

Section 3.6 | Traffic and Transportation

3.6.1 Introduction

This section describes the affected environment for traffic and transportation, the regulatory setting associated with traffic and transportation, the impacts on traffic and transportation that would result from the project, and the mitigation measures that would reduce these impacts.

The following impact determinations were made in the County of Los Angeles Initial Study Checklist for the proposed project.

- The project would not add 25 or more dwelling units to an area with known congestion problems (roadway or intersections).
- Inadequate access during an emergency (other than fire hazards) would not result in problems for emergency vehicles or residents/employees in the area.
- The congestion management program (CMP) Transportation Impact Analysis thresholds of 50 peak hour vehicles added by project traffic to a CMP highway system intersection or 150 peak hour trips added by project traffic to a mainline freeway link would not be exceeded.
- The project would not conflict with adopted policies, plans, or programs supporting alternative transportation facilities (e.g., bus, turnouts, bicycle racks).
- The project would not result in impacts associated with other traffic and transportation factors.

These issues are not discussed further in this section.

3.6.2 Regulatory Setting

3.6.2.1 Federal

No federal regulations directly apply to this project.

3.6.2.2 State

Other than CEQA, no state regulations directly apply to this project.

3.6.2.3 Regional & Local

Regional Transportation Plan

In May 2008, the Regional Council of the Southern California Association of Governments (SCAG) adopted the 2008 Regional Transportation Plan (RTP): Making the Connections. SCAG is the federally designated regional transportation planning agency responsible for the RTP. The 2008 RTP is a \$531.5 billion plan (nominal, or year-of-expenditure, dollars) that emphasizes the importance of system management, goods movement, and innovative transportation financing. It strives to provide

a regional investment framework to address the region's transportation and related challenges, and it looks to strategies that preserve and enhance the existing transportation system and integrate land use into transportation planning. (SCAG 2008a.)

In the 2008 RTP, \$920 million has been allocated for bicycle- and pedestrian-related projects, compared to \$720 million over the period of the 2004 RTP. The 2008 RTP also calls for the regional decision makers to continue to promote the integration of bicycle and walking modes of transportation in the transportation planning process and to take steps toward moving beyond conceptual planning and development to the implementation of plans and strategies. (SCAG 2008a.)

The Non-Motorized Transportation Report of the 2008 RTP emphasized the following policies to promote non-motorized transportation in the region (SCAG 2008a):

- Decrease bicyclists and pedestrian fatalities and injuries.
- Increase accommodation and planning for bicyclists and pedestrians.
- Increase bicycle and pedestrian use in the SCAG region as an alternative to vehicle trips.
- Encourage development of local non-motorized plans.
- Produce a comprehensive regional non-motorized plan.
- Funding.

Long Range Transportation Plan

The Los Angeles County Metropolitan Transportation Authority (Metro) 2009 Long Range Transportation Plan (Metro 2009) takes a three-decade look ahead to identify what transportation options best serve the County's needs and expectations. It also identifies the Metro Board-adopted public transportation and highway projects, funding forecasts over a 30-year timeframe, multimodal funding availability for the Call for Projects, subregional needs, and project performance measures. The 2009 plan also updates the 2001 Long Range Transportation Plan by charting the latest regional population growth patterns and projections, identifying the latest developments in technical expertise, and outlining the impact of Measure R, the half-cent County-wide sales tax increase approved by the voters in 2008 to fund traffic-relief projects. It also identifies other infrastructural projects that could be funded if new revenue sources become available.

The 2009 Long Range Transportation Plan also promotes the development of bicycle facilities and pedestrian improvements throughout the County. The 2009 plan will help implement the 2006 Metro Board-adopted Bicycle Transportation Strategic Plan, which outlines a bicycle infrastructure that improves overall mobility, air quality, and access to opportunities. It also shifts the focus in countywide bicycle planning from long arterial bikeways to improvements for bicycle access to 167 bike-transit hubs throughout the County. (Metro 2006.)

Congestion Management Program

As the Congestion Management Agency for Los Angeles County, Metro is responsible for implementing the CMP. State statute requires that a congestion management program be developed, adopted, and updated biennially (California Government Code Section 65089). Statutory elements of

the CMP include Highway and Roadway System monitoring, multi-modal system performance analysis, the Transportation Demand Management Program, the Land Use Analysis Program, and local conformance for all the County's jurisdictions. On October 28, 2010, the Metro Board adopted the 2010 CMP for Los Angeles County. The 2010 CMP summarizes the results of 18 years of CMP highway and transit monitoring and 15 years of monitoring local growth. CMP implementation guidelines for local jurisdictions are also contained in the 2010 CMP. (Metro 2009.)

