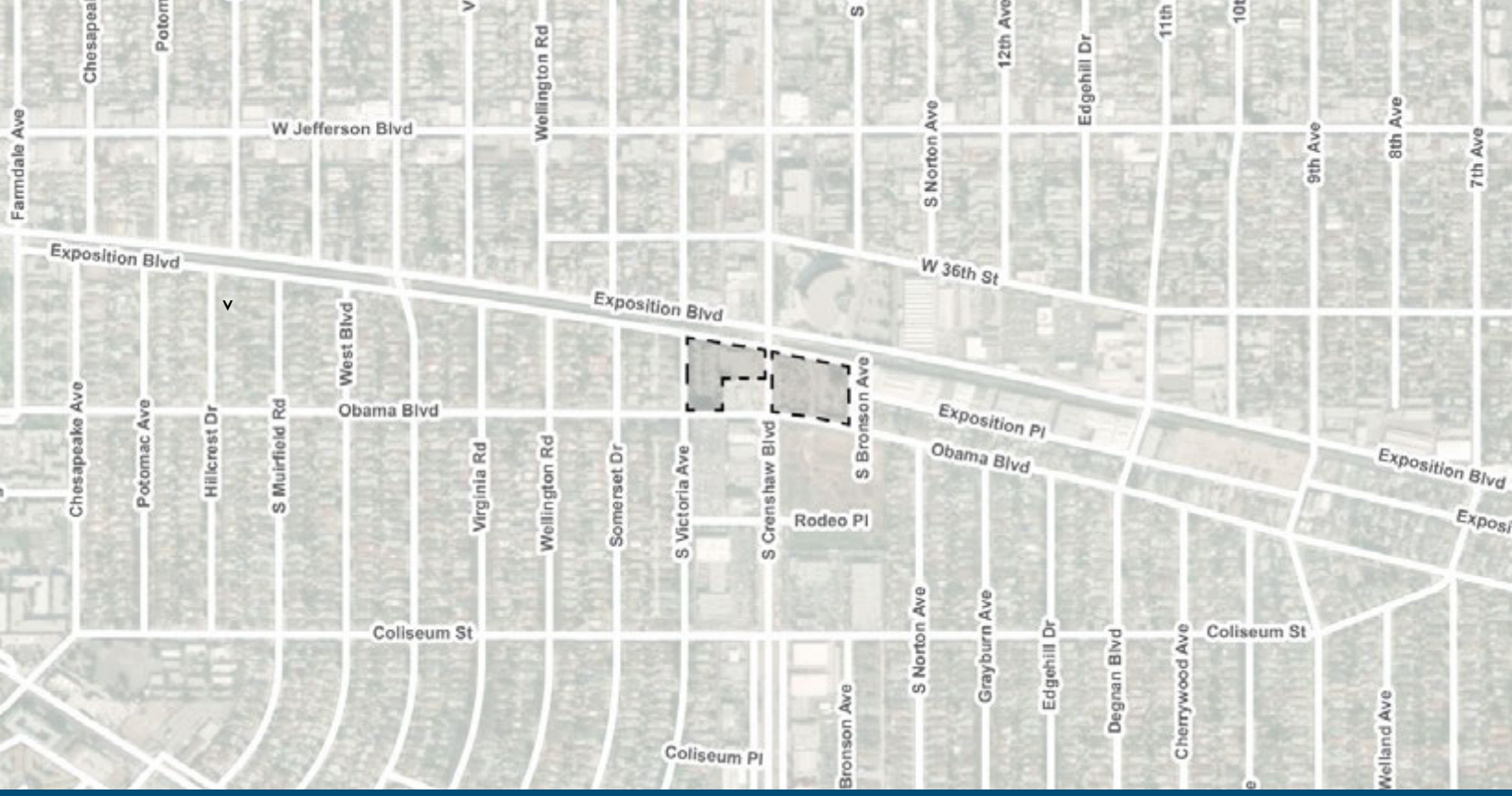
APPENDIX J.1

Transportation Assessment Study



Crenshaw Crossing

Transportation Analysis

Draft

DRAFT

October 2019

NELSON
NYGAARD

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Executive Summary

A Transportation Assessment Study (TAS) report was prepared to examine current and future transportation conditions in and around the proposed Crenshaw Crossing Mixed-Use Residential Development ("project"). The purpose of the TA report is twofold. It will provide the Project Sponsor with information pertaining to the potential transportation impacts to the existing and future transportation network with implementation of the project. Also, it will identify additional transportation improvements the Project Sponsor would be potentially responsible for to mitigate those potential significant transportation impacts, in the event the project was to undergo environmental review (per the California Environmental Quality Act, CEQA).

Source: Nelson\Nygaard

The TA report was prepared in accordance with Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines, Southern California Association of Governments (SCAG), as well as California Department of Transportation (Caltrans) District 7 standards and requirements. The TA report includes a detailed description of the existing and future (planned) transportation network, including traffic and roadway operations and transit, bicycle, and pedestrian facilities.

The TA report analyzes the proposed project that consists of 400 dwelling units (320 market-rate, 80 affordable), 8,000 s.f. retail, 8,000 s.f. restaurant, 22,000 s.f. supermarket, 2,500 s.f. of community space. The project encompasses six parcels on the west and east sides of Crenshaw Blvd, between Exposition Blvd and Obama Blvd, and adjacent to the existing Expo/Crenshaw Expo Line stop and under construction Crenshaw/LAX Line stop.

The TA report includes an in-depth analysis of traffic and roadway operations with the projected travel demand associated with the project, including new weekday morning and evening peak-hour vehicle trips at area intersections and roadways. A qualitative review of potential effects to public transit, bicycle, and pedestrian facilities, as well as users of such facilities is also included. Three analysis scenarios are included in the report: existing, 2023 no-build future, and 2023 future with project conditions.

A detailed Vehicle Miles Traveled (VMT) analysis is included in the report to satisfy CEQA requirements. CEQA analysis findings indicate that due to current and future VMT per capita (resident and employee) rates for the area and with the implementation of the project, VMT rates would increase but not exceed applicable thresholds. Implementation of a Transportation Demand Management (TDM) plan in concert with

other sustainable, mixed-use growth in the area would reduce VMT associated with the project and for the area as a whole.

Non-CEQA analysis findings herein indicate that the project could result in minimal ?? under existing plus project conditions. The project would not result in any potential impacts to public transit or the existing or planned bicycle and pedestrian network, air traffic, or emergency access.

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1 Introduction

PROJECT DESCRIPTION AND STUDY PURPOSE

The purpose of this Transportation Analysis (TA) is to provide a comprehensive evaluation of the proposed Crenshaw Crossing Transit Oriented Development (herein referred to as the "project") and to examine the extent to which the project would affect the surrounding circulation network. The project will comprise 400 Dwelling Units (320 market-rate, 80 affordable), 8,000 square feet of retail, 8,000 square feet of restaurant, 22,000 square feet of supermarket, and 2,500 square feet of community space. The project will encompass six parcels within two sites on west and east sides of Crenshaw Blvd, between Exposition Blvd and Obama Blvd, and adjacent to the existing Expo/Crenshaw Expo Line stop and the under-construction Crenshaw/LAX Line stop. Property addresses and their associated accessor parcel numbers are shown in Table 1-1. The scope of work for this transportation study was approved by LADOT in an August 8, 2019 Memorandum of Understanding (MOU) and includes an analysis of potential traffic and circulation impacts under various analysis scenarios.

Table 1-1 Property Addresses and Accessor Parcel Number

	Accessor Parcel Number	Address
Site A	5046-022-900	3606 & 3633 W. Exposition Blvd
Site B	5044-002-901	3630 S. Crenshaw Blvd
	5044-002-902	3502 & 3510 W. Exposition Blvd 3631 & 3633 S. Bronson Ave
	5044-002-903 (previously 5044-002-006)	3515 & 3519 W. Obama Blvd 3642-3646 S. Crenshaw Blvd
	5044-002-904 (previously 5044-002-008)	3505 W. Obama Blvd
	5044-002-905 (previously 5044-002-009)	3635, 3639, & 3645 S. Bronson Ave 3501 W. Obama Blvd

For purposes of assessing traffic and circulation conditions within the project environs, vehicle trips were estimated based on trip generation rates and vehicle distribution data from the *Institute of Transportation Engineers Trip Generation Manual*, 10th Edition (ITE, 2017) with adjustment applied to account for the context of the project site and proposed multimodal environs as well as the LADOT TA Guideline's rates for residential uses. Nelson\Nygaard collected existing roadway volumes and intersection turning movement counts (auto, bicycle and pedestrian) on Tuesday-Wednesday, April 17-18, 2018 during the typical weekday commute peak period (i.e., 7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 5:00 p.m.). It is noted that intersection and roadway data was collected when all public and private schools were in session and weather conditions included clear skies and moderate temperatures.

In coordination with LADOT staff, four study intersections have been identified to be evaluated. The four intersections were examined during weekday AM and PM peak periods. The four intersections identified are as follows: (1) Crenshaw Blvd. / Upper W. Exposition Blvd., and; (2) Crenshaw Blvd. / Obama Blvd. and; (3) S. Victoria Ave. / Lower W. Exposition Blvd., and; (4) S. Victoria Ave / Obama Blvd. Figure 1-1 displays the approximate locations of the study intersections.

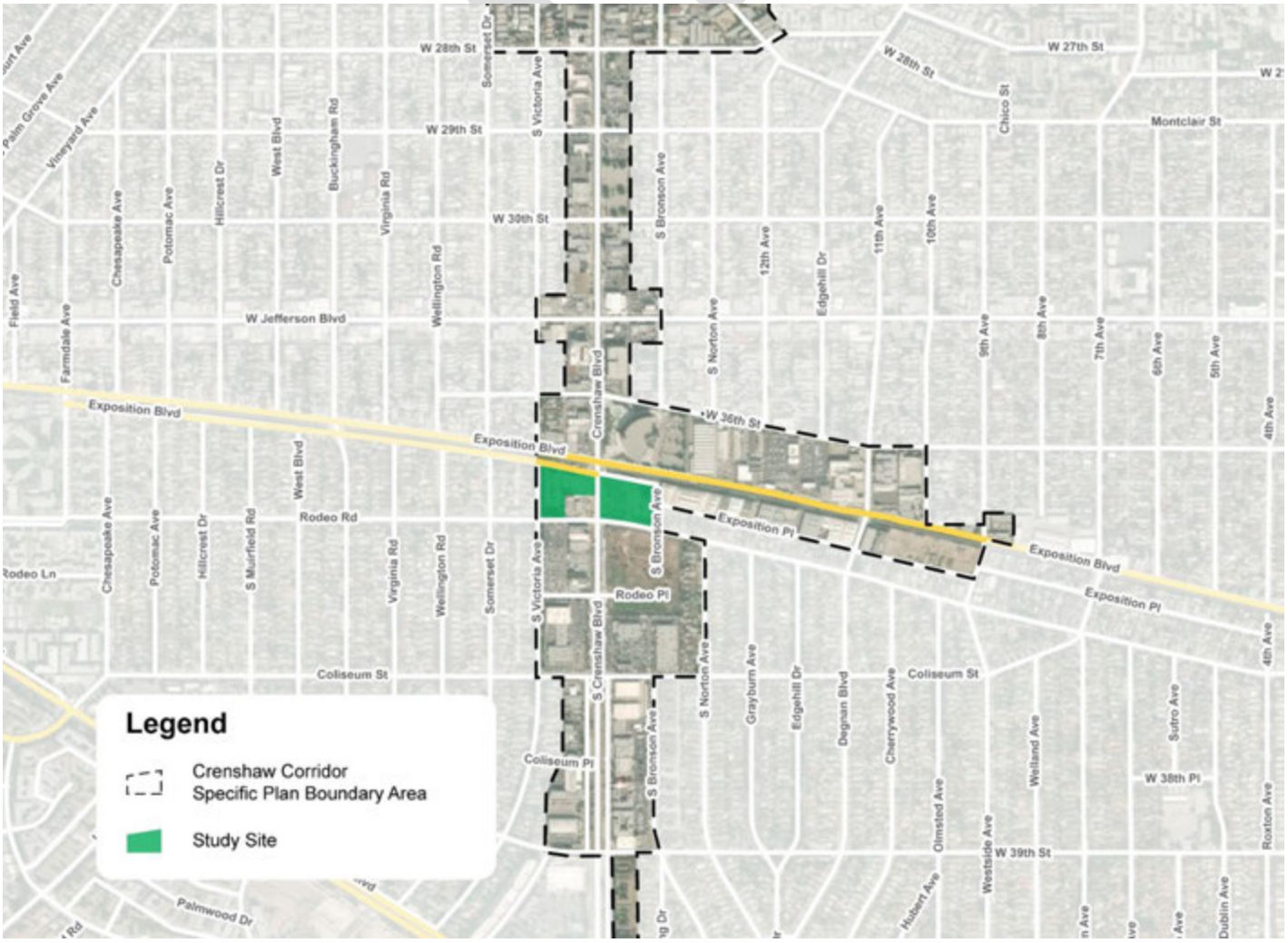
Figure 1-1 Study Intersections 1-4

PROJECT CONTEXT AND STUDY AREA

The project site is located on the west side of the City of Los Angeles, specifically in six parcels bounded by Exposition Boulevard to north, Obama Boulevard (formerly Rodeo Road) to the south, and Crenshaw Boulevard running between them. The project site will be served by the Expo Line with a stop on the east-side of the intersection of Crenshaw and Exposition Blvds. and the future Crenshaw/LAX Line with a stop at the same intersection. The project, in its entirety encompasses about 3.4 acres that are currently occupied by a vacant one-story government office building and parking lot, , and a worksite for the under-construction Crenshaw/LAX line station. The project site is located in the Crenshaw Corridor Specific Plan area. Along the corridor, land-use is generally designated Community Commercial. On the same block as the West. In general, the land-use context surrounding the corridor represents a quasi-urban residential neighborhood area with small lot sizes and short setbacks. The area is mostly residential; however, east and southeast of the site contains University Circle; a high-density commercial development with a range of uses, including offices, restaurants, and the Four Seasons Hotel.

