvd & Manchester Blvd
170/190 629/569 52/28
62/31 1040/622 159/152
180/235 639/844 23/73
150/139 488/611 54/60
3. Airport Blvd & Manchester Blvd
31/41 787/564 100/213
163/68 1344/806 292/167
48/29 753/918 134/65
176/424 716/769 388/130
4. La Tijera Blvd & I405 NB Ramps
616/213 1215/1340
923/465 1123/1449
119/309 106/309
5. La Tijera Blvd & I405 S Ramps
647/510 133/343
1026/1293 339/356
1763/1638 269/223
6. Osage Ave & 77th Street
3/7 67/95 104/96
96/156 16/26
1/3 1/0
41/20 394/115 2/3
7. Aviation Blvd & Manchester Blvd
435/228 358/159
1/12 1418/710 79/66
229/365 601/1127 117/289
70/105 155/254 265/298
8. Aviation Blvd & Arbor Vitae St
206/107 358/263 43/65
80/83 1339/570 104/112
36/151 356/1091 66/230
71/193 507/445 393/223
9. Aviation Blvd & Century Blvd
248/178 202/328 48/106
123/162 1450/1330 33/81
173/136 960/1753 260/286
36/88 661/465 964/369
10. Hindry Ave & Florence Ave
47/33 111/108 58/136
350/107 915/426
44/53 450/551 20/4
17/65 182/102 5/4
11. Hindry Ave & Manchester Blvd/Olive St
27/28 53/47 66/88
69/92 1159/755 50/28
28/24 717/1145 52/79
24/75 99/48 105/19
12. La Cienega Blvd & La Tijera Blvd
1440/1053 2050/2165
925/1038 118/337 12/14
49/126 1880/1635
13. La Cienega Blvd & Centinela Ave
8/39 2059/1798 85/216
96/96 1092/896 224/54
641/1113 143/137
13/99 1523/1731 471/180
14. La Cienega Blvd & Florence Ave
300/169 394/681 277/522
30/37 910/304 209/131
76/215 348/554 41/20
53/70 181/218 80/9
15. La Cienega Blvd & Manchester Ave
31/20 402/338 215/345
132/83 1212/749 603/422
17/39 382/977 23/32
535/225 160/158 68/24
16. La Cienega Blvd & Olive St/I-405 SB Ramps
20/47 331/421 711/320
12/23 340/212 57/195
208/71 711/398 182/85
17. La Cienega Blvd & Arbor Vitae St
118/57 257/495 40/98
337/95 1041/457 159/70
51/189 265/725 155/478
95/360 1082/444 594/233
18. La Cienega Blvd & I-405 SB Ramps (n/o Century Blvd)
452/814 180/289
92/487 333/470
76/114 1738/690
19. La Cienega Blvd & Century Blvd
276/308 401/663 103/201
995/229 1126/1085 513/95
96/140 572/1453 401/482
189/736 778/430 172/171
20. La Cienega Blvd & I-405 SB Ramps (s/o Century Blvd)
895/976 462/410
223/569
121/62 939/781
21.La Cienega Blvd & Imperial Highway
386/410 212/378 156/329
1068/147 1012/405 99/29
334/333 270/1588 112/168
167/916 371/238 67/57
22. Ash Ave/I-405 Off-Ramp & Manchester Ave
614/447 28/94
2/18 1393/1156
19/117 590/1181 519/265
102/395 887/476 687/384
23. I405 NB Off Ramp & Century Blvd
31/25
7/9 1754/1043
20/22 640/1891 198/585
344/379 1263/720
24. Inglewood Ave & Florence Ave
5/8 5/8 6/4
3/3 1317/827 166/87
4/9 593/1464 41/108
150/8 9/0 89/9
25. Inglewood Ave & Manchester Ave
65/52 186/156 39/31
28/17 996/802 58/72
66/40 776/1387 43/94
168/128 172/84 50/87
26. Eucalyptus Ave & Florence Ave
468/261 272/340 138/193
182/123 1010/589 22/99
271/196 500/1268 8/22
8/72 279/316 6/6
27. La Brea Ave & Fairview Blvd
75/61 1390/1335 26/43
32/20 426/240 186/91
46/98 232/454 39/34
152/298 1337/1339 80/18
28. La Brea Ave & Centinela Ave
156/129 1073/958 250/335
362/232 702/511 105/94
82/180 441/1009 100/185
38/58 1058/1084 128/148
29. La Brea Ave & Hyde Park Blvd/Juniper St
90/47 282/143 827/957 12/20
29/27 138/37 111/71 50/27
184/218 50/78 23/21 1 / 1
17/39 1085/878 63/39 5/5
119/212 59/134 26/27
30. Hawthorne Blvd & I105 WB Ramps
1857/2161
737/621 232/439
900/1044
31. Hawthorne Blvd & Imperial Highway
304/166 989/1166 127/184
105/127 747/364 142/146
143/119 554/1257 130/127
229/322 743/826 272/160
32. I105 EB Ramps & Imperial Highway
362/396 1047/606 14/40
383/479 415/1205 16/22
11/32 103/203 36/27
33. Prairie Avenue & I105 WB Ramps
1511/1573 25/39
56/28 66/29
529/820 38/119 304/588
20/33 963/899
34. Prairie Ave & Imperial Highway
946/735 1069/1016 1688/1016 252/333
194/131 1460/623 241/190
134/208 383/1027 39/104
183/273 634/622 287/274
35. I105 EB Ramps & 120th St
27/14 938/448
429/375 862/808
470/554 454/1328
36. Crenshaw Blvd & Imperial Highway
166/121 1020/1101 141/247
184/119 1214/527 149/173
174/130 477/1187 146/148
49/165 696/1080 144/177
37. Crenshaw Blvd & 118th Pl/ I105 Ramps
8/8 1483/1508
276/825 15/57 444/851
95/25 161/99
1124/706 598/732
38. Crenshaw Blvd/ 120th St
610/592 1711/1202 205/256
928/593 498/345 95/167
169/282 776/950 497/273
127/144 1439/1453 147/115
39. Van Ness Ave & Imperial Highway
206/86 1275/800 149/70
64/57 1466/747 174/182
54/129 556/1295 54/227
184/240 689/851 107/109
40. Western Ave & Imperial Highway
180/181 885/865 124/137
189/162 1248/599 190/142
139/137 618/1131 276/206
196/156 1013/897 343/274
Legend
Study Intersection
Green Line Station
Crenshaw Line Station
GreenLine
Crenshaw Line
City Boundaries
Westchester/Veterans Study Area
Crenshaw/Imperial Study Area
LOS ANGELES
INGLEWOOD
HAWTHORNE
EL SEGUNDO
WESTMONT
WEST ATHENS
LOS ANGELES
Centinela Ave
La Tijera Blvd
Florence Ave
La Brea Ave
Prairie Ave
Manchester Blvd
Sepulveda Blvd
Arbor Vitae St
Hawthorne Blvd
Crenshaw Blvd
Normandie Ave
Century Blvd
Western Ave
Vermont Ave
Aviation Blvd
La Cienega Blvd
Van Ness Ave
Imperial Hwy
120th St
Los Angeles International Airport (LAX)
Hawthorne Municipal Airport
405
105
110
0
0.5
1
Miles