General Plan

Each city and county in California is required to prepare and adopt a comprehensive, long-term general plan for the physical development of the community and any land outside the community's boundaries that may have an impact on the community's ability to plan for its future growth (California Government Code Section 65300). A general plan is the essential planning document: the "charter" or "constitution" for all future development within a community. A general plan must contain seven mandatory elements addressing land use, circulation, conservation, open space, noise, safety, and housing.

The State Complete Streets Act of 2008 requires a general plan to demonstrate how the county will provide for the routine accommodation of all users of a road or street, including pedestrians, bicyclists, users of public transit, motorists, children, seniors, and the disabled. The Mobility Element of the Draft 2035 General Plan Update addresses this requirement with policies and programs that consider all modes of travel, with the goal of making streets safer, more accessible, and more convenient for walking, riding a bike, or taking transit.

The Mobility Element of the Draft 2035 General Plan Update provides an overview of the transportation infrastructure and strategies for developing an efficient and multimodal transportation network. The element assesses the challenges and constraints of the County's transportation system and offers policy guidance to reach the County's long-term mobility goals. Two sub-elements—the Highway Plan and Bikeway Plan—supplement the Mobility Element. These plans establish policies for the roadway and bikeway systems in the unincorporated areas, which are coordinated with the networks in the County's 88 incorporated cities. The Draft 2035 General Plan Update also establishes a program to prepare a third sub-element, a Pedestrian Plan, with guidelines and standards to promote walkability and connectivity throughout the unincorporated areas. (Los Angeles County 2011a.)

The Mobility Element includes the following goals and policies that are related to the Bicycle Master Plan (Los Angeles County 2011a):

- Goal M 2: An efficient multimodal transportation system that serves the needs of all County residents.
 - Policy M 2.1: Expand transportation options throughout the County that reduce automobile dependence.
 - Policy M 2.6: Support alternative level of service (LOS) standards that account for a multi-modal transportation system.

- Goal M 3: Interconnected and safe bicycle and pedestrian-friendly streets, sidewalks, paths and trails.
 - Policy M 3.1: Design roads and intersections that protect pedestrians and bicyclists, and reduce motor vehicle accidents.
 - Policy M 3.2: Require sidewalks and bike paths or lanes to accommodate the existing and projected volume of pedestrian and bicycle activity, considering both the paved width and the unobstructed width available for walking.
 - Policy M 3.3: Connect pedestrian and bicycle paths to schools, public transportation, major employment centers, shopping centers, government buildings, residential neighborhoods, and other destinations.

3.6.3 Environmental Setting

This section discusses the existing conditions related to traffic and transportation in the study area (Los Angeles County). The County's transportation system consists of roads and highways, public transportation (bus and rail), nonmotorized facilities, airports, ports, and freight railroads.

3.6.3.1 Regional Freeway and Highway System

The County highway network consists of the State Highway System, which is composed of 915 freeway and highway miles and includes U.S. interstate freeways, state-maintained freeways, and highways, and county and city highways. This network spans the County and provides access to much of the mainland area, connecting all 88 cities and most unincorporated areas. The California Department of Transportation (Caltrans) is the state agency responsible for the maintenance of freeways and highways. Caltrans estimates that on average there are more than 100 million vehicle miles traveled per day in the County via the State Highway System (Los Angeles County 2011a).

3.6.3.2 Arterial Street System

The arterial street system provides access for local businesses and residents. In Los Angeles County, there are 2,206 miles of principal arterials and 2,954 miles of minor arterials (SCAG 2008b).

LACDPW is responsible for the design, construction, operation, maintenance, and repair of roads in the unincorporated areas, as well as in a number of local jurisdictions that contract with the County for these services. LACDPW maintains over 3,100 miles of major roads and local streets in the unincorporated areas and over 1,700 miles in 22 cities. This includes over 1,300 signalized intersections and 6,000 miles of striping. (Los Angeles County 2011a.)

3.6.3.3 Parking System

A limited number of public parking lots are maintained in the unincorporated areas by a variety of agencies, including Metro, the Department of Beaches and Harbors, and LACDPW. Metrolink maintains park-and-ride lots adjacent to commuter rail stops. The County owns and operates the

following four park-and-ride lots: Studio City (Ventura Boulevard), Pomona (Fairplex), San Dimas (Via Verde), and Acton (Acton/Vincent Grade Metrolink Station). (Los Angeles County 2011a.)