The roadway network in and around the project site is in a grid pattern, comprised of multi-lane avenues, and local streets. Light rail operating within a dedicated transitway borders the project's six parcels to the north. The intersection of the Expo line at Crenshaw Blvd and Exposition Blvd is street level with at-grade vehicle, bicycle and pedestrian crossings.

Figure 1-2 Project Context



ANALYSIS SCENARIOS

The following analysis scenarios were analyzed to determine the extent to which the proposed project may affect the surrounding transportation environment during weekday morning (AM) and evening (PM) peak periods:

- ***Existing Conditions*** – This scenario represents current multimodal conditions and the existing roadway network. Roadway segment and intersection traffic volumes are based on existing intersection turning movement counts collected by Nelson\Nygaard.
- ***Future*** + ***Project*** – 2023 conditions plus projected traffic generated by the project; the traffic network under this scenario represents projected conditions and includes changes to the roadway network including road closures (Lower W. Exposition Blvd between S. Victoria Ave and S. Bronson Ave) new intersections and access driveways proposed by the project. This scenario includes background traffic growth and related developments that will contribute to increased regional traffic.
- ***Future No Build*** – 2023 conditions if no project is built. The traffic network under this scenario assumes no changes to the roadway network. This scenario includes background traffic growth and related developments that will contribute to increased regional traffic.

2 Regulatory Setting

STATE REGULATIONS

California Department of Transportation

Caltrans is responsible for the planning, design, construction, and maintenance of all State highways. Caltrans' jurisdiction includes improvements to the interchange ramps serving area freeways. The *Guide for the Preparation of Traffic Impact Studies* provides consistent guidance for Caltrans staff who review local development and land use change proposals[1]. The Guide also informs local agencies about the information needed for Caltrans to analyze the traffic impacts to State highway facilities, including freeway segments, on- or off-ramps, and signalized intersections. Caltrans facilities in the project site and surroundings include U.S. 10, as well as the on- and off-ramps from those State facilities. The Guide states,

> *"Caltrans endeavors to maintain a target level of service (LOS) at the transition between LOS C and LOS D on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing Measure of Effectiveness (MOE) should be maintained."*

REGIONAL REGULATIONS

Los Angeles County Metropolitan Transportation Authority (Metro)

The Los Angeles County Metropolitan Transportation Authority (Metro) serves as the Congestion Management Agency (CMA) of Los Angeles County. As required by state law, Metro must prepare a Congestion Management Program (CMP) or an equivalent comprehensive plan that outlines strategies for managing the regional transportation network[2]. One requirement of the CMP is to set traffic LOS standards for the state highways and principal arterials. The CMP is updated periodically to identify existing and future transportation facilities that would operate below the acceptable service level, and improvements and strategies for intersections and segments where future growth would degrade that service level. Standards for roadway operations in Los Angeles County are defined on a countywide basis per the CMP. The CMP sets LOS standards for all CMP roadway segments and intersections, and has a LOS standard of LOS E, except at those locations where the initial LOS measurement (calculated for the 1992 CMP) was already at LOS F. The CMP includes several roadways and intersections that currently operate under poor LOS conditions (LOS

[1] Caltrans, *Guide for the Preparation of Traffic Impact Studies*, 2002.

[2] Los Angeles County Metropolitan Transportation Authority Congestion Management Program 2010 (published and adopted October 28, 2010).

F). There are no CMP-designated roadways or intersections in the project area, with the exception of Interstate 10 and Western Ave (which are not being analyzed for purposes of the TIS). LA Metro is the transportation planning, coordinating, and financing agency for the County of Los Angeles.

Southern California Association of Governments (SCAG)

SCAG authored the current Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) known as *2016-2040 RTP/SCS,* adopted on April 7, 2016. *2016-2040 RTP/SCS* specifies a detailed set of investments and strategies throughout the region from 2016 through 2040 to maintain, manage, and improve the surface transportation system, specifying how anticipated federal, state, and local transportation funds will be spent[3]. The projects included in the 2035 plan that may affect the project site and/or future users of the project are:

- Crenshaw light rail transit north from Exposition Blvd
- Crenshaw/LAX transit corridor - the Crenshaw/LAX Transit Corridor Project is an 8.5-mile light rail transit (LRT) line extending from the intersection of Crenshaw and Exposition Boulevards allowing for transfer to the Exposition light rail transit line to a connection with the Metro Green Line at the Aviation/LAX Station
- Expo Line Station streetscape project-east Crenshaw Blvd to Jefferson Blvd. Design & construction of pedestrian related streetscape improvements within 1/4 mile from each of three light rail stations along Exposition Blvd between Crenshaw Blvd & Jefferson Blvd
- Stocker/MLK Crenshaw access to Expo LRT station. This project will design/construct capital improvements at the bus hub intersections of Stocker St/Crenshaw Blvd and Martin Luther King Jr Blvd/Crenshaw Blvd in the City of Los Angeles. Project elements to include sidewalk improvements, street furniture, safety lighting, and wayfinding signage
- Slauson Light Rail: Crenshaw Corridor to Metro Blue Line-Slauson Station
- Crenshaw Exposition Light Rail Station TOD Accessibility: Installation of pedestrian/transit connectivity improvements from Coliseum St to 30th St
- Crenshaw Blvd Corridor northern extension (beyond segment funded by Measure R) all the way to West Hollywood/Hollywood

[3] Full list of projects are available online at: http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_ProjectList.pdf

LOCAL REGULATIONS

City of Los Angeles General Plan

The City of Los Angeles Mobility Plan 2035 contains guiding and implementing policies that are relevant to transportation and circulation in the study area. These guiding and implementing policies are presented below in **Table 2-1.**

Table 2-1 City of Los Angeles Mobility Plan 2035 – Guiding Policies and Objectives

Objective/Policy	Description
Policy 1.1	Design, plan, and operate streets to prioritize the safety of the most vulnerable roadway user.
Policy 1.2	Implement a balanced transportation system on all streets, tunnels, and bridges using complete streets principles to ensure the safety and mobility of all users.
Policy 1.4	Design streets to Targeted Operating Speeds as defined in the Complete Streets Design Guide.
Objective 1.6	Increase pedestrian safety improvements in the design and implementation of complete streets projects within the top 25% SB565 disadvantaged communities located in the City of Los Angeles or as subsequently identified through tools utilized by the City
Policy 1.5	Reduce conflicts and improve safety at railroad crossings through design, planning, and operation.
Policy 1.6	Design detour facilities to provide safe passage for all modes of travel during times of construction.
Policy 1.7	Enhance roadway safety by maintaining the street, alley, tunnel, and bridge system in good to excellent condition.
Policy 2.3	Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment
Policy 2.6	Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities.
Policy 2.9	Consider the role of each enhanced network when designing a street that includes multiple modes.
Policy 2.11	Set high standards in designing public transit rights-of-way that considers user experience and supports active transportation infrastructure.
Objective 3.7	Install pedestrian access curb ramps at 100% of all intersections by 2035.
Policy 3.2	Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.
Policy 3.3	Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.
Policy 3.8	Provide bicyclists with convenient, secure and well-maintained bicycle parking facilities.
Policy 4.8	Encourage greater utilization of Transportation Demand Management (TDM) strategies to reduce dependence on single-occupancy vehicles.
Policy 4.13	Balance on-street and off-street parking supply with other transportation and land use objectives.
Objective 5.1	Decrease VMT per capita by 5% every five years, to 20% by 2035.

Source: City of Los Angeles Mobility Plan 2035 (April 2016).

It is important to note that the Crenshaw Corridor Specific Plan provides a detailed vision, guiding plan area principles (purposes), guidelines and policies for the corridor. Because the project would be located within this Plan Area, all regulations and policies set forth in the Specific Plan would be applicable. Transportation related goals and policies are presented below in Table 2-2.

Table 2-2 City of Los Angeles – Crenshaw Corridor Specific Plan

Guideline/Principle	Description
Purpose-E	To promote a high level of pedestrian activity in areas identified as Pedestrian-Oriented Areas and TOD Areas by promoting neighborhood serving uses, which encourage pedestrian activity and promote reduced traffic generation.
Purpose-F	To promote an attractive pedestrian environment in the areas designated as Pedestrian-Oriented Areas and TOD Areas by regulating the design and placement of buildings and structures which accommodate outdoor dining and other ground level retail activity.
Purpose-H	To encourage the creation of pedestrian-friendly TOD Areas consistent with the goals and policies of the Community Plan that promote health and sustainability by encouraging a mix of uses providing jobs, housing, goods and services, as well as access to open space, all within walking distance of the Mid City/Exposition and Crenshaw/LAX Light Rail Transit Corridor stations.
Policy 6.9	Garage and driveway entries. Limit the number of new garage entries and driveway curb cuts crossing the sidewalk to encourage a more complete and comfortable pedestrian environment in the Westside.
Goal W-9	Better street and transportation options for residents and visitors.
Goal W-10	An adequate and efficiently administered parking supply on the Westside.
Policy 10.1	Parking for new development. Ensure an appropriate supply of parking for new development.
Policy 10.2	Parking regulation. Ensure adequate enforcement, permitting, and monitoring of on-street parking in the Westside.
Policy 10.3	Off-street parking allocation. Work with building owners to provide a fair, efficient, consistent, and integrated approach to allocating parking spaces to tenants. Work with property owners and manager to improve the parking situation for existing residents.

Source: City of LOS ANGELES 2035 Mobility Plan 2035 (April 2016).

City of Los Angeles Department of Transportation Assessment Guidelines

The City of Los Angeles Transportation Assessment Guidelines (TAG) provide step-by step guidance for assessing impacts and preparing Transportation Assessment Studies. The TAG were developed to identify land use development and transportation projects that may impact the transportation system; to ensure proposed land use development projects achieve site access design requirements and on-site circulation best practices; and to define whether off-site improvements are needed.

Vehicle Miles Travelled

To align with the Los Angeles *Mobility Plan 2035* objective to decrease VMT per capita by 5% every five years to 20% by 2035[4] and meet the requirements for transportation analysis as defined in Senate Bill 743, LADOT has released guidelines for screening developments based on VMT impacts. The guidelines aim to determine per *Threshold T-2.1*:

> "For a land use project, would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?"

If a project is determined to generate a net increase of 250 or more daily vehicle trips or generate a net increase in daily VMT, it requires further screening.

Level of Service and Delay

The City of Los Angeles assesses motor vehicle delays using a level of service standard of LOS D for intersections. Specifically, a significant automobile delay impact under this LOS D standard would be considered to occur at an intersection if for any peak hour, the project would result in any of the following:

- At a signalized intersection, an impact is considered significant if it:
  - Causes operations to degrade from LOS D (or better) to LOS E or F; or
  - Exacerbates LOS E or F conditions by both increasing critical movement delay by four or more seconds and increasing volume-to-capacity ratio (V/C ratio) by 0.01; or
  - Increases the V/C ratio by > 0.01 at an intersection that exhibits unacceptable operations, even if the calculated LOS is acceptable.
- At an unsignalized intersection, an impact is considered significant if it:
  - Causes operations to degrade from LOS D or better to LOS E or F; or
  - Exacerbates LOS E or F conditions by increasing control delay by five or more seconds; and
  - Causes volumes under project conditions to exceed the Caltrans Peak Hour Volume Warrant Criteria.

Pedestrian and Bicycle Impact Criteria

The LADOT Transportation Assessment Guidelines describe policies necessary to ensure that pedestrian and bicycle facilities are safe and effective for City residents. Significant impacts to these facilities would occur if a project or an element of a project:

- Creates a hazardous condition that currently does not exist for pedestrians and bicyclists, or otherwise interferes with pedestrian accessibility to the study area and adjoining areas; or
- Conflicts with an existing or planned pedestrian or bicycle facility; or
- Conflicts with policies related to bicycle and pedestrian activity adopted by the City of Los Angeles.

Transit Impact Criteria

Generally, a project causes a significant impact to transit facilities and services if an element of it conflicts with existing or planned transit services. The evaluation of transit facilities shall consider if:

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[4] City of Los Angeles, Mobility Plan 2035, An Element of the General Plan, adopted September 7, 2016, page 124.

- A project creates demand for public transit services above the capacity which is provided or planned;
- A project or project-related mitigation disrupts existing transit services or facilities[5]; or
- A project or project-related mitigation conflicts with existing or planned transit facility.

Los Angeles Metropolitan Transportation Authority Traffic Standards of Significance

A significant automobile delay impact would also be considered to occur if the Project would conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the Congestion Management Agency for designated roads and highways. In Los Angeles a project is considered to have a CMP impact if it causes one or more of the following:

1. CMP Intersection currently in compliance with the adopted LOS standard:
   a. A project will be considered to have a CMP impact if the project will cause the CMP intersection to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP).
   b. A project will be considered to have a CMP impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in the CMP intersection to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP) and the proposed project increases average control delay at the intersection by four (4) seconds or more.
2. CMP Intersection currently not in compliance with the adopted LOS standard: A project is considered to have a CMP impact if the project will add any additional traffic to the CMP intersection that is currently not in compliance with its adopted level of service standard as established in the CMP.