Table 12: Future Year 2040 Without Project Intersection Peak Hour Level of Service

Intersection		Control Type	AM Peak Hour		PM Peak Hour	
			V/C or Delay	LOS	V/C or Delay	LOS
1	Sepulveda Blvd/Manchester Ave	Signalized	0.843	D	0.819	D
2	La Tijera Blvd/Manchester Ave	Signalized	0.613	B	0.513	A
3	Airport Blvd/Manchester Ave	Signalized	0.965	E	**0.908**	**E**
4	La Tijera Blvd/I-405 NB Ramps**	Signalized	**73.9**	**E**	30.3	C
5	La Tijera Blvd/I-405 SB Ramps**	Signalized	35.6	D	39.5	D
6	Osage Ave/77th St[1]	Unsignalized	11.5	B	9.6	A
7	Aviation Blvd/Manchester Blvd	Signalized	**1.124**	**F**	**0.915**	**E**
8	Aviation Blvd/Arbor Vitae St	Signalized	**1.042**	**F**	0.848	D
9	Aviation Blvd/Century Blvd	Signalized	**0.943**	**E**	0.876	D
10	Hindry Ave/Florence Ave	Signalized	0.650	B	0.443	A
11	Hindry Ave/Manchester Blvd/Olive St	Signalized	0.645	B	0.604	B
12	La Cienega Blvd/La Tijera Blvd	Signalized	**1.153**	**F**	**0.938**	**E**
13	La Cienega Blvd/Centinela Ave	Signalized	**0.998**	**E**	**0.978**	**E**
14	La Cienega Blvd/Florence Ave	Signalized	0.723	C	0.728	C
15	La Cienega Blvd/Manchester Blvd	Signalized	**0.967**	**E**	0.737	C
16	La Cienega Blvd/Olive St/I-405 SB Ramp**	Signalized	31.3	C	20.3	C
17	La Cienega Blvd/Arbor Vitae St	Signalized	**0.968**	**E**	0.808	D
18	La Cienega Blvd/I-405 SB Ramps (north of Century Blvd) **	Signalized	34.9	C	29.8	C
19	La Cienega Blvd/Century Blvd	Signalized	**1.069**	**F**	0.756	C
20	La Cienega Blvd/I-405 SB Ramps (south of Century Blvd) **	Signalized	16.2	B	19.2	B
21	La Cienega Blvd/Imperial Hwy	Signalized	0.634	B	0.809	D
22	Ash Ave/I-405 Off Ramp/ Manchester Blvd**	Signalized	**86.0**	**F**	**106.0**	**F**
23	I-405 NB Off Ramp/Century Blvd**	Signalized	25.6	C	20.6	C
24	Inglewood Ave/Florence Ave	Signalized	0.600	A	0.644	B
25	Inglewood Ave/Manchester Blvd	Signalized	0.601	B	0.761	C
26	Eucalyptus Ave/Florence Ave	Signalized	**0.918**	**E**	**0.908**	**E**
27	La Brea Ave/Fairview Blvd	Signalized	0.863	D	**0.940**	**E**
28	La Brea Ave/Centinela Ave	Signalized	0.836	D	**1.000**	**F**
29	La Brea Ave/Hyde Park Blvd*	Signalized	29.1	C	34.3	C
30	Hawthorne Blvd/I-105 WB Ramps**	Signalized	16.7	B	18.6	B
31	Hawthorne Blvd/Imperial Hwy	Signalized	0.701	C	0.787	C
32	I-105 EB Ramps/Imperial Hwy**	Signalized	29.8	C	27.5	C
33	Prairie Ave/I-105 WB Ramps**	Signalized	20.7	C	26.1	C