None of the study intersections or roadways are included in or located on the CMP roadway system.

Caltrans Traffic Standards of Significance

Caltrans maintains a minimum LOS at the transition between LOS C and LOS D for all of its facilities. Where an existing facility is operating at less than the LOS C/D threshold, the existing measure of effectiveness should be maintained.[6]

[5] This includes disruptions caused by proposed project streets or driveways on transit streets and impacts to transit stops/shelters; and impacts to transit operations from roadway changes proposed or resulting from a project.

[6] California Department of Transportation, 2002. *Guide for the Preparation of Traffic Impact Studies.*

3 Project Context

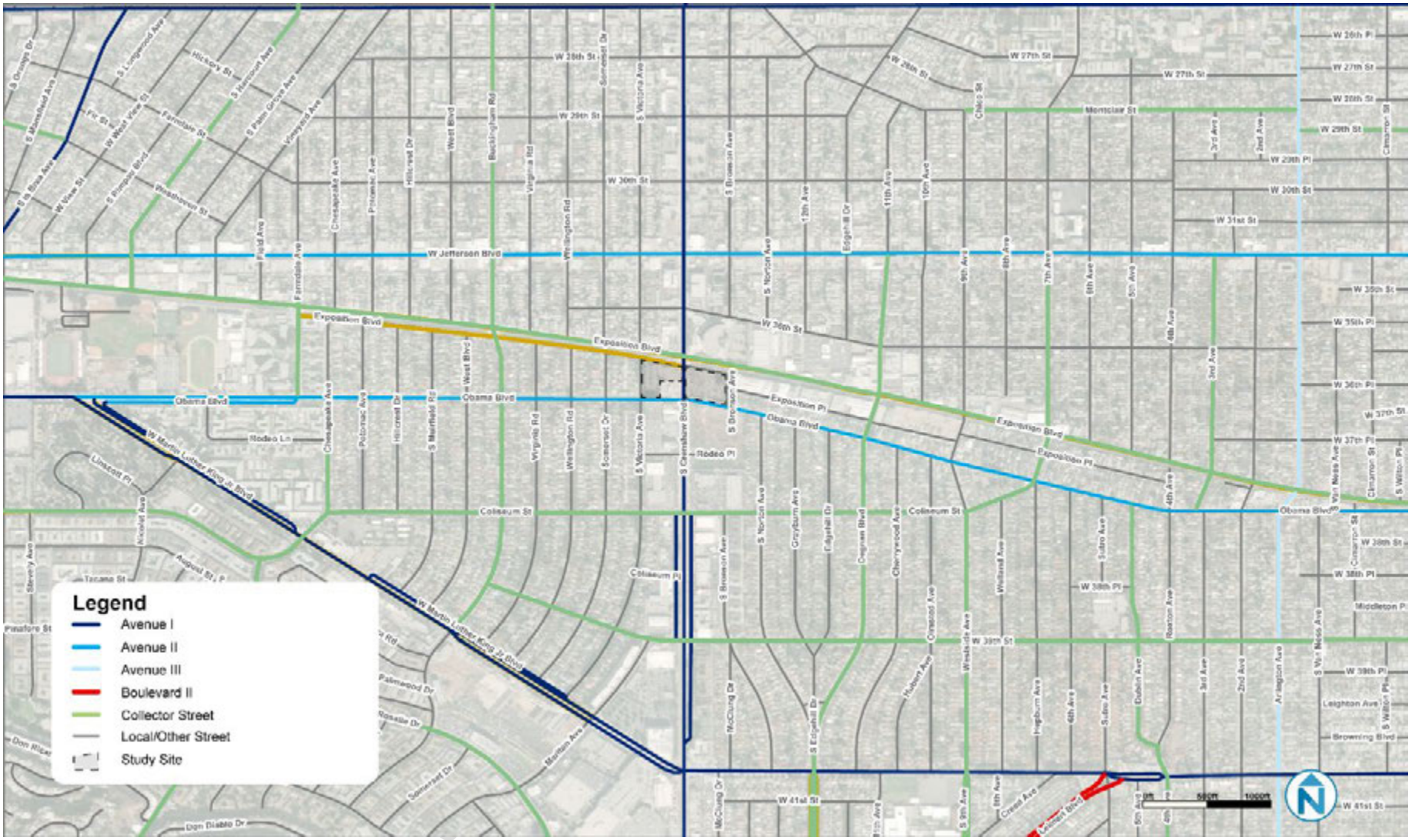
The existing transportation-related context of the project is described below, beginning with a description of the street network that serves the project site and surroundings. Existing transit service, and bicycle and pedestrian facilities near the project are also described. Intersection and roadway segment levels of service are then defined, and current conditions for roadways and intersections in the project vicinity are summarized.

ROADWAY NETWORK

The project site is located in the southwestern region of the City of Los Angeles and bounded by Exposition Blvd to north, Obama Blvd to the south, Bronson Ave to the east, and S. Victoria Ave to the west. Between the six parcels that comprise the project runs Crenshaw Blvd. Interstate 10, Interstate 110, Western Ave and a series of local-serving streets provide regional access to the project site. A full description of regional and local roadways in the context of the project vicinity is provided below. Figure 3-1 illustrates the street network and classification based on the City of Los Angeles *Mobility Plan 2035*[7].

[7] City of Los Angeles General Plan – Mobility Element, Mobility Plan 2035; available online at: https://planning.lacity.org/documents/policy/mobilityplnmemo.pdf

Figure 3-1 Street Network



Source: City of Los Angeles Mobility Plan 2035 (2016).

Regional Roadways

Interstate 10 (I-10 Santa Monica Fwy) is an east-west freeway that connects the City of Los Angeles with Santa Monica to the west and Riverside as well as San Bernardino Counties to the east. Within the study area, I-10 is five travel lanes and one auxiliary lane between access ramps in each direction. Three full-access interchanges north of the project site, at Arlington Avenue, Crenshaw Boulevard, and S La Brea Avenue, provide access from I-10 to South Los Angeles. The most recent data published by Caltrans indicates that the annual average daily traffic (AADT) volume on I-10 ranges from 294,000-325,000 vehicles with 22,100-23,100 peak-hour vehicles near the project site[8]. The freeway is a designated roadway in the Los Angeles Metropolitan Transportation Authority (Metro) C*ongestion Management Program* (CMP) transportation system[9]. The freeway is a designated truck route in the *Mobility Plan 2035*.

Local Roadways

Local roadways that serve the project site include Exposition Blvd, Crenshaw Blvd, Obama Blvd and Jefferson Blvd, which also provide additional connections to other local and regional streets. These and other local streets are described below.

Exposition Blvd is an east-west arterial located directly north of the project site. The road originates at the University of Southern California, spanning the length of much of East Los Angeles before changing designation to Jefferson Blvd at Bay Rd. Near the project site, the boulevard is primarily one 10' travel lane and a 5' bike lane (class II bike route) in each direction with added 10' wide turn pockets at intersections. Between Gramercy Pl and S Figueroa St, the roadway widens to two travel lanes in each direction separated by a central median between. At Gramercy Pl, Exposition splits at a diverging intersection across an at-grade rail crossing to create Obama Blvd. Exposition continues west as a two-way road on the north side of the Expo Line tracks. The street is classified as a Collector Street and is also included in the Pedestrian Enhanced Districts network in the *Mobility Plan 2035*.

Crenshaw Blvd is a north-south arterial with two 10' travel lanes containing sharrows (class III bike route) with added 10' wide turn pockets at intersections in each direction. In the study area, the boulevard extends from 29th St. in the north to Martin Luther King Jr. Blvd. to the south. The street is classified as an Avenue I in the *Mobility Plan 2035* and is also included in the Pedestrian Enhanced Districts Network.

Obama Blvd is an east-west arterial with two 10' to 12' travel lanes in each direction with added 10' turn pockets at intersections. On-street parking exists on both sides of the street west of S Victoria Ave, on the north side of the street east of Bronson Ave, and on the south side of the street east of Norton Ave. In the study area, the street extends from Olmstead Ave to the east and S. Muirfield Rd (and becomes Higuera St in Culver City) to the west. The street is classified as an Avenue II in the *Mobility Plan 2035*.

S. Victoria Ave is a north-south neighborhood street with one travel lane in each direction. The street is approximately 35' from curb to curb with unrestricted parking aside from street sweeping hours on both sides. In the study area, the street extends from Lower W. Exposition Blvd. in the north to Martin Luther King Jr. Blvd. in the south. The street is classified as a Local Street in the *Mobility Plan 2035*.

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[8] California Department of Transportation (Caltrans), Traffic Data Branch, 2017 All Traffic Volumes on CSHS; available online at: http://www.dot.ca.gov/trafficops/census/.

[9] Los Angeles Metropolitan Transportation Authority (Metro) Congestion Management Program (October 2010); available online at: http://media.metro.net/projects_studies/cmp/images/CMP_Final_2010.pdf.

TRANSIT SERVICE

Figure 3-2 (following page) presents the existing transit network in the study area.

Los Angeles Metropolitan Transportation Authority (LA Metro) operates fixed-route bus transit service. Within the project area, there are five bus routes that operate during weekdays (Monday through Friday) and limited service on weekends. Also, within the study area are two Metro operated light rail lines, the Metro Expo Line and the soon-to-be opened (2020) Metro Crenshaw/LAX Line.

Rail

- **Metro Expo Line** operates weekday, weekend, and holiday service between the City of Santa Monica and Downtown Los Angeles. Weekday service operates from 3:36 AM to 2:32 AM with Friday night service being extended to 2:52 AM. Weekend and holiday service runs between 3:36 AM and 2:32 AM, with Saturday night service being extended to 2:52 AM. This Metro Light Rail Line operates at approximately 15-minute headways (the frequency, or interval of time between buses traveling in any given direction along a designated route). The nearest stops in proximity to the project site are at either side of Crenshaw Blvd the intersection of W Exposition Blvd.
- **Metro Crenshaw/LAX Line** Phase 1 is planned to open mid-2020. Phase 1 will link the Metro Expo Line from Exposition/Crenshaw Station to the Metro Green Line at Aviation/LAX Station. The line will connect to the LAX people mover at Aviation/Century Station. The line will serve the Crenshaw District, City of Inglewood, and Westchester.

Bus

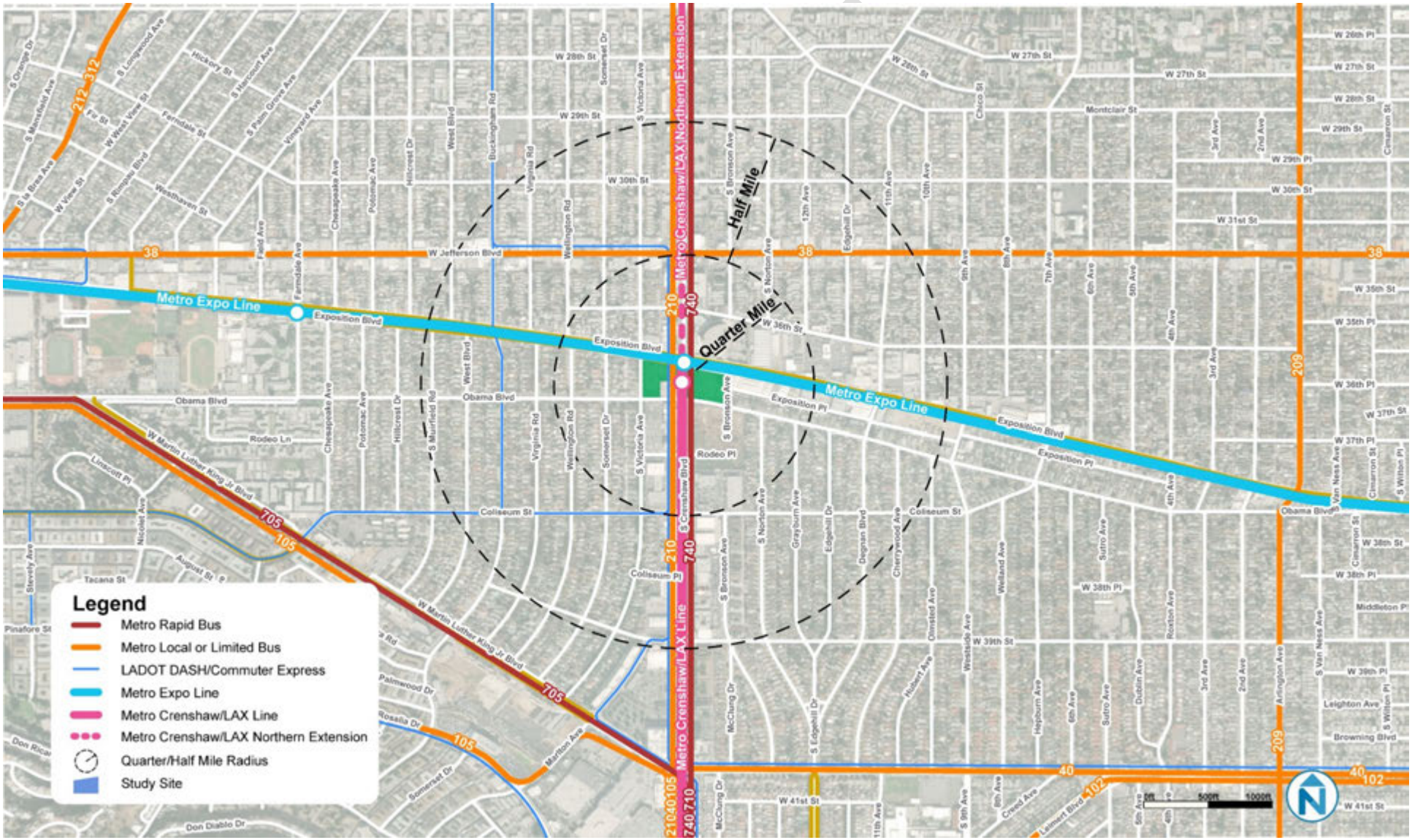
- **Route 740** operates weekday and weekend service between Jefferson Park at the Expo/Crenshaw station to the north, and the South Bay Galleria to the south. Weekday service is from 4:51 AM to 9:34 PM, and weekend service is between 5:31 AM and 9:19 PM. This route does not have service on Sundays or during select holidays. During hours of operation, this Metro Rapid bus route operates at approximately 15-minute headways. The nearest stops in proximity to the project site are at the intersection of W. Exposition Blvd and Crenshaw Blvd, north of the Expo Line Station.
- **Route 210** operates weekday and weekend services between the Hollywood/Vine Red Line Station and South Bay Galleria Transit Center in Hermosa Beach. Weekday service is from 4:21 AM to 2:39 AM, and weekend service is between 4:15 AM and 2:36 AM. This local route operates both Saturday and Sunday service along the 210/710 route. During hours of operation, this fixed-route local bus route operates at approximately 10-15-minute headways during both weekday and weekend service. The nearest stops in proximity to the project site are at the intersection of W. Exposition Blvd and Crenshaw Blvd, north of the Expo Line Station.
- **Route 710** operates weekday and weekend services between the Hollywood/Vine Red Line Station and South Bay Galleria Transit Center in Hermosa Beach. Weekday service is from 5:17 AM and 9:24 PM, and weekend service is between 6:04 AM and 8:54 PM. This route does not have service on Sundays or during select holidays. During hours of operation, this fixed-route Metro bus route operates at approximately 15-minute headways during both weekday and weekend service. The nearest stops in proximity to the project site are at the intersection of W. Exposition Blvd and Crenshaw Blvd, north of the Expo Line Station.

- **Route 705** operates weekday and weekend services between West Hollywood at the intersection of San Vicente Blvd and Santa Monica Blvd and the City of Vernon at the intersection of Pacific Blvd/E. Vernon Blvd and Santa Fe Ave. Weekday service is from 5:00 AM to 9:19 PM. This line does not run service on weekends or select holidays. During hours of operation, this fixed-route Metro Rapid bus route operates at approximately 10-25-minute headways during weekday service. The nearest stop in proximity to the project site is at Martin Luther King, Jr Blvd and Crenshaw Blvd.
- **Route 38** operates between Broadway and Venice Ave west of the Fashion District of Los Angeles and Washington/Fairfax Transit Hub near Culver City between 4:05 AM and 1:03 AM on weekdays, with Westbound service terminating at 12:27 AM. On Saturdays, the bus route operates between from 4:17 AM and 1:03 AM, with Westbound service terminating at 12:27 AM. During hours of operation, this fixed-route bus route operates at approximately 30-minute headways during weekday service. In the project area, the bus route operates along Jefferson Blvd. The nearest bus stop is located at the intersection Jefferson Blvd & Crenshaw Blvd.

Los Angeles Department of Transportation (LADOT) operates fixed-route bus transit service. Within the project area, there are three DASH routes operated by LADOT (Midtown, Leimert/Slauson, and Crenshaw Routes) that operate during weekdays (Monday through Friday) as well as weekends (Saturday and Sunday). None of the three lines provide holiday service.

- **DASH Midtown Route** operates between Mid City and Crenshaw between 6:00 AM and 7:40 PM on weekdays, with Southbound service terminating at 7:48 PM. On Saturdays, the bus route operates between from 9:00 AM and 6:40 PM, with Southbound service terminating at 6:48 PM. In the project area, the bus route makes a loop using Jefferson Blvd, Crenshaw Blvd, Coliseum St, and Buckingham Rd. The nearest bus stop is located on the same block of the study site west of Crenshaw Blvd.
- **DASH Leimert/Slauson Route** is operated as a bidirectional loop from Martin Luther King Blvd at Crenshaw Mall to the LA Memorial Coliseum to the east. The clockwise route operates between 6:05 AM and 7:44 PM on weekdays. The counterclockwise route operates between the same hours. Saturdays and Sundays, the bus route operates between from 9:00 AM and 6:54 PM. In the project area, the bus route operates along Crenshaw Blvd, Martin Luther King, Jr Blvd, and Marlton Ave. The nearest bus stop is located at the intersection of W Martin Luther King Blvd and Crenshaw Blvd.
- **DASH Crenshaw Route** is operated as a bidirectional loop from Martin Luther King, Jr Blvd at Crenshaw Mall to the Rancho Cienega Recreation Center. The route operates between 6:00 AM and 7:35 PM on weekdays. The counterclockwise route operates between the same hours. On Saturdays, the bus route operates between from 9:00 AM and 6:35 PM, with Southbound service terminating at 6:48 PM. In the project area, the bus route operates along Crenshaw Blvd, Coliseum St, W. 39th St, and Menalto Ave. The nearest bus stop is located on the same block of the study site west of Crenshaw Blvd.

Figure 3-2 Transit Network

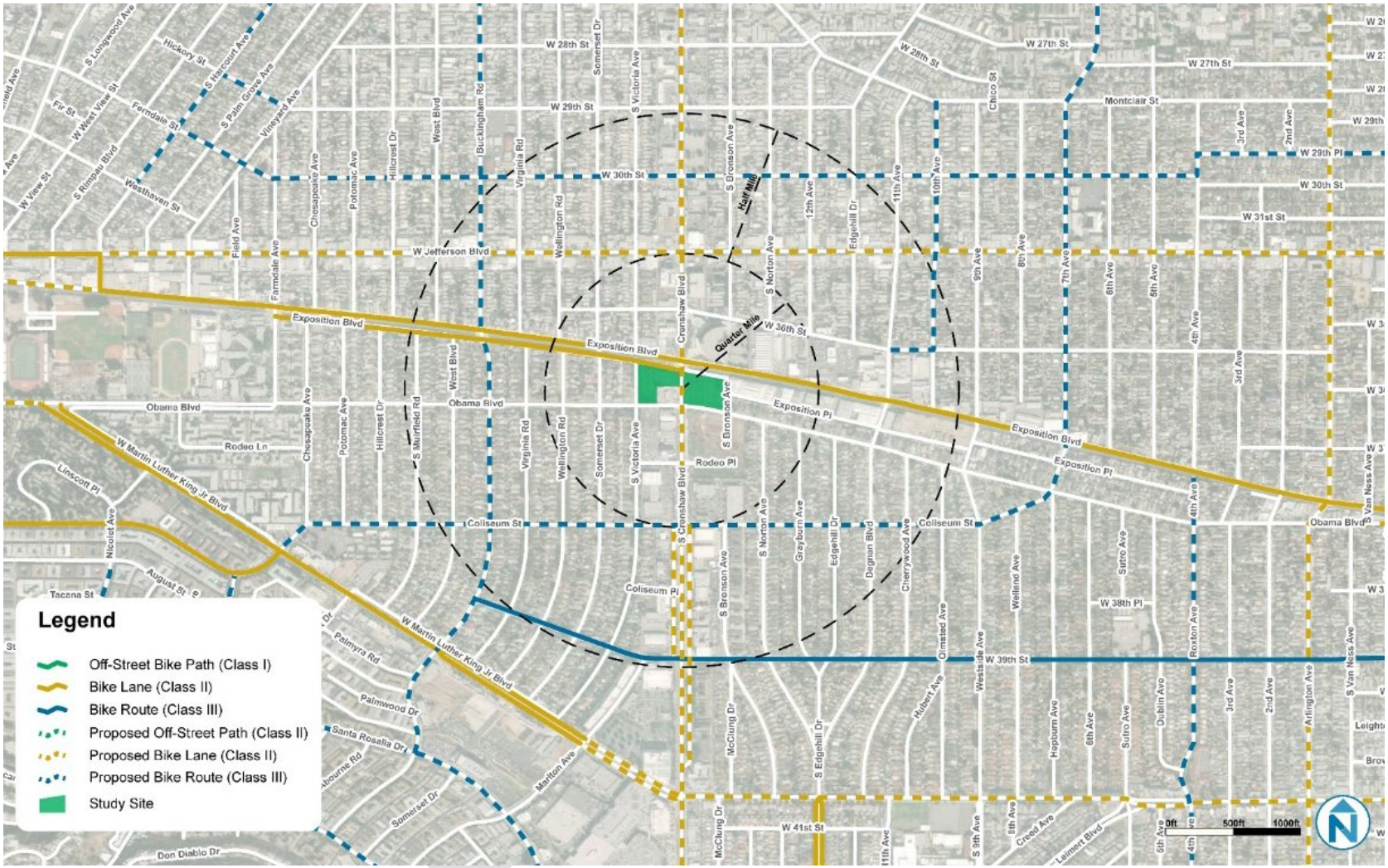


BICYCLE NETWORK

Figure 3-3 (next page) presents the existing bicycle network in the study area. According to the *Mobility Plan 2035*, bikeways are classified as Class I (bicycle paths separated from roads), Class II (striped bicycle lanes within the paved areas of roadways), or Class III (signed bike routes that allow cyclists to share streets with vehicles). Within the study area, there are Class II bike lanes situated along the entirety of Exposition Blvd the bike lanes continue east to the University of Southern California. West, the Class II bike lane continues along Exposition Blvd and jogs the north to the Jefferson Blvd alignment at the intersection of La Brea and Exposition. A Class II bike lane also exists along W Martin Luther King Jr Blvd to the south of the project site, from Rodeo Rd to Marlton Ave. Also in the study area is a Class III bike route that runs along W. 39th from its western terminus at Buckingham Rd and to the east where it terminates at Exposition Park and the Los Angeles Memorial Coliseum.

There are several planned bike routes near the project site according to the County's 2012 Bike Master Plan, slated for implementation through 2032; all of the routes near the study area are proposed by other planning authorities according to Metro data. Notably, there are planned Class II bike lanes along Crenshaw Blvd, which will serve the project site directly. Other bicycle infrastructure planned for the study area include Class II bike lanes along W Jefferson Blvd, Arlington Ave. extension of the Martin Luther King Jr Blvd bike lanes to the south, Obama Blvd west of W Martin Luther King Blvd as well as east of Arlington Ave, and extension of the Exposition Blvd bike lanes to the west. Class III bike routes are planned along the following roadways in the study area: Buckingham Rd, W. 30th St, 10th Ave, 7th Ave, Coliseum St, Roxton/4th Ave (south of Exposition), Santa Rosalia Dr, Santo Tomas Dr, Harcourt Ave and Hickory St.

Figure 3-3 Bicycle Network



Source: LA County Bicycle Master Plan (2012) and LA City Bicycle Plan (2010) via dpw.lacounty.gov/pdd/bike/map.cfm.

PEDESTRIAN NETWORK

Pedestrian facilities generally include sidewalks, crosswalks, curb ramps, pedestrian signals, and streetscape/landscape amenities (e.g., tree-lined buffers, planters, street lighting, etc.).

The majority of streets within the study area include continuous, raised, concrete sidewalks and curb cuts (ramps) at intersection corners. Most intersections do not have pedestrian crosswalks and such safety treatments are only located at major intersections, such as Crenshaw Blvd and Obama Bvld, and the intersection of Crenshaw Blvd and the Metro Expo Line Crossing. All major intersections along Crenshaw Blvd within the study area feature crosswalks. The presence of on-street parking, street trees, and parkways throughout much of the study area neighborhood streets allows for additional separation between moving vehicles and pedestrians. Intersection movements (autos, bicyclists and pedestrians) are generally controlled by STOP signs at unsignalized intersections or a signal, which allow for safer pedestrian crossings; however, not all intersection approaches include STOP signs, therefore, requiring pedestrians to yield to moving vehicles. For example, north-south pedestrian crossing along Obama Blvd is only facilitated at major intersections which can be up to a half-mile apart. **Table 3-1** below presents the sidewalk inventory for streets in proximity to the project site.

Table 3-1 Sidewalk Inventory

Street	Sidewalk Inventory
Crenshaw Blvd	Sidewalks on both sides
Upper W Exposition Blvd	Sidewalks on both sides
Lower W Exposition Blvd	Sidewalks on both sides from West to Crenshaw Blvd. East of Crenshaw has no sidewalks.
Obama Blvd	Sidewalks on both sides
Victoria Ave	Sidewalks on both sides
W 36th St	Sidewalks on both sides
Bronson Ave	Sidewalks on both sides
Exposition Pl	No Sidewalks
Norton Ave	Sidewalks on both sides
Somerset Ave	Sidewalks on both sides

Source: Mobility Plan 2035, Figure 6-6 and site observations; Nelson\Nygaard, 2017.

Planned pedestrian facilities include improved pedestrian crossings at the intersection of Crenshaw Blvd and Obama Blvd, a pedestrian scramble south of the Metro Expo Line connecting the East and West entrances to the new LAX/Crenshaw Line, improved sidewalk facilities and shade trees along Crenshaw Blvd, and street dedications of Lower W. Exposition Blvd adjacent to the project sites. The Crenshaw Corridor Specific Plan emphasizes the importance of improving pedestrian safety in TOD Areas, of which this project site would be a part. Therefore, pedestrian lighting, reduced vehicular traffic generation, and neighborhood serving infrastructure and uses would be emphasized in both design and operations.