Intersection		Control Type	AM Peak Hour		PM Peak Hour	
			V/C or Delay	LOS	V/C or Delay	LOS
34	Prairie Ave/Imperial Hwy	Signalized	0.875	D	0.812	D
35	I-105 EB Ramps/120th St**	Signalized	46.8	D	28.8	C
36	Crenshaw Blvd/Imperial Hwy	Signalized	0.842	D	**0.921**	**E**
37	Crenshaw Blvd/118th Place/I-105 Ramps**	Signalized	20.8	C	35.4	D
38	Crenshaw Blvd/120th St	Signalized	**0.941**	**E**	0.850	D
39	Van Ness Ave/Imperial Hwy	Signalized	0.897	D	**0.907**	**E**
40	Western Ave/Imperial Hwy	Signalized	**0.993**	**E**	0.836	D

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service.
Intersections operating at LOS E or F are shown in **bold.**
1 = Unsignalized intersection analyzed utilizing HCM delay-based stop-controlled intersection methodologies.
* Intersection analyzed utilizing HCM delay-based methodology, as ICU does not support 5-legged intersection analysis.
**Caltrans intersection, utilizing HCM delay-based methodology to evaluate intersection operations.

As shown in **Table 12**, the following intersections are forecast to operate at LOS E or F during peak hours in future year 2040 without project conditions:

- Airport Boulevard/Manchester Avenue (p.m. peak hour);
- La Tijera Boulevard/I-405 Northbound Ramps (a.m. peak hour);
- Aviation Boulevard/Manchester Boulevard (a.m. and p.m. peak hour);
- Aviation Boulevard/Arbor Vitae Street (a.m. peak hour);
- Aviation Boulevard/Century Boulevard (a.m. peak hour);
- La Cienega Boulevard/La Tijera Boulevard (a.m. and p.m. peak hour);
- La Cienega Boulevard/Centinela Avenue (a.m. and p.m. peak hour);
- La Cienega Boulevard/Manchester Boulevard (a.m. peak hour);
- La Cienega Boulevard/Arbor Vitae Street (a.m. peak hour);
- La Cienega Boulevard/Century Boulevard (a.m. peak hour);
- Ash Avenue/I-405 Off-ramp/Manchester Boulevard (a.m. and p.m. peak hour);
- Eucalyptus Avenue/Florence Avenue (a.m. and p.m. peak hour);
- La Brea Avenue/Fairview Boulevard (p.m. peak hour);
- La Brea Avenue/Centinela Avenue (p.m. peak hour);
- Crenshaw Boulevard/Imperial Highway (p.m. peak hour);
- Crenshaw Boulevard/120th Street (a.m. peak hour);
- Van Ness Avenue/Imperial Highway (p.m. peak hour); and
- Western Avenue/Imperial Highway (a.m. peak hour).

8.0 FUTURE YEAR 2040 WITH PROJECT CONDITIONS

Future year with project volumes were developed as described in the "Traffic Volume Development" section and take into account the following:

- Cumulative development projects within the study area provided by the City of Inglewood staff that were not included in the SCAG 2016 RTP forecasts (similar to future year 2040 without project).
- Roadway system configuration changes at Olive Street, Isis Street, and at the Inglewood Avenue/Manchester Boulevard intersection.
- Two new Crenshaw LRT stations at the La Brea Avenue/Florence Avenue intersection and West Boulevard/Florence Avenue intersection (similar to future year 2040 without project).

8.1 Future Year 2040 With Project Intersection Levels of Service

A level of service analysis was conducted to evaluate future year 2040 with project intersection operations during the a.m. and p.m. peak hours. **Figure 8** shows the future year 2040 with project peak hour volumes at the study intersections. **Table 13** summarizes the future year 2040 with project levels of service at the study intersections. Level of service calculation worksheets are included in **Appendix C**.

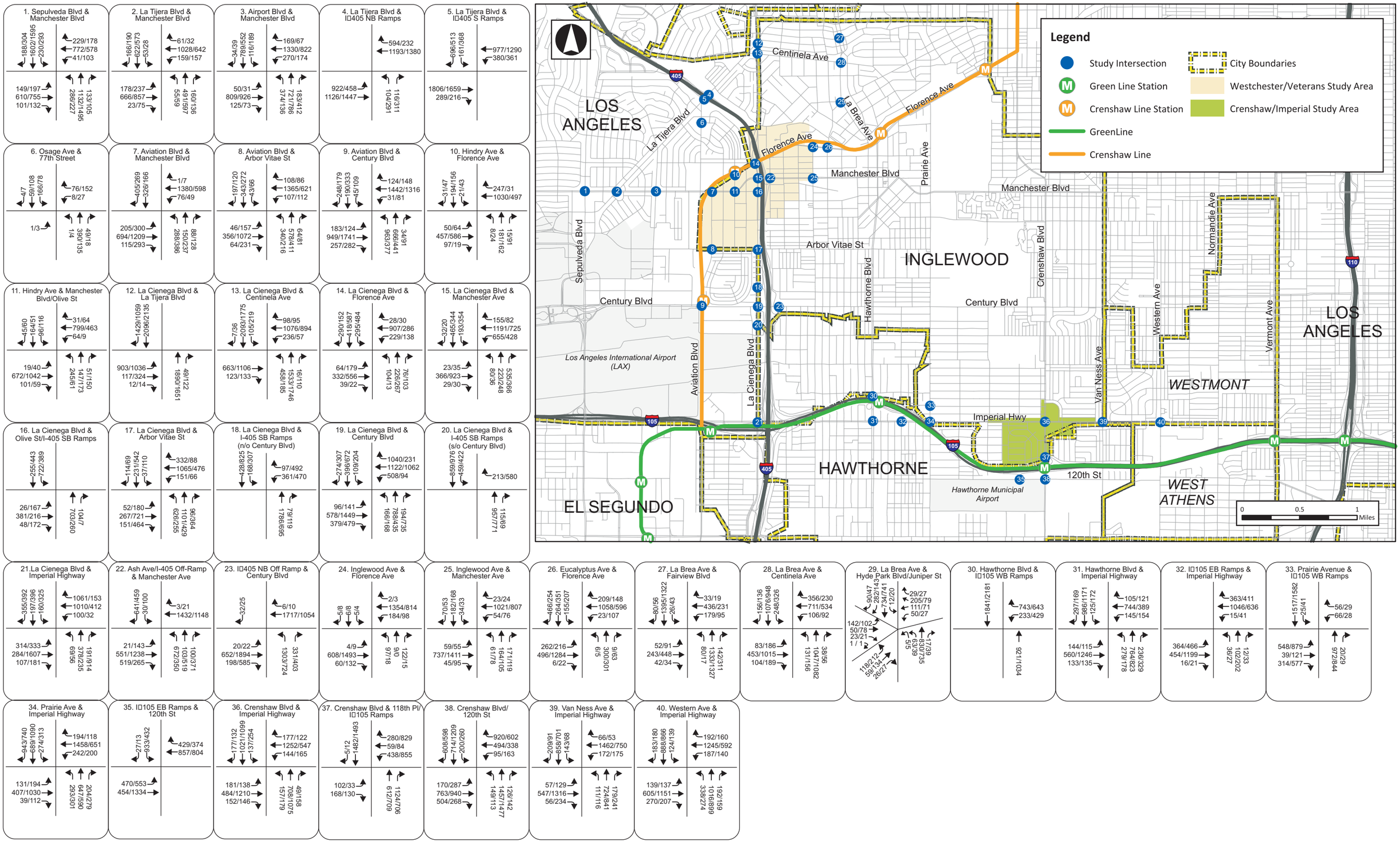

1. Sepulveda Blvd & Manchester Blvd
188/304 160/1595 230/293
229/178 772/578 41/103
149/197 610/755 101/132
133/105 1132/1495 286/227
2. La Tijera Blvd & Manchester Blvd
166/190 622/573 53/28
61/32 1028/642 159/157
178/237 666/857 23/75
160/136 491/597 55/59
3. Airport Blvd & Manchester Blvd
34/39 789/552 116/189
169/67 1330/822 270/174
50/31 809/926 125/73
183/412 721/786 374/136
4. La Tijera Blvd & I405 NB Ramps
594/232 1193/1380
922/458 1126/1447
116/311 104/291
5. La Tijera Blvd & I405 S Ramps
696/513 161/368
977/1290 380/361
1806/1659 289/216
6. Osage Ave & 77th Street
4/7 90/108 166/78
76/152 8/27
1/3
49/18 1/4 390/135
7. Aviation Blvd & Manchester Blvd
405/269 326/166
1/7 1380/598 76/49
205/300 694/1209 115/293
88/128 288/386 150/237
8. Aviation Blvd & Arbor Vitae St
197/120 343/272 43/96
108/86 1365/621 107/112
46/157 356/1072 64/231
64/81 578/411 340/216
9. Aviation Blvd & Century Blvd
248/179 190/333 45/109
124/148 1442/1316 31/81
183/124 949/1741 257/282
34/91 666/441 963/377
10. Hindry Ave & Florence Ave
31/47 194/156 21/43
247/31 1030/497
50/64 457/586 97/19
15/91 181/162 8/24
11. Hindry Ave & Manchester Blvd/Olive St
45/60 194/151 96/116
31/64 799/463 64/9
19/40 672/1042 101/59
51/150 147/173 245/61
12. La Cienega Blvd & La Tijera Blvd
1429/1059 2096/2135
903/1036 117/324 12/14
49/122 1890/1651
13. La Cienega Blvd & Centinela Ave
7/36 2093/1775 105/219
98/95 1076/894 236/57
663/1106 123/133
16/110 153/1746 458/185
14. La Cienega Blvd & Florence Ave
290/152 418/587 295/484
28/30 907/286 229/138
64/179 332/556 39/22
76/103 226/267 104/13
15. La Cienega Blvd & Manchester Ave
32/20 465/344 193/354
155/82 1191/725 655/428
23/35 366/923 29/30
535/366 223/248 80/36
16. La Cienega Blvd & Olive St/I-405 SB Ramps
255/443 722/389
26/167 381/216 48/172
104/7 703/260
17. La Cienega Blvd & Arbor Vitae St
114/69 231/542 37/110
332/88 1065/476 151/66
52/180 267/721 151/464
96/364 626/255 1101/429
18. La Cienega Blvd & I-405 SB Ramps (n/o Century Blvd)
428/825 168/307
97/492 361/470
79/119 1786/695
19. La Cienega Blvd & Century Blvd
274/307 396/672 109/204
1040/231 1122/1062 508/94
96/141 578/1449 379/479
194/735 788/435 166/168
20. La Cienega Blvd & I-405 SB Ramps (s/o Century Blvd)
859/976 459/422
213/580
115/69 957/771
21.La Cienega Blvd & Imperial Highway
355/392 197/396 160/325
1061/153 1010/412 100/32
314/333 284/1607 107/181
191/914 378/235 69/66
22. Ash Ave/I-405 Off-Ramp & Manchester Ave
641/459 30/100
3/21 1432/1148
21/143 551/1238 519/265
100/371 672/350 103/519
23. I405 NB Off Ramp & Century Blvd
32/25
6/10 1717/1054
20/22 652/1894 198/585
331/403 1303/724
24. Inglewood Ave & Florence Ave
5/8 6/8 5/4
2/3 1354/814 184/98
4/9 608/1493 60/132
122/15 97/18 9/0
25. Inglewood Ave & Manchester Ave
70/53 182/168 34/33
23/24 1021/807 54/76
59/55 737/1411 45/95
171/119 164/105 61/78
26. Eucalyptus Ave & Florence Ave
466/254 264/351 155/207
209/148 1058/596 23/107
262/216 496/1284 6/22
9/63 300/301 6/5
27. La Brea Ave & Fairview Blvd
80/56 1395/1322 26/43
33/19 436/231 179/95
52/91 243/448 42/34
142/311 1333/1327 80/17
28. La Brea Ave & Centinela Ave
156/136 1076/948 248/326
356/230 711/534 106/92
83/186 453/1015 104/189
38/56 1047/1082 131/156
29. La Brea Ave & Hyde Park Blvd/Juniper St
90/47 282/143 734/741 12/20