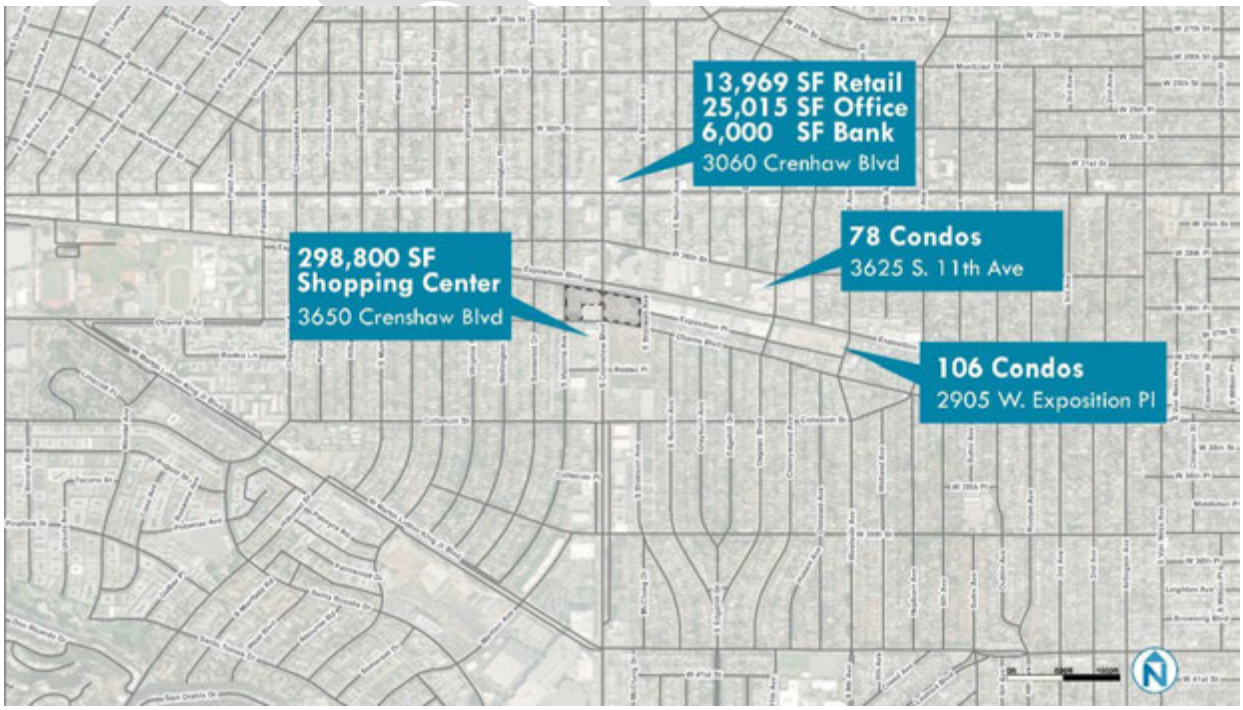
RELATED PROJECTS

Within the study area, there are four related projects in various phases of development that plan to have completed construction before the completion of the proposed project analyzed herein. The associated trip generation for each is assumed to be accurate and will be incorporated into future traffic volume projections. These projects are listed in Table 3-2 below.

Table 3-2 Related Projects

Project ID	Year	Title	Description	Address	Trip Generation			
					AM In	PM In	AM Out	PM Out
35093	2009	Shopping Center	298800 SF Shopping Center	3650 Crenshaw Blvd	62	40	214	232
33981	2007	Retail/ Office Building	13969 SF Retail, 25015 SF Office + 6000 SF Bank	3060 S Crenshaw Blvd	36	11	34	50
45207	2016	2905 Exposition Pl Condos	78 Condos	2905 W Exposition Pl	5	29	27	13
46431	2017	LA 10th & 11th Condos	106 Condos	3625 S 11th Ave	-31	32	22	10

Figure 3-4 Map of related projects included in future volume calculations



4 Project Evaluation Methodology

The project was evaluated based on LADOT Transportation Assessment guidance. The methodology includes intersection LOS and delay, intersection queuing, VMT impact analysis, and non-vehicular facility impacts. VMT methodology is outlined is Section 8 - Project Vehicle Miles Traveled Analysis.

Intersection operations were evaluated in accordance to regulations and performance standards established by the City of Los Angeles, Metropolitan Transportation Authority (LA Metro), SCAG, Caltrans, and the Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines. All study intersections are located within the City of Los Angeles jurisdiction. It is noted that none of the study intersections are part of the LA Metro's Congestion Management Program (CMP) transportation system.

INTERSECTION LEVEL OF SERVICE ANALYSIS METHODOLOGIES

All intersections were analyzed based on Level of Service (LOS) definitions for signalized and unsignalized intersections are shown in Table 4-1 and Table 4-2. Average vehicle delay (in seconds per vehicle) is reported for the intersection as a whole for signalized and all-way stop-controlled (AWSC) intersections, and for the worst stop-controlled movement or approach only for two-way stop-controlled (TWSC) and side-street stop-controlled (SSSC) intersections.

Table 4-1 Signalized Intersection Level of Service Definitions (HCM Method)

Level of Service	Average Control Delay Per Vehicle (Seconds)	Description
A	≤10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable, and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
B	>10.0 and ≤20.0	Stable Operation or Minimal Delays: Generally, occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
C	>20.0 and ≤35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
D	>35.0 and ≤55.0	Approaching Unstable or Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop, but dissipate rapidly, without excessive delays.
E	>55.0 and ≤80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
F	>80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

Source: Transportation Research Board, Highway Capacity Manual, 2010.

Table 4-2 Unsignalized Intersection Level of Service Definitions (HCM Method)

Level of Service	Average Control Delay Per Vehicle (Seconds)	Description
A	≤10.0	No delay for stop-controlled approaches.
B	10.0 and ≤15.0	Operations with minor delay.
C	>15.0 and ≤25.0	Operations with moderate delays.
D	>25.0 and ≤35.0	Operations with increasingly unacceptable delays.
E	>35.0 and ≤50.0	Operations with high delays, and long queues.
F	>50.0	Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.

Source: Transportation Research Board, Highway Capacity Manual, 2010.

INTERSECTION QUEUING METHODOLOGY

Signalized intersections were analyzed based on existing, future no project, and future project queues. Unacceptable or extended queuing as defined by the Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines applies primarily to Avenues or Boulevards as designated in the *Mobility Plan 2035* and includes:

- "Spill over" from turn pockets into through lanes.
- Block cross streets or alleys.
- Contribute to 'gridlock' congestion. For the purposes of this section, 'gridlock' is defined as the condition where traffic queues between closely-spaced intersections and impedes the flow of traffic through upstream intersections."

For the purposes of this analysis, both the 50th percentile and 95th percentile queues are shown, however only the 95th percentile queues are analyzed for unacceptable or extended queuing.

BICYCLE, PEDESTRIAN & TRANSIT FACILITIES & SERVICES

Project impacts on bicycle, pedestrian and transit facilities and services were determined based on physical or demand-based impacts to facilities. To conduct this evaluation, the significance criteria for bicycle, pedestrian, and transit impacts established by LADOT Transportation Assessment Guidelines were reviewed. Engineering judgment was then applied to determine the impacts of each scenario, given these significance criteria.

5 Existing Traffic Conditions

Existing weekday morning (AM) and evening (PM) roadway and intersection turning movement volumes at the study intersections are based on traffic counts collected on Tuesday-Thursday, April 17-19, 2018. Intersection movements were collected during the typical AM peak period (7:00 AM to 10:00 AM) and PM peak period (3:00 PM to 6:00 PM). It is noted that traffic counts were collected during an average weekday, when schools were in session and the weather was adequate. The location, weekday AM and PM peak-hour turning movements at the four (4) study intersections listed below. Roadway volumes are presented in **Figure 5-1** and **Figure 5-2.**

- Crenshaw Boulevard / Exposition Boulevard
- Crenshaw Boulevard / Obama Boulevard
- Victoria Avenue / Exposition Boulevard
- Victoria Avenue / Obama Boulevard

Figure 5-1 Existing Study Intersection Vehicle Turning Movement Volumes (AM Peak Hour)

Figure 5-2 Existing Study Intersection Vehicle Turning Movement Volumes (PM Peak Hour)

EXISTING LEVEL OF SERVICE ANALYSIS

The weekday AM and PM peak hour intersection levels of service under existing conditions are shown in Table 5-1. The results indicate that all four study intersections currently operate at acceptable level of service or better, (LOS A through D), during weekday peak hours. Intersections of Victoria Avenue and Obama Blvd as well as Lower Exposition Blvd operate under excellent conditions (LOS A). LOS calculation sheets are provided in **Appendix A.**

Table 5-1 Existing Weekday Peak-Hour Intersection Level of Service

#	Intersection	Control Type[a]	AM Peak[b]		PM Peak[b]	
			Delay[c]	LOS	Delay	LOS
1	Crenshaw Blvd / Upper Exposition Blvd	Signal	28.3	C	29.9	C
2	Crenshaw Blvd / Obama Blvd	Signal	33.9	C	34.5	C
3	Victoria Ave / Lower Exposition Blvd	SSSC	8.9	A	9.0	A
4	Victoria Ave / Obama Blvd	SSSC	25.5	D	32.8	D

Notes:
a. Signal = Signalized intersection; AWSC = All-Way STOP-Controlled intersection; TWSC = Two-Way STOP-Controlled; and SSSC = Side-Street STOP-Controlled intersection.
b. LOS calculations performed using Synchro and Transportation Research Board HCM 2000/2010.
c. Average vehicle delay (in seconds per vehicle) is reported for the intersection as a whole for signalized and AWSC intersections, and for worst STOP-controlled movement or approach only for TWSC and SSSC intersections.
BOLD indicates intersection operating at unacceptable LOS conditions.

Source: Nelson\Nygaard, 2019.

EXISTING QUEUE ANALYSIS

The weekday AM and PM peak hour intersection queue lengths and capacities under existing conditions are shown in Table 5-2. During the existing weekday AM and PM peak hours, both signalized intersections operate at overall acceptable levels of service. However, in the existing AM and PM peak hour at Crenshaw Blvd/Upper Exposition Blvd, the northbound thru/right 95th percentile queue extends to the upstream intersection (Crenshaw Blvd/Obama Blvd). Additionally, in AM peak hour at Crenshaw Blvd/Obama Blvd, the westbound right and southbound thru/right lanes exceed the turn pocket capacities. In the PM peak hour at Crenshaw Blvd/Obama Blvd, the eastbound left, southbound left, and southbound thru/right all exceed their lane capacities.

Table 5-2 Existing Weekday Peak-Hour Signalized Intersection Queues

#	Intersection	Movement	Capacity[b]	AM Queues[a]		PM Queues[a]	
				50th	95th	50th	95th
1	Crenshaw Blvd / Upper Exposition Blvd	EB L	*100*	11	28	*7*	14
		EB T	*300*	45	81	221	246
		EB R	*100*	0	0	0	28
		WB L	*120*	21	46	51	97
		WB T/R	*1500*	294	394	93	156
		NB L	*100*	45	84	23	40
		NB T/R	*310*	203	**459**	145	**329**
		SB L	*190*	29	*57*	36	63
		SB T/R	*400*	215	287	246	294
2	Crenshaw Blvd / Obama Blvd	EB L	*150*	92	120	146	**208**
		EB T/R	*290*	139	135	235	247
		WB L	*170*	54	72	44	70
		WB T	*280*	208	204	120	122
		WB R	*150*	195	**261**	0	34
		NB L	*320*	22	*47*	48	64
		NB T/R	*500*	210	312	201	284
		SB L	*170*	60	110	93	**197**
		SB T/R	*310*	346	**384**	378	**461**

Notes:

a. Queue lengths are measured in feet. Queue shown is maximum after two cycles for the 50th and 95th percentiles.

b. Capacity is measured by internal link distance for thru lanes and turn bay length for right or left turn pockets.

BOLD 95th percentile queue lengths designate those that exceed either turn pocket storage capacity or extend to the upstream intersection.

Source: Synchro Studio 9, 2017.

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6 Project Characteristics

This chapter summarizes the land use characteristics of the proposed project and describes the changes in motor vehicle trips that are projected to result from the Project. This chapter also describes the projected distribution of those motor vehicle trips, and how they were assigned to the roadway network. The changes in motor vehicle traffic associated with the project were estimated using a three-step process:

1. **Travel Demand** – The *amount* of new vehicle, transit, pedestrian, and other traffic generated by the proposed development.
2. **Trip Distribution** – The *directions* that these trips would travel when approaching and departing the Project's land uses was projected.
3. **Trip Assignment** – These trips were then *assigned* to specific roadway segments and intersection turning movements.

PROJECT DESCRIPTION

The project site is located in the southwestern portion of Los Angles, in the Crenshaw neighborhood. The project is within the Crenshaw Corridor Specific Plan area and would comprise six parcels divided into two sites as seen in Figure 6-1. Currently, a portion of the lot on the east side of Crenshaw Blvd is being developed by Metro to be a subterranean station on the new Metro Crenshaw/LAX Line. Both sites would feature residential uses totaling 400 dwelling units (320 market-rate, 80 affordable). The development to the east of Crenshaw Blvd would contain 22,000 square-feet of supermarket and 8,000 square-feet of retail, while the development to the west would house 8,500 square-feet of restaurant and 2,000 square-feet of retail or community space. The project site is located on Crenshaw Blvd which is identified as a part of the City's High Injury Network (HIN). Being that this development is a Transit Oriented Development (TOD), it should be noted that there is expected to be an increase of pedestrian and bicycle activity to and from the site. Notably, as mentioned previously, the site will have on-site of either site entrances to subterranean Metro Stations of the Crenshaw/LAX Line. This Metro Rail light rail line will serve as a major local and regional connector to on-site amenities such as the grocery store, retail, and restaurant uses.