29/27 205/79 111/71 50/27
142/102 50/78 23/21 1 / 1
17/39 830/735 63/39 5/5
119/212 59/134 26/27
30. Hawthorne Blvd & I105 WB Ramps
1841/2181
743/643 233/429
921/1034
31. Hawthorne Blvd & Imperial Highway
297/169 986/1171 125/172
105/121 744/389 145/154
144/115 560/1246 133/135
236/329 764/823 279/178
32. I105 EB Ramps & Imperial Highway
363/411 1046/636 15/41
364/466 454/1199 16/21
12/33 102/202 36/27
33. Prairie Avenue & I105 WB Ramps
1517/1582 25/41
56/29 66/28
548/879 39/121 314/577
20/29 972/844
34. Prairie Ave & Imperial Highway
943/740 689/1090 274/313
194/118 1458/651 242/200
131/194 407/1030 39/112
204/279 647/590 293/301
35. I105 EB Ramps & 120th St
27/13 933/432
429/374 857/804
470/553 454/1334
36. Crenshaw Blvd & Imperial Highway
177/132 1021/1099 137/254
177/122 1252/547 144/165
181/138 484/1210 152/146
49/158 708/1075 157/179
37. Crenshaw Blvd & 118th Pl/ I105 Ramps
5/12 1482/1493
280/829 59/84 438/855
102/33 168/130
1124/706 612/709
38. Crenshaw Blvd/ 120th St
608/598 714/1209 200/260
920/602 494/338 95/163
170/287 763/940 504/268
126/142 1457/1477 149/113
39. Van Ness Ave & Imperial Highway
209/91 858/701 193/68
66/53 1462/750 172/175
57/129 547/1316 56/234
179/241 724/841 111/116
40. Western Ave & Imperial Highway
183/180 888/866 124/139
192/160 1245/592 187/140
139/137 605/1151 270/207
192/159 1016/899 338/274
Legend
Study Intersection
Green Line Station
Crenshaw Line Station
GreenLine
Crenshaw Line
City Boundaries
Westchester/Veterans Study Area
Crenshaw/Imperial Study Area
LOS ANGELES
INGLEWOOD
HAWTHORNE
EL SEGUNDO
WESTMONT
WEST ATHENS
LOS ANGELES
Centinela Ave
La Tijera Blvd
Florence Ave
La Brea Ave
Prairie Ave
Manchester Blvd
Sepulveda Blvd
Arbor Vitae St
Hawthorne Blvd
Crenshaw Blvd
Normandie Ave
Western Ave
Vermont Ave
Century Blvd
Aviation Blvd
La Cienega Blvd
Van Ness Ave
Imperial Hwy
120th St
Los Angeles International Airport (LAX)
Hawthorne Municipal Airport
405
105
110
0
0.5
1
Miles

Table 13: Future Year 2040 With Project Intersection Peak Hour Level of Service

Intersection		Future Year 2040 Without Project Conditions				Future Year 2040 With Project Conditions				Change in V/C or Delay		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	AM Peak Hour	PM Peak Hour	
1	Sepulveda Blvd/Manchester Ave	0.843	D	0.819	D	0.837	D	0.825	D	-0.006	0.006	No
2	La Tijera Blvd/Manchester Ave	0.613	B	0.513	A	0.605	B	0.521	A	-0.008	0.008	No
3	Airport Blvd/Manchester Ave	0.965	E	0.908	E	0.953	E	0.900	D	-0.012	-0.008	No
4	La Tijera Blvd/I-405 NB Ramps**	73.9	E	30.3	C	64.9	E	30.4	C	-9.0	0.1	No
5	La Tijera Blvd/I-405 SB Ramps**	35.6	D	39.5	D	49.3	D	41.3	D	13.7	1.8	No
6	Osage Ave/77th St[1]	11.5	B	9.6	A	11.6	B	9.6	A	0.1	0.0	No
7	Aviation Blvd/Manchester Blvd	1.124	F	0.915	E	1.073	F	0.989	E	-0.051	0.074	**Yes**
8	Aviation Blvd/Arbor Vitae St	1.042	F	0.848	D	0.950	E	0.815	D	-0.092	-0.033	No
9	Aviation Blvd/Century Blvd	0.943	E	0.876	D	0.940	E	0.878	D	-0.003	0.002	No
10	Hindry Ave/Florence Ave	0.650	B	0.443	A	0.629	B	0.445	A	-0.021	0.002	No
11	Hindry Ave/Manchester Blvd/Olive St	0.645	B	0.604	B	0.678	B	0.722	C	0.033	0.118	No
12	La Cienega Blvd/La Tijera Blvd	1.153	F	0.938	E	1.141	F	0.938	E	-0.012	0.000	No
13	La Cienega Blvd/Centinela Ave	0.998	E	0.978	E	1.015	F	0.985	E	0.017	0.007	**Yes**
14	La Cienega Blvd/Florence Ave	0.723	C	0.728	C	0.707	C	0.716	C	-0.016	-0.012	No

Intersection		Future Year 2040 Without Project Conditions				Future Year 2040 With Project Conditions				Change in V/C or Delay		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	AM Peak Hour	PM Peak Hour	
15	La Cienega Blvd/ Manchester Blvd	0.967	E	0.737	C	0.956	E	0.786	C	-0.011	0.049	**Yes**
16	La Cienega Blvd/Olive St/ I-405 SB Ramp**	31.3	C	20.3	C	30.3	C	20.6	C	-1.0	0.3	No
17	La Cienega Blvd/Arbor Vitae St	0.968	E	0.808	D	0.904	E	0.802	D	-0.064	-0.006	No
18	La Cienega Blvd/I-405 SB Ramps (north of Century Blvd) **	34.9	C	29.8	C	35.7	D	31.6	C	0.8	1.8	No
19	La Cienega Blvd/Century Blvd	1.069	F	0.756	C	1.104	F	0.756	C	0.035	0.000	**Yes**
20	La Cienega Blvd/I-405 SB Ramps (south of Century Blvd) **	16.2	B	19.2	B	16.2	B	19.5	B	0.0	0.3	No
21	La Cienega Blvd/Imperial Hwy	0.634	B	0.809	D	0.628	B	0.812	D	-0.006	0.003	No
22	Ash Ave/I-405 Off Ramp/ Manchester Blvd**	86.0	F	106.0	F	94.0	F	127.2	F	8.0	21.2	**Yes**
23	I-405 NB Off Ramp/ Century Blvd**	25.6	C	20.6	C	25.9	C	20.8	C	0.3	0.2	No
24	Inglewood Ave/Florence Ave	0.600	A	0.644	B	0.571	A	0.648	B	-0.029	0.004	No
25	Inglewood Ave/Manchester Blvd	0.601	B	0.761	C	0.576	A	0.733	C	-0.025	-0.028	No
26	Eucalyptus Ave/Florence Ave	0.918	E	0.908	E	0.930	E	0.912	E	0.012	0.004	**Yes**
27	La Brea Ave/Fairview Blvd	0.863	D	0.940	E	0.877	D	0.939	E	0.014	-0.001	No
28	La Brea Ave/Centinela Ave	0.836	D	1.000	F	0.828	D	0.994	E	-0.008	-0.006	No
29	La Brea Ave/Hyde Park Blvd*	29.1	C	34.3	C	27.8	C	28.0	C	-1.3	-6.3	No

Intersection		Future Year 2040 Without Project Conditions				Future Year 2040 With Project Conditions				Change in V/C or Delay		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	AM Peak Hour	PM Peak Hour	
30	Hawthorne Blvd/ I-105 WB Ramps**	16.7	B	18.6	B	16.9	B	19.0	B	0.2	0.4	No
31	Hawthorne Blvd/Imperial Hwy	0.701	C	0.787	C	0.701	C	0.799	C	0.000	0.012	No
32	I-105 EB Ramps/Imperial Hwy**	29.8	C	27.5	C	29.0	C	27.1	C	-0.8	-0.4	No
33	Prairie Ave/I-105 WB Ramps**	20.7	C	26.1	C	21.1	C	26.2	C	0.4	0.1	No
34	Prairie Ave/Imperial Hwy	0.875	D	0.812	D	0.813	D	0.823	D	-0.062	0.011	No
35	I-105 EB Ramps/120th St**	46.8	D	28.8	C	46.3	D	28.0	C	-0.5	-0.8	No
36	Crenshaw Blvd/Imperial Hwy	0.842	D	0.921	E	0.839	D	0.881	D	-0.003	-0.04	No
37	Crenshaw Blvd/118th Place/ I-105 Ramps**	20.8	C	35.4	D	22.2	C	39.0	D	1.4	3.6	No
38	Crenshaw Blvd/120th St	0.941	E	0.850	D	0.894	D	0.822	D	-0.047	-0.028	No
39	Van Ness Ave/Imperial Hwy	0.897	D	0.907	E	0.837	D	0.893	D	-0.060	-0.014	No
40	Western Ave/Imperial Hwy	0.993	E	0.836	D	0.990	E	0.840	D	-0.003	0.004	No

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service.
1 = Unsignalized intersection analyzed utilizing HCM delay-based stop-controlled intersection methodologies.
* Intersection analyzed utilizing HCM delay-based methodology, as ICU does not support 5-legged intersection analysis.
**Caltrans intersection, utilizing HCM delay-based methodology to evaluate intersection operations.

As shown in **Table 13**, based on the significant impact threshold criteria described in Section 3, traffic generated by the proposed project is forecast to result in significant traffic impacts at the following intersections in future year 2040 with project conditions:

- Aviation Boulevard/Manchester Boulevard;
- La Cienega Boulevard/Centinela Avenue;
- La Cienega Boulevard/Manchester Boulevard;
- La Cienega Boulevard/Century Boulevard;
- Ash Avenue/I-405 Off-ramp/Manchester Boulevard; and
- Eucalyptus Avenue/Florence Avenue.