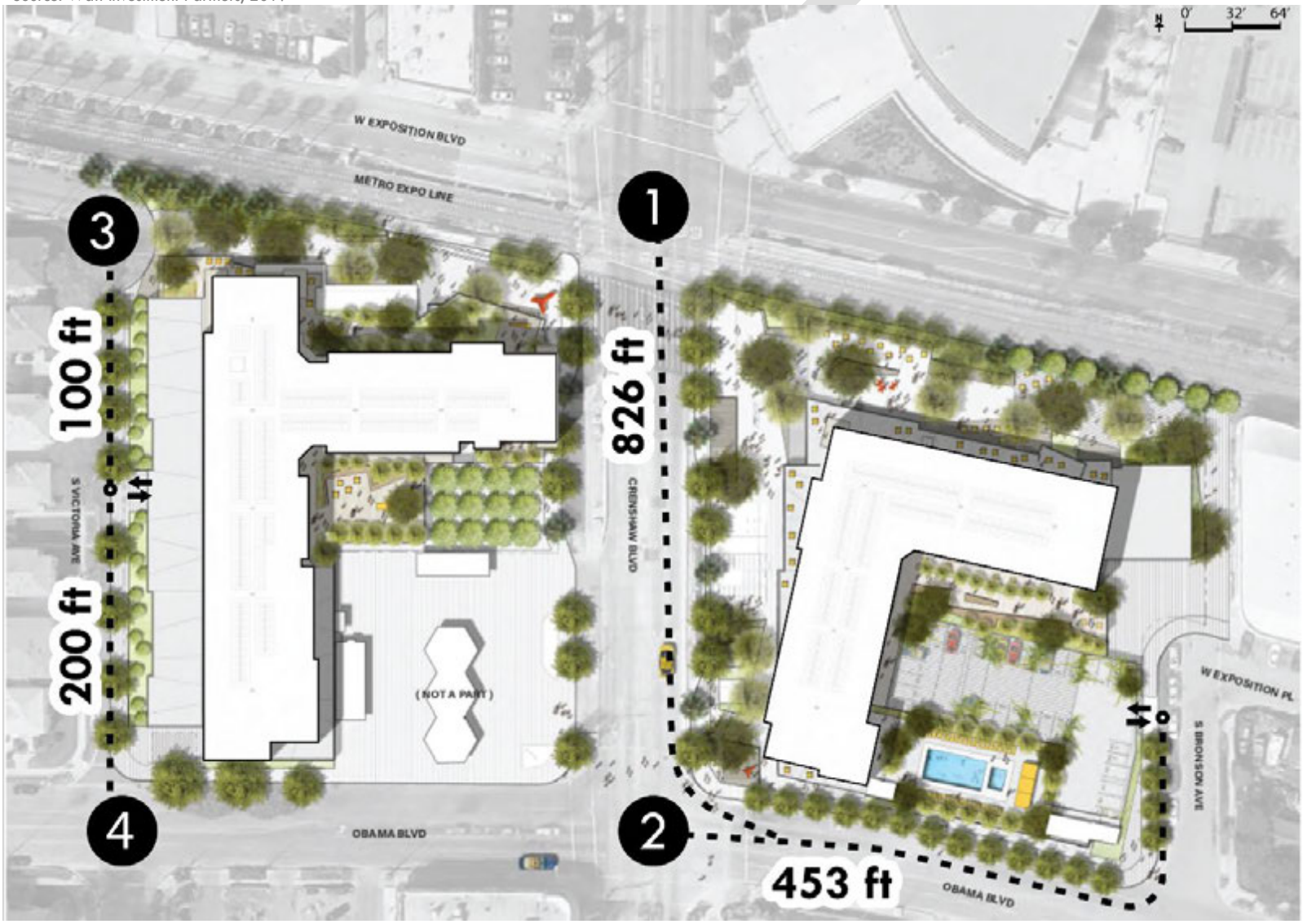
Figure 6-1 Project parcels

Source: LA City GIS

A majority of the planned development would be located in the eastern site comprised of an off-street parking garage surrounded by supermarket at ground-level and residential buildings above to the north and west, common areas to the south and west, and flex space (residential, retail, common, etc.) to the east; vehicular access to the parking garage would be gained via a two-way driveway along Bronson Ave, south of West Exposition Pl. The east site would also include an entrance to the subterranean Metro Crenshaw/LAX Line station. The site to the west, between Crenshaw Blvd and Victoria Ave, would comprise restaurant, retail and community space along with residential units primarily situated along Victoria Ave. The project would not introduce any new external streets but would include new and redeveloped sidewalks adjacent to the development and access to open space areas as well as linkage to the new Metro Crenshaw/LAX Line Station on the eastern site. The project would eliminate existing curb cuts (driveways) along the north sides of the developments, facing Lower W Exposition Blvd, allowing for a continuous sidewalk on both sides of the street. The removal of these curb-cuts will be in conjunction with the closure of Lower W. Exposition Blvd and a portion of S. Bronson Ave from Victoria Ave to the intersection of S. Bronson Ave and W. Exposition Pl. Similarly, existing curb cuts along the north side of Obama Blvd on the project site will be removed. Existing on-street parking on the east side of Victoria Ave would be impacted by the new entrance to the western development. The curb cut could permanently remove up to four (4) on-street spaces. Study intersections and proximity to project driveways are shown in Figure 6-2.

Figure 6-2 Study Intersections and distance to project driveways.

Source: Watt Investment Partners, 2019



PROJECT APPLICABILITY

The table below is included per LADOT Transportation Assessment Guideline to determine project applicability to plans, policies, and programs.

#	Guiding Questions	Relevant Plans, Policies, and Programs	Supporting/Complementary City Plans, Policies, and Programs to Consult	Response
Existing Plan Applicability				
1	Does the project include additions or new construction along a street designated as a Boulevard I, and II, and/or Avenue I, II, or III on property zoned for R3 or less restrictive zone? (screening question)	*LAMC Section 12.37*		Yes
2	Is project site along any network identified in the City's Mobility Plan?	*MP 2.3 through 2.7*		Yes
3	Are dedications or improvements needed to serve long-term mobility needs identified in the Mobility Plan 2035?	*MP - Street Classifications; MP – Street Designations and Standard Roadway Dimensions*	*MP - 2.17 Street Widenings*	No
4	Does the project require placement of transit furniture in accordance with City's Coordinated Street Furniture and Bus Bench Program?			No
5	Is project site in an identified Transit Oriented Community (TOC)?	*MP - TEN; MP - PED; MP - BEN; TOC Guidelines*		Yes
6	Is project site on a roadway identified in City's High Injury Network?	*Vision Zero*	*Mobility Plan 2035*	Yes
7	Does project propose repurposing existing curb space? (Bike corral, car-sharing, parklet, electric vehicle charging, loading zone, curb extension, etc.)	*MP - 2.1 Adaptive Reuse of Streets; MP - 2.10 Loading Areas; MP - 3.5 Multi-Modal Features; MP - 3.8 Bicycle Parking; MP - 4.13 Parking and Land Use Management; MP - 5.4 Clean Fuels and Vehicles*	*MP - 2.3 Pedestrian Infrastructure; MP - 2.4 Neighborhood Enhanced Network; MP - 3.2 People with Disabilities; MP - 4.1 New Technologies; MP 5.1 Sustainable Transportation; MP - 5.5 Green Streets*	Yes
8	Does project propose narrowing or shifting existing sidewalk placement?	*MP 2.3 Pedestrian Infrastructure; MP 3.1 - Access for All; MP -PED; MP - ENG 19; MP 2.17 Street Widenings*	*Healthy LA; Vision Zero; Sustainability pLAn*	No

9	Does project propose paving, narrowing, shifting or removing an existing parkway?	*MP - 5.5 Green Streets; Sustainability pLAn*		No
10	Does project propose modifying, removing or otherwise affect existing bicycle infrastructure? (ex: driveway proposed along street with bicycle facility)	*MP - BEN; MP - 4.15 Public Hearing Process*	*Vision Zero*	No
11	Is project site adjacent to an alley? If yes, will project make use of, modify, or restrict alley access?	*MP - 3.9 Increased Network Access; MP - ENG.9; MP - PL.1; MP - PL.13; MP - PS.3*		No
12	Does project create a cul-de-sac or is project site located adjacent to existing cul-de-sac? If yes, is cul-de-sac consistent with design goal in Mobility Plan 2035 (maintain through bicycle and pedestrian access)?	*MP - 3.10 Cul-de-sacs*		No
Access: Driveways and Loading				
13	Does project site introduce a new driveway or loading access along an arterial (Avenue or Boulevard)?	*MP - PL.1; MP - PK.10, CDG 4.1.02*	*Vision Zero*	No
14	If yes to 13, Is a non-arterial frontage or alley access available to serve the driveway or loading access needs?	*MP - PL.1; MPP 321*	*Vision Zero*	NA
15	Does project site include a corner lot? (avoid driveways too close to intersections)	*CDG 4.1.01*		Yes
16	Does project propose driveway width in excess of City standard?	*MPP Sec. 321*	*Vision Zero, Sustainability pLAn, MP - PED, MP - BEN CDG 4.1.04*	No
17	Does project propose more driveways than required by City maximum standard?	*MPP - Sec No. 321 Driveway Design*	*Vision Zero, MP, Healthy LA*	No
18	Are loading zones proposed as a part of the project?	*MP - 2.10 Loading Areas; MP - PK.1; MP - PK.7; MP - PK.8; MPP 321*		No
19	Does project include "drop-off" zones or areas? If yes, are such areas located to the side or rear of the building?	*MP - 2.10 Loading Areas*		Yes, Yes – Located on Bronson Ave & Victoria Ave
20	Does project propose modifying, limiting/restricting, or removing public access to a public right-of-way (e.g., vacating public right-of-way?)	*MP - 2.3 Pedestrian Infrastructure; MP - 3.9 Increased Network Access*		Yes – Lower Exposition Blvd. between Victoria Ave. and Bronson Ave. will be vacated.

PROJECT TRAVEL DEMAND

This section estimates the travel demand potentially generated by the project. "Travel demand" generally refers to the new vehicle, transit, pedestrian, and other traffic generated by the proposed development. For purposes of this analysis, the travel demand estimation focuses on the number of new vehicle trips generated by the project. The project would include planned residential development that would generate daily and weekday peak period vehicle traffic, both internal and external to the project site.

Traffic trip generation was estimated using the ITE *Trip Generation Manual* (10th Edition) and LADOT rates. The ITE manual provides guidance on estimating traffic generation for various land use developments based on observations conducted across the United States. Although the data generated by ITE are necessarily national in character, the project site is located in a more urban area with better access to public transportation than those sampled by the ITE analyses. Accordingly, the ITE rates were adjusted using LADOT reductions, as approved by LADOT in the MOU.

Table 6-1 presents the adjusted vehicle trip generation estimate for the project under all build scenarios. As shown, the project would generate up to 5,192 daily trips; 67 inbound and 94 outbound weekday AM peak-hour trips, and 137 inbound and 109 outbound weekday PM peak-hour trips, respectively. Detailed trip generation calculations can be found in the appendix.

Table 6-1 Adjusted Project Trip Generation Estimation

ITE Land Use Code		Project	Project Trip Generation				
				AM		PM	
Use	ITE Code[1]	Units	Daily	In[2]	Out[2]	In[2]	Out[2]
Affordable Housing	LADOT	80 DU	164	9	17	8	5
Market Housing	LADOT	320 DU	1,169	15	50	30	16
Supermarket	850	22,000 sf	1,444	32	22	46	42
Retail[3]	820	10,500 sf	673	3	3	15	15
Restaurant	930	8,500 sf	1,741	8	3	39	30
Total Project Trips							
Total Project	--	--	5,192	67	94	137	109

Notes:
1. Trip generation rates were based on fitted curve equation per ITE Trip Generation, 10th Edition.
2. Inbound/Outbound trip distribution based on ITE Trip Generation, 10th Edition.
3. Retail trip generation calculations include community space, to provide a conservative estimate.

TRIP DISTRIBUTION

The trip distribution and assignment of project-generated vehicle trips were developed based on the following:

- Existing roadway network in proximity of the project site
- Location of the planned parking garage driveway
- Existing vehicular demand along area roadways and intersections

In addition, vehicle trip distribution and assignment patterns were determined based on new access points, land-use distribution throughout the entire project site, and considering the placement of residential uses, non-residential uses, and key access locations uses that would be made by residents.

For typical residential land-use development projects, standard trip distribution of new person and vehicle trips are typically determined by applying the assumptions and methodologies as outlined in the LADOT TA Guidelines. Moreover, modal splits for all residential trips are based on the most recent available U.S. Census journey-to-work data for the census tract in which the project would be located and distribution of residential trips is typically based on geographic destinations indicated in the relevant census tract data. Per the TA Guidelines, the distribution and assignment of residential trips are largely defined by areas of employment in Los Angeles, mostly in downtown, and elsewhere in the County (e.g., Venice Beach, Santa Monica, Hawthorne, Compton, etc.).

The vehicle trip distribution (inbound and outbound) for weekday peak hours is shown in **Figure 6-4**. All assumptions have been approved by LADOT through the MOU.

Figure 6-5 presents the project-generated vehicle trip distribution and assignment along study area roadways, intersections the project site during the weekday AM peak hour while **Figure 6-6** presents the PM distributions. Project-generated vehicle trip distribution and assignment patterns were determined on existing access points to the proposed residential units and proposed parking facilities (including new employees of retail, residential, and supermarket uses).

Figure 6-3 Trip distribution as approved by LADOT.

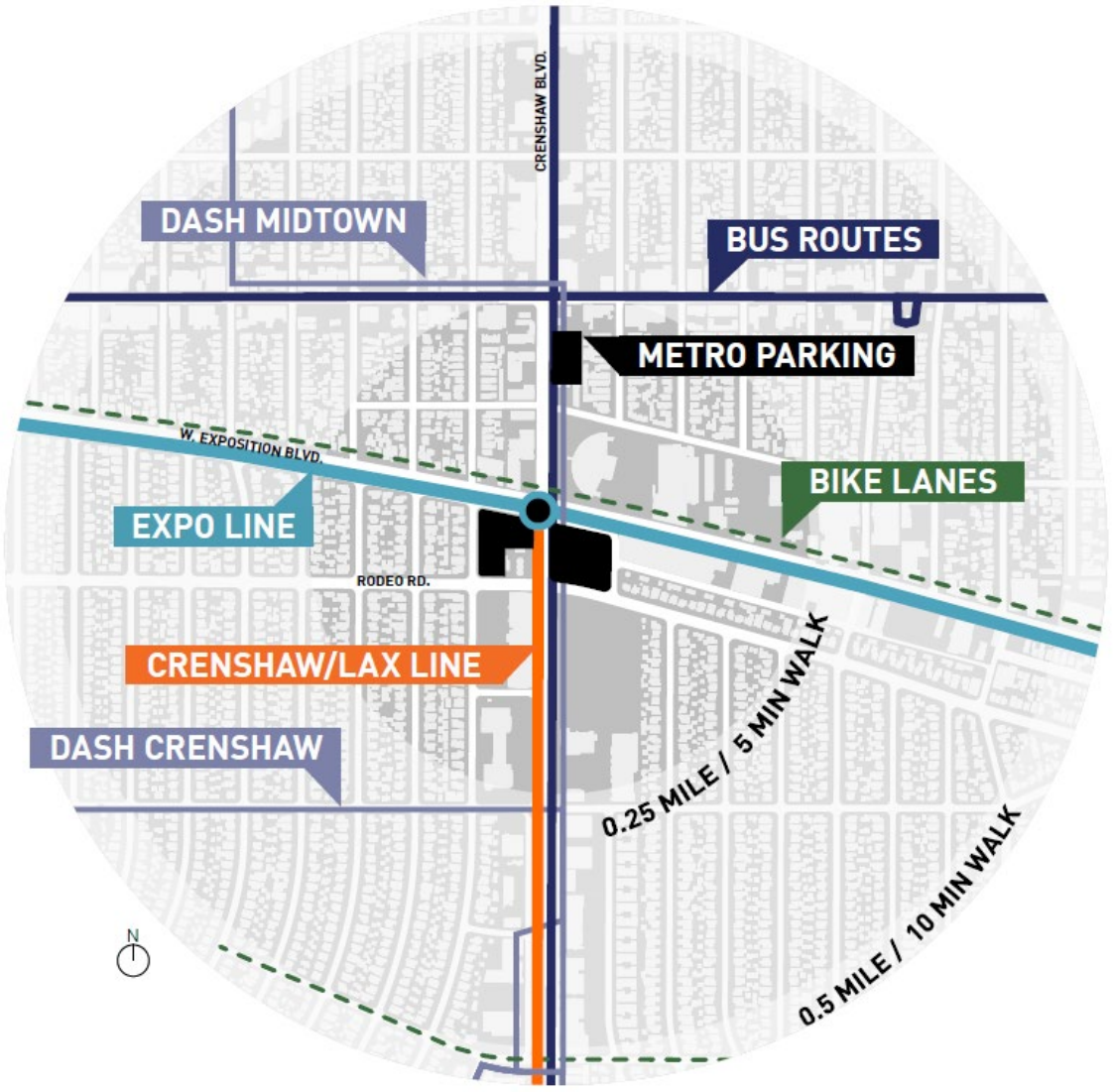
Figure 6-4 Weekday AM Peak Hour Project-Generated Vehicle Trips

Figure 6-5 Weekday PM Peak Hour Project-Generated Vehicle Trips

PARKING DEMAND

The project would provide 679 paid off-street parking spaces as well as 10 ADA Metro Park and Ride spaces. These new parking spaces would be accessible for residents and commercial users. The intent of providing additional parking spaces would be to better accommodate commercial users and employees who would otherwise drive to the site and park along neighboring streets. Essentially, these additional parking spaces would shift drivers from parking on street to on campus and thus, reduce current parking demand along adjacent streets.

There are expected to be approximately 143 full- or part-time employees for the commercial uses on-site. Not every employee would work every day or at the same time of day. That said, there would be potential for a slight increase in demand during those hours when residents who drive were home. There is an opportunity to share parking resources between uses; what would be residential parking at night could be used as commercial parking during the day while residents would largely be at work.



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7 Future Conditions

2023 NO PROJECT CONDITIONS

The transportation conditions under future conditions (Year 2023) represent conditions including projected population and employment with 1% ambient growth as well as planned transportation system improvements contained in the latest City of Los Angeles Travel Demand Forecasting (TDF) Model.

Methodology

The following describes the methodology to calculate future (year 2023) intersection turning movements within the study area. A 1% growth rate compounded annually over five years was applied to the existing 2018 traffic volumes. The nearby related project volumes as outlined in Table 3-2 were then distributed within the network and added to the respective intersections impacted by the new developments.

Planned Network Changes:

Although there are several planned transportation network improvements throughout the City Los Angeles, the following projects would be planned in the general study area, but would not affect any specific study intersection or roadway, respectively:

The traffic analysis for Year 2023 conditions (with and without the project) does not incorporate the proposed intersection and roadway network changes as presented above; these projects are not fully funded and/or are undergoing planning and engineering design.

2023 PLUS PROJECT CONDITIONS

The following section includes an evaluation of projected Year 2023 traffic conditions at study intersections with and without implementation of the project.

Level of Service and Delay Analysis

Figure 7-1 through Figure 7-3 present the future no project and future plus project intersection volumes. Table 7-1 presents intersection LOS conditions and approach delays during the weekday AM and PM peak hours for all scenarios: existing, no project and plus project.

The intersection of Crenshaw Blvd/Upper W. Exposition Blvd maintains an acceptable LOS under no project and plus project conditions with no significant impacts to the approach delays. The intersection of Crenshaw Blvd/Obama Blvd maintains an acceptable LOS under no project and plus project conditions. The PM delays for the westbound and southbound approaches do increase from no project to plus project conditions, however, from 29.1 to 41.6 and from 48.6 to 69.1 respectfully. For the side-street stop-controlled intersection at S Victoria Ave/Lower W Exposition Blvd, the plus project condition eliminates the eastbound

leg and therefore, this intersection can no longer be evaluated for LOS as it is assumed to operate at free-flow. The side-street stop-controlled intersection at S Victoria Ave/Obama Blvd, however, degrades to LOS E for both side-street approaches in the no project PM scenario. In the plus project scenario, both the northbound and southbound approaches at this intersection operate at an unacceptable LOS in both the AM and PM. Given the proximity of this intersection to the signalized Crenshaw Blvd/Obama Blvd intersection, signalization of this intersection would not be appropriate.

Figure 7-1 Future No Build Turning Movements (AM Peak)

Figure 7-2 Future Intersection Turning Movements (PM Peak)

Figure 7-3 Future Plus Project Intersection Turning Movements (AM Peak)

Figure 7-4 Future Plus Project Intersection Turning Movements (PM Peak, Low Build)

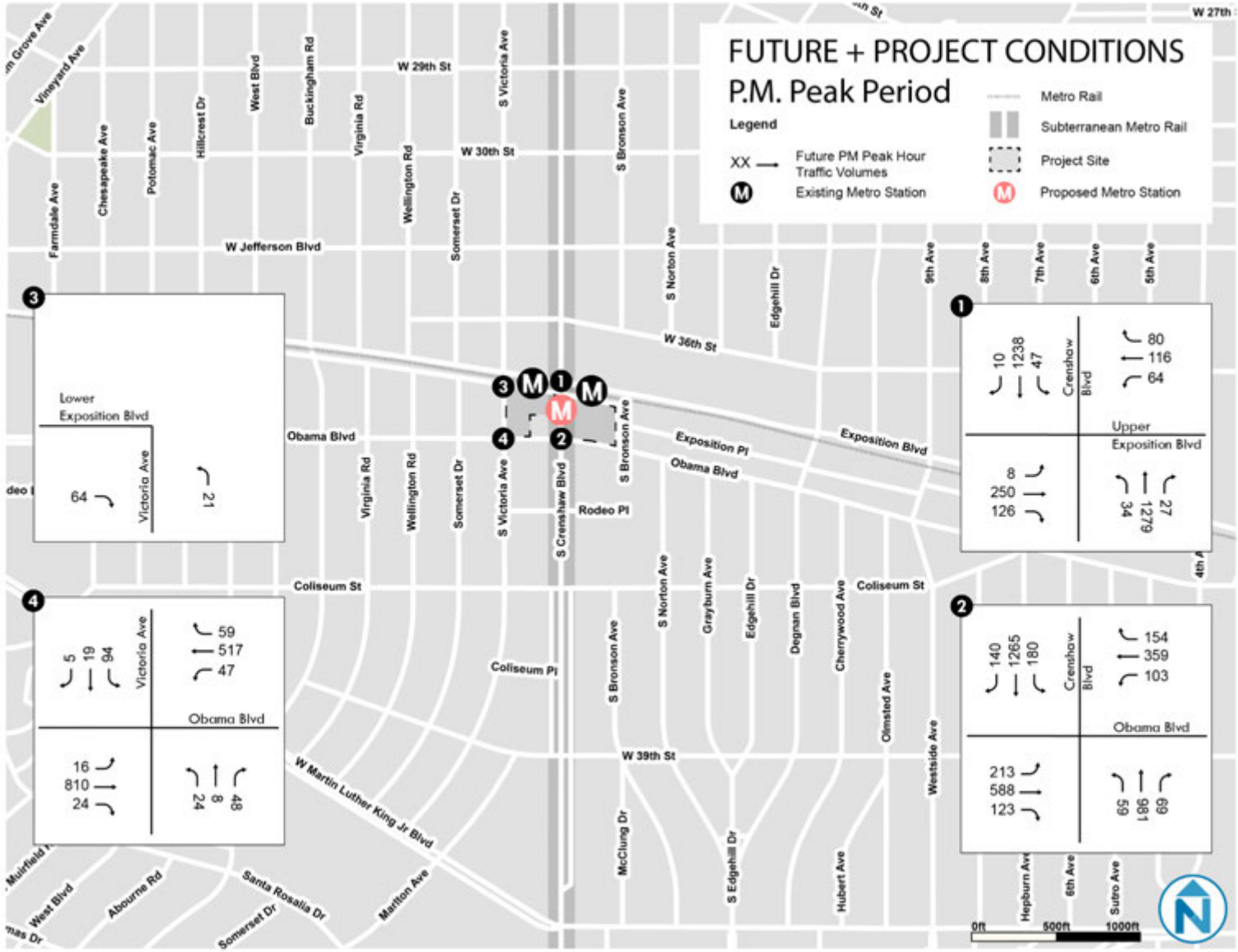

Table 7-1 2023 Future LOS Summary and Approach Delay

#	Intersection	Control Type	Approach	Existing				2023 No Project				2023 Plus Project			
				AM Peak[b]		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				Delay[c]	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Crenshaw Blvd / Upper W Exposition Blvd	Signal	Intersection	28.3	C	29.9	C	31.5	C	33.5	C	32.3	C	34.1	C
			EB	42.5		51.5		41.7		55.5		42.0		48.9	
			WB	48.2		40.5		49.3		43.8		49.3		43.8	
			NB	24.8		23.2		29.6		29.6		31.1		32.8	
			SB	24.2		27.0		26.0		28.2		26.1		28.5	
2	Crenshaw Blvd / Obama Blvd	Signal	Intersection	33.9	C	34.5	C	35.0	C	38.9	D	36.3	D	49.0	D
			EB	39.3		42.0		37.5		38.8		39.9		38.0	
			WB	38.0		32.7		37.0		29.1		36.2		41.6	
			NB	25.4		25.0		28.5		29.4		30.2		33.8	
			SB	35.3		38.1		37.7		48.6		40.1		69.1	
3	S Victoria Ave / Lower W Exposition Blvd	SSSC	NB	8.9	A	9.0	A	8.9	A	9.0	A	N/A		N/A	
4	S Victoria Ave / Obama Blvd	SSSC	NB	25.5	D	25.0	C	33.2	D	**39.6**	**E**	**38.7**	**E**	**50.4**	**F**
			SB	22.2	C	32.8	D	26.0	D	**46.2**	**E**	**74.6**	**F**	**271.8**	**F**

Notes
a. Signal = Signalized intersection; AWSC = All-Way STOP-Controlled intersection; TWSC = Two-Way STOP-Controlled; and SSSC = Side-Street STOP-Controlled intersection.
b. LOS calculations performed using Synchro and Transportation Research Board HCM 2000.
c. Average vehicle delay (in seconds per vehicle) is reported for the intersection as a whole for signalized and AWSC intersections, and for worst STOP-controlled movement or approach only for TWSC and SSSC intersections.