9.0 CONGESTION MANAGEMENT PROGRAM ANALYSIS (CMP)

The Congestion Management Program (CMP) was created statewide as a result of Proposition 111 and has been implemented locally by the Los Angeles County Metropolitan Transportation Authority (Metro). The CMP, as adopted by SCAG for Los Angeles County, requires that the traffic impact of individual development projects of potential regional significance be analyzed. A specific system of arterial roadways plus all freeways comprise the CMP system. A total of 164 intersections are identified for monitoring on the system in Los Angeles County. This section describes the analysis of project-related impacts on the CMP system. The analysis has been conducted according to the guidelines set forth in the 2010 Congestion Management Program for Los Angeles County.

According to the CMP Traffic Impact Analysis (TIA) Guidelines developed by Metro, a CMP traffic impact analysis is required given the following conditions:

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

According to the CMP guidelines, a significant impact occurs when a proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C ≥ 0.02 for arterial locations or D/C ≥ 0.02 for freeway locations), causing LOS F (V/C > 1.00 for arterial locations or D/C > 1.00 for freeway locations).

Based on the traffic volumes, developed per Section 5, the proposed project is not expected to add 150 or more peak hour trips to CMP freeway monitoring locations. As a result, a CMP Freeway analysis was not performed.

9.1 CMP Intersection Analysis

Two of the forty (40) proposed study area intersections are part of the 164 CMP Arterial monitoring locations. Per the CMP guidelines, a project's traffic impact is considered significant if the change in V/C ratio relative to the "without project" increases by 2% (V/C $\geq$ 0.02) causing the intersection to operate at LOS F. Furthermore, if the study intersection is operating at LOS E or better after the addition of the project, the intersection would not be considered significantly impacted regardless of the increase in V/C. The CMP intersection analysis was conducted as shown in **Table 14.**

Table 13: CMP Intersection Analysis

Intersection		Future Year 2040 Without Project Conditions				Future Year 2040 With Project Conditions				Change in V/C		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	AM Peak Hour	PM Peak Hour	
1	Sepulveda Blvd/ Manchester Ave	0.843	D	0.819	D	0.837	D	0.825	D	-0.006	0.006	No
13	La Cienega Blvd/ Centinela Ave	0.998	E	0.978	E	1.015	F	0.985	E	0.017	0.007	No

As shown in **Table 14,** under future year 2040 with project conditions, the proposed project is not forecast to result in any significant impacts at the CMP-monitored intersections.

10.0 CALTRANS OFF-RAMP QUEUING ANALYSIS

This section presents the peak hour queue lengths at the Caltrans off-ramp locations within the study area, for the proposed project conditions in future year 2040. The queue lengths are presented for the 95th percentile condition, using the HCM methodology. **Table 15** summarizes the a.m. and p.m. peak hour 95th percentile queue lengths as well as the current storage capacity on the off-ramps. As shown in **Table 15**, the 95th percentile queue lengths are anticipated to be accommodated by the off-ramps within the study area, thus would not be expected to spill back onto the freeway mainline.

Table 15: Future Year 2040 With Project Freeway Off-ramp Queue Lengths

Intersection		Movement	Storage Length (ft)*	95th Percentile Queue Length (ft)		Queue Exceeds Storage Length?
				AM Peak Hour	PM Peak Hour	
4	La Tijera Blvd/I-405 NB Ramps	NB left	750	110	270	No
		NB right		130	320	No
5	La Tijera Blvd/I-405 SB Ramps	SB left/thru/right	1,075	530	490	No
		SB right		510	460	No
18	La Cienega Blvd/I-405 SB Ramps (north of Century Blvd)	WB left/right	1,800	200	440	No
20	La Cienega Blvd/I-405 SB Ramps (south of Century Blvd)	WB right	660	0	10	No
		WB right		0	10	No
22	Ash Ave/I-405 Off Ramp/ Manchester Blvd	NB left	1,200	490	360	No
		NB left/thru/right		530	860	No
		NB right		50	170	No
23	I-405 NB Off Ramp/Century Blvd	NB left	1,270	470	240	No
		NB right		160	310	No
30	Hawthorne Blvd/I-105 WB Ramps	WB left/right	4,000	200	280	No
		WB right		310	310	No
33	Prairie Ave/I-105 WB Ramps	EB left	2,600	220	290	No
		EB thru/right	3,000	190	500	No
35	I-105 EB Ramps/120th St	SB left	1,450	440	200	No
		SB right		20	20	No
37	Crenshaw Blvd/118th Place/ I-105 Ramps	WB left	1,350	260	670	No
		WB left/thru/right		270	670	No
		WB right		70	280	No

Notes: 95th percentile queue lengths are rounded up to the nearest 10.
* Storage lengths of off-ramps are equal to distance from intersection stop line to freeway mainline

11.0 POTENTIAL MITIGATION MEASURES

The following potential mitigation measures have been identified for the significantly impacted intersections during existing and/or future year 2040 with project conditions:

- #7 Aviation Boulevard/Manchester Boulevard (existing plus project and 2040 with project conditions)
  - Due to a combination of right-of-way acquisition and/or utility relocation that would be required at this location, as well as physical constraints, a feasible mitigation measure could not be identified to alleviate the project traffic impact.
- #9 Aviation Boulevard/Century Boulevard (existing plus project conditions)
  - Due to a combination of right-of-way acquisition and/or utility relocation that would be required at this location, as well as physical constraints, a feasible mitigation measure could not be identified to alleviate the project traffic impact.
- #13 La Cienega Boulevard/Centinela Avenue (existing plus project and 2040 with project conditions)
  - Due to a combination of right-of-way acquisition and/or utility relocation that would be required at this location, as well as physical constraints, a feasible mitigation measure could not be identified to alleviate the project traffic impact.
- #14 La Cienega Boulevard/Florence Avenue (existing conditions plus project)
  - Due to a combination of right-of-way acquisition and/or utility relocation that would be required at this location, as well as physical constraints, a feasible mitigation measure could not be identified to alleviate the project traffic impact.
- #15 La Cienega Boulevard/Manchester Boulevard (existing plus project and 2040 with project conditions)
  - Due to a combination of right-of-way acquisition and/or utility relocation that would be required at this location, as well as physical constraints, a feasible mitigation measure could not be identified to alleviate the project traffic impact.
- #19 La Cienega Boulevard/Century Boulevard (existing plus project and 2040 with project conditions)
  - This impact can be fully mitigated by converting the westbound number four through/right-turn lane to dedicated right-turn lane along Century Boulevard. In addition, a traffic signal modification would be required, in order to add a westbound right-turn overlap phase.
- #22 Ash Avenue/I-405 Off-ramp/Manchester Boulevard (2040 with project conditions)
  - Due to a combination of right-of-way acquisition and/or utility relocation that would be required at this location, as well as physical constraints, a feasible mitigation measure could not be identified to alleviate the project traffic impact.
- #26 Eucalyptus Avenue/Florence Avenue (2040 with project conditions)
  - Due to a combination of right-of-way acquisition and/or utility relocation that would be required at this location, as well as physical constraints, a feasible mitigation measure could not be identified to alleviate the project traffic impact.
- #36 Crenshaw Boulevard/Imperial Highway (existing plus project conditions)

  - Due to a combination of right-of-way acquisition and/or utility relocation that would be required at this location, as well as physical constraints, a feasible mitigation measure could not be identified to alleviate the project traffic impact.
- #38 Crenshaw Boulevard/120th Street (existing plus project conditions)
  - This impact can be fully mitigated by modifying the traffic signal to add a southbound right-turn overlap phase. Note that this intersection is in the City of Hawthorne.
- #40 Western Avenue/Imperial Highway (existing plus project conditions)
  - This impact can be fully mitigated by modifying the traffic signal phasing in the eastbound direction from protected phasing to permitted phasing. This modification would allow for more green time to be given to the heavier westbound through volume. Note that this intersection is located in unincorporated Los Angeles County.

Table 16 summarizes the levels of service assuming implementation of the feasible mitigation measures that are recommended to reduce project impacts. Level of service calculation worksheets are included in **Appendix B**.

Table 16: Intersection Peak Hour Level of Service – With Mitigated Conditions

Intersection		Without Project Conditions				With Project – Mitigated Conditions				Change in V/C		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	AM Peak Hour	PM Peak Hour	
Future Year 2040 Impacts												
19	La Cienega Blvd/Century Blvd	1.069	F	0.756	C	1.036	F	0.756	C	-0.033	0.000	No
Existing Impacts												
38	Crenshaw Blvd/120th St	0.859	D	0.762	C	0.823	D	0.769	C	-0.036	0.007	No
40	Western Ave/Imperial Hwy	1.028	F	0.842	D	0.959	E	0.841	D	-0.069	-0.001	No

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service.

As shown in **Table 16**, with implementation of the feasible mitigation measures, the significant traffic impacts are reduced to a level less than significant. At locations where no feasible mitigation measures are identified, the project's impacts would be considered significant and unavoidable.

12.0 CONCLUSIONS

The Westchester/Veterans and Crenshaw/Imperial TOD TIA evaluated the potential impacts to traffic operations at forty (40) intersections located within the Westchester/Veterans and Crenshaw/Imperial Transit Oriented Districts in the City of Inglewood. The analysis evaluated impacts to existing conditions and future year 2040 conditions.

Currently, based on existing year 2018 conditions, nine (9) intersections are operating at LOS E or F.

Utilizing the SCAG 2016 travel demand model to estimate trip productions and attractions, the proposed project zones (total of both TOD areas) are forecast to generate a total of 7,458 a.m. peak hour trips, 8,813 p.m. peak hour trips and 39,716 daily trips in the existing plus project scenario. In the future year 2040 with project scenario, the project zones are forecast to generate a total of 7,438 a.m. peak hour trips, 8,856 p.m. peak hour trips and 40,288 daily trips. The project's Vehicle Miles Traveled (VMT) output produced in the SCAG model, however, is lower in the future year 2040 scenario when compared to the existing scenario as a result of reduced trip lengths to and from trip generators as well as increased transit use.

Based on the significant impact criteria described in Section 3.0, traffic generated by the proposed project is forecast to result in the following significant traffic impact results:

- Existing – 9 intersections impacted
- Future year 2040 – 6 intersections impacted

Iteris evaluated a variety of intersection improvements necessary to provide improved LOS in the future year 2040 with project conditions. With implementation of feasible mitigation measures at three locations, the significant traffic impacts are reduced to a level less than significant. At locations where no feasible mitigation measures are identified, the project's impacts would be considered significant and unavoidable.

Iteris also performed a CMP analysis for intersections using the guidelines specified in the 2010 CMP – Appendix D. Based on CMP thresholds of significance, the project is not forecast to result in any significant impacts at the CMP monitored intersections in the study area.

Lastly, a Caltrans off-ramp queueing analysis was performed at the freeway off-ramp locations within the study area. Based on the HCM analysis, the 95th percentile queue lengths are anticipated to be accommodated by the off-ramps within the study area, thus would not be expected to spill back onto the freeway mainline as a result of the proposed project.