BOLD indicates intersection would operate at unacceptable LOS conditions.
Shaded indicates a direct project traffic impact to intersection.

Source: Nelson\Nygaard, 2019.

Queue Analysis

The weekday AM and PM peak hour intersection queue lengths and capacities under existing, 2023 No Project and 2023 Plus Project scenarios are shown in Table 7-2. Although both signalized intersections operate at acceptable LOS in all scenarios, some queues do exceed queue length capacities. Future no project volumes do not create any additional unacceptable queue lengths for both intersections beyond what exists under current conditions. Additionally, Crenshaw Blvd/Upper Exposition Blvd does not experience any additional delays in the plus project scenario beyond what exists under current conditions. Future 2023 plus project conditions extend queues beyond capacity for two approaches at Crenshaw Blvd/Obama Blvd, however. The AM eastbound left turn pocket and PM westbound left turn pocket both exceed the turn pocket length in the future plus project scenario.

Table 7-2 2023 Future Weekday Peak-Hour Signalized Intersection Queues

#	Intersection	Movement	Capacity[b]	Existing				2023 No Project				2023 Plus Project			
				AM Queues[a]		PM Queues[a]		AM Queues[a]		PM Queues[a]		AM Queues[a]		PM Queues[a]	
				50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
1	Crenshaw Blvd / Upper Exposition Blvd	EB L	*100*	11	28	*7*	14	13	32	6	19	13	32	6	19
		EB T	*300*	*45*	81	221	246	45	82	212	299	45	82	212	299
		EB R	*100*	0	0	0	28	0	0	0	20	0	0	10	35
		WB L	*120*	21	46	51	97	30	59	61	101	30	59	61	101
		WB T/R	*1500*	294	394	93	156	320	438	109	177	320	438	109	177
		NB L	*100*	*45*	84	23	40	45	87	19	44	49	90	26	49
		NB T/R	*310*	203	**459**	145	**329**	279	497	225	404	319	510	293	411
		SB L	*190*	29	*57*	36	63	22	47	44	79	22	47	44	79
		SB T/R	*400*	215	287	246	294	245	311	277	335	250	318	289	348
2	Crenshaw Blvd / Obama Blvd	EB L	*150*	92	120	146	**208**	96	133	170	205	110	**158**	181	232
		EB T/R	*290*	139	135	235	247	138	142	247	244	151	158	270	281
		WB L	*170*	54	72	44	70	59	82	47	77	70	99	95	**175**
		WB T	*280*	208	204	120	122	208	217	109	124	208	224	112	135
		WB R	*150*	195	**261**	0	34	226	314	0	34	238	338	0	39
		NB L	*320*	22	47	48	64	23	49	41	74	29	57	56	95
		NB T/R	*500*	210	312	201	284	247	336	257	339	260	339	281	346
		SB L	*170*	60	110	93	**197**	65	123	125	262	80	163	218	375
		SB T/R	*310*	346	**384**	378	**461**	371	411	487	567	373	414	490	562

Notes:
a. Queue lengths are measured in feet. Queue shown is maximum after two cycles for the 50th and 95th percentiles.

b. Capacity is measured by internal link distance for thru lanes and turn bay length for right or left turn pockets.

BOLD 95th percentile queue lengths designate those that exceed either turn pocket storage capacity or extend to the upstream intersection.

Grayed out values designate 95th percentile queue lengths exceed either turn pocket storage capacity or extend to the upstream intersection in the existing condition and therefore are not evaluated in the no project or plus project scenarios.

Source: Synchro Studio 9, 2017.

FUTURE BICYCLE, PEDESTRIAN, & TRANSIT FACILITIES & SERVICES

Review of the project impacts to bicycle, pedestrian, and transit facilities are based on whether the project proposes removal or degradation of these facilities. Figure 7-3 shows the location of nearby bicycle, pedestrian, and transit facilities in relation to the Project.

Bicycle

The project will support biking by providing various bike parking locations including long-term bike parking for residents and short-term bike parking for commercial uses. The short-term bike parking will be located in areas with high pedestrian traffic and pedestrian scale lighting for safety. They will be conveniently accessible to the commercial and residential entrances. Long-term bike parking would be located on multiple levels of the parking structure accessed via lobby elevators on the ground floor. Additionally, the project would provide long-term bike storage for Metro transit riders.

The project will likely result in increased bicycle activity from the proposed development. However, the project does not propose removing any existing bike infrastructure and provides enhanced bike access and storage for future residents, Metro transit riders, and patrons. For these reasons, the project does not result in the degradation of bicycle facilities.

Pedestrian

The project supports pedestrian activity for the neighborhood by providing amenities to make walking safer and more comfortable. Additional on-site landscaping will improve pedestrian comfort along the street and add visual relief. The sidewalks along the project site are currently undergoing improvements by Metro and will create pedestrian-friendly conditions along the Crenshaw Corridor. Additionally, the segment of Lower Exposition Boulevard between S. Victoria Ave and Crenshaw Blvd would be closed off to vehicles but maintained as a pedestrian paseo to provide pedestrian connection between the surrounding neighborhood and transit facilities.

The project will have ground floor storefronts to provide pedestrian-oriented street frontages along with wide sidewalks and landscaping. Driveway access will be located along S. Victoria Ave and S. Bronson Ave, away from major commercial areas to minimize pedestrian/vehicular conflicts at driveways.

The project will result in increased pedestrian activity from the proposed commercial and residential development. However, the project does not propose removing or narrowing existing pedestrian facilities, but instead widening and enhancing them to accommodate the increased pedestrian volume and improve the pedestrian experience. For this reason, the project does not result in the degradation of pedestrian facilities.

Transit

The project is located in a transit-rich area with access to the Metro Expo line and future access to the Metro Crenshaw/LAX Line along with numerous bus lines. The project provides additional vehicular and bike parking for Metro transit riders and will create a safer, more comfortable pedestrian experience for all transit riders. No bus stops relocations are proposed as part of the project. As a result, the project will not degrade transit facilities.

Figure 7-5 Project Site Plan

Source: Watt Investment Partners, 2019

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8 Project Vehicle Miles Traveled Analysis

Project vehicle miles traveled (VMT) analysis consists of determining whether there would be an increase or decrease in VMT per person on a citywide level. Additionally, VMT analysis allows for mitigation of impacts using transportation demand management (TDM) programs to reduce vehicle trips.

VMT METHODOLOGY

The City of Los Angeles VMT analysis requires use of the City's VMT Calculator. The calculator uses land use type and area for inputs and provides the following outputs:

- Daily vehicle trips
- Daily VMT
- Household VMT per capita: this is the total home-based VMT productions divided by the population of the project
- Work VMT per employee: this is the total home-based work attractions divided by the employment of the project
- Household significance threshold: the household VMT per capita is measured against threshold for the area planning commission (APC) in which the project is located to determine if the project has a significant household impact
- Work significance threshold: the work VMT per employee is measured against the APC threshold to determine if the project has a significant work impact.[10]

The tool also allows entry of transportation demand management (TDM) strategies for mitigation of increased VMT.

For development projects, the City defines a project as having a potential impact if:

- "For residential projects, the project would generate household VMT per capita exceeding 15% below the existing average household VMT per capita for the Area Planning Commission (APC) area in which the project is located. (see Table 8-1)
- For office projects, the project would generate work VMT per employee exceeding 15% below the existing average work VMT per employee for the APC in which the project is located. (see Table 8-1)

[10] LADOT Website. https://ladot.lacity.org/what-we-do/planning-development-review/transportation-planning-policy/modernizingtransportation-analysis

- For regional serving retail projects, the project would result in a net increase in VMT.
- For other land use types, measure VMT impacts for the work trip element using the criteria for office projects above. (see Table 8-1)"[11]

Table 8-1 Impact Criteria (15% Below APC Average)

Area Planning Commission	Daily Household VMT per Capita	Daily Work VMT per Employee
Central	6.0	7.6
East LA	7.2	12.7
Harbor	9.2	12.3
North Valley	9.2	15.0
South LA	6.0	11.6
South Valley	9.4	11.6
West LA	7.4	11.1

Source: LADOT Transportation Assessment Guidelines

As the project is located within the South LA APC, the project will be considered to have significant impact to VMT if it exceeds the following thresholds:

- Daily Household VMT per capita of 6.0
- Daily Work VMT per employee of 11.6.

TDM Mitigation

Transportation demand management (TDM) strategies provide methods to reduce vehicular trips. Strategies have accompanying reduction rates based on the intensity of the method applied. Strategies are grouped into the following categories:

- Parking
- Transit
- Education & Encouragement
- Commute Trip Reductions
- Shared Mobility
- Bicycle Infrastructure
- Neighborhood Enhancement

TDM reduction rates can be applied to the project to produce two outputs, project without mitigation strategies and project with mitigation strategies.

[11] LADOT Website. https://ladot.lacity.org/what-we-do/planning-development-review/transportation-planning-policy/modernizingtransportation-analysis

VMT ANALYSIS FINDINGS

The following provides an assessment of the results of the VMT calculator analysis findings.

As stated per LADOT Transportation Assessment Guidelines, a new development would have a less-than-significant transportation impact if the project were to achieve either an average daily VMT per capita that is 15% less than the Area Planning Commission's average daily VMT per Capita. If a project were to result in VMT rates that exceed the 15%-reduction threshold, the project would be inconsistent with statewide and local environmental and transportation policies and therefore, would result in a significant transportation impact. Initial results from the LADOT VMT calculator are shown in Table 8-2.

Table 8-2 Proposed Project without Mitigation Analysis Results

Analysis Results	
Total Employees: 143 Total Population: 972	
4,086 Daily Vehicle Trips 24,819 Daily VMT	
7.2 Household VMT per Capita 9.2 VMT per Employee	
Significant VMT Impact?	
Household > 6.0	Yes
Work > 11.6	No

The analysis shows the project without mitigation would result in a less-than-significant impact for daily work VMT per employee and a *significant transportation impact for household* VMT per capita. However, it should be noted that the LADOT VMT calculator **does not** account for the presence of the under-construction Crenshaw line that will transform the site into a transit hub for the area.

Additional Transit VMT Reductions

Through discussions with LADOT staff, it is understood that Version 1.0 of the City of Los Angeles VMT Calculator applies appropriate transit reductions based on the project site location's proximity to existing transit. This version of the model, however, does not include reductions for any planned or future transit. The Project's location is unique for its proximity to both the existing LA Metro Expo Line as well as being directly on top of the Expo/Crenshaw station currently under construction as part of the Crenshaw/LAX Line. The transit construction directly adjacent to the site will improve transit access in the area, and therefore an additional transit reduction is recommended to the VMT Calculator. This additional application will more accurately represent transit trips for the Project.

The *California Air Pollution Control Officers Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures, August 2010* is a common resource for transportation practitioners to estimate a variety of VMT reduction credits. CAPCOA was used as a baseline to justify further reductions, and a total of **12.2%** additional transit reduction is recommended. This total comes from a variety of CAPCOA transportation measures and is summarized in Table 8-3. While there is no research identified that specifically looks at the quantitative impact of transit facility improvement as a standalone strategy, it can be reasonably assumed that the future rail and bus network in the immediate project vicinity and the Los Angeles region as a whole

will be drastically altered as part of multiple LA Metro projects under construction or funded and in progress. This is particularly apparent directly at the project site, where the future Crenshaw/LAX Line will intersect the existing Expo Line. This key transit hub will allow for residents to viably commute via transit in all directions throughout Los Angeles County, connecting to future transit lines such as the Purple Line extension as well as Los Angeles International Airport. For these large-scale regional implications, additional reduction factors were applied to supplement the CAPCOA measures.

Table 8-3 CAPCOA VMT Reduction Measures

Transit Improvement Measure	VMT Reduction
CAPCOA TST-2: Implement Transit Access Improvements (MP# LU-3.4.3)	Grouped Strategy
CAPCOA TST-3: Expand Transit Network (CEQA# MS-G3)	Up to 8.2%
CAPCOA TST-4: Increase Transit Service Frequency/Speed (CEQA# MS-G3)	Up to 2.5%
Additional expected reductions	2.5%
Total Additional Reductions to MXD Model	**12.2%**

In the LADOT VMT Model, transit improvement strategies affect both home-based work (HBW) production and home based other (HBO) production trips and subsequent VMT calculations. This methodology was carried forward in determining additional reduction factors due to the future transit conditions surrounding the project site. With the above referenced reductions factored into the VMT tool, a manual recalculation of HBW and HBO VMT was conducted and applied to the overall VMT calculations. The final adjusted per capita results with additional 12.2% transit reduction credit is displayed in Table 8-4.

Table 8-4 Additional transit reduction required to meet VMT threshold

MXD Trip Type	Additional Proposed Transit MXD Reduction	Total MXD Adjustment	New MXD VMT	TDM Adjustment	New Project VMT	New VMT Household per Capita (Population = 972)
Home Based Work Production	12.2%	-36.3%	2,975	-19.7%	2388	
Home Based Other Production	12.2%	-46.9%	4,290	-19.7%	3444	
			7,264		5832	**6.0**

With this additional VMT reduction outlined above, the final household per capita VMT for the Project is below the VMT impact threshold and therefore results in no significant impact to household VMT.

APPENDIX A

Intersection Level of Service (LOS) Calculations

APPENDIX B

Intersection Level of Service (LOS) Calculations With Recommended Mitigation Measures