The County regulates on-street parking in certain high-traffic areas through restricted parking zones enforced by the Sheriff's Department and the California Highway Patrol. In addition, the Los Angeles Department of Regional Planning regulates parking for new developments by requiring an adequate number of spaces to meet anticipated demand. (Los Angeles County 2011a.)

3.6.3.4 Public Transportation System

The County is served by a large public transit system that includes heavy and light rail and various bus service options, such as dedicated transit-ways and bus rapid transit systems (Los Angeles County 2011a).

Rail

Metro operates the Metro Rail system, which is exclusively within the County. It consists of 17.4 miles of subway and 55.7 miles of light rail. The Metro Rail system consists of the following lines: Red, Purple, Blue, Green, and Gold. The hub of the system is in Downtown Los Angeles at Union Station. The Metro lines that serve the unincorporated areas include the Blue, Green, and Gold Lines. Blue Line stations located in the unincorporated areas are located at the intersections at Slauson Avenue, Florence Avenue, Firestone Boulevard, and Imperial Highway. The Green Line has stations within unincorporated areas at the intersections of Vermont Avenue and Hawthorne Boulevard. The 13.7-mile Gold Line connects Union Station to Pasadena, and the 6-mile Gold Line extension connects Union Station to East Los Angeles. Plans are underway to extend the Gold Line from Pasadena to Claremont by 2015. (Los Angeles County 2011a.)

Two additional rail service operators that provide services in the County are Metrolink and Amtrak. The Southern California Regional Rail Authority operates the 416-mile Metrolink commuter rail system, which has its hub at Union Station in Downtown Los Angeles and extends to Ventura, San Bernardino, Riverside, Orange, and San Diego Counties. Amtrak provides interstate service from points around the country to Union Station, as well as regional service between major cities throughout California. (Los Angeles County 2011a.)

Bus and Shuttle Services

Buses provide most of the public transit service in the County. The Metro bus system is the largest service provider in the country, with more than 2,000 buses operating on 185 routes. Metro operates the Metro Rapid Bus service, which runs on select surface street corridors with fewer stops and electronic signal switching devices to expedite traffic flow, and the Metro Express Bus service, which uses express bus routes for a portion of the route and the local or limited routes in other areas. The Orange Line is a fixed guideway bus rapid transitway and bike path on a 14.5-mile route along an east-west corridor in the southern portion of the San Fernando Valley. (Los Angeles County 2011a.)

In addition, regional and municipal operators provide bus services around the County. Examples of these operators include Foothill Transit, the City of Los Angeles DASH system, the City of Santa Monica's Big Blue Bus, and the Antelope Valley Transit Authority. (Los Angeles County 2011a.)

Furthermore, the County operates fixed route shuttle services in the following unincorporated areas: Hahn's Trolley and Shuttle service in Willowbrook; El Sol Shuttle service in East Los Angeles; Sunshine Shuttle service in South Whittier; Avocado Heights/Bassett/West Valinda Shuttle service in Avocado Heights, Bassett, and West Valinda; East Valinda Shuttle service in East Valinda; Edmund D. Edelman's Children's Court Shuttle service in East Los Angeles; Los Nietos Shuttle service in Los Nietos; and Acton/Agua Dulce Shuttle service in Acton and Agua Dulce. (Los Angeles County 2011a.)

Paratransit is an alternative mode of flexible transportation that does not follow fixed routes or schedules. The County operates several shuttle services in unincorporated areas. Demand-responsive paratransit contractors are used to meet the needs of seniors and mobility-impaired individuals living in the unincorporated areas. (Los Angeles County 2011a.)

3.6.3.5 Bicycle Facilities

All surfaced roadways in the County may be used by the bicycling public even though they are not all identified as bikeways (with the exception of some limited access facilities, such as freeways). The State Vehicle Code allows roadways to be used by bicyclists. However, the lack of public awareness and the safety concerns associated with road sharing create a need for bikeways with a grade separation, lane delineation, or designated trail/path construction for bicycle users throughout the County. The countywide bikeways network is composed of bikeways that are planned and maintained by multiple agencies and local jurisdictions.

Existing bikeways identified in the Draft Bicycle Master Plan include:

- 100.3 miles of Class I bike paths.
- 20.2 miles of Class II bike lanes.
- 23.5 miles of Class III bike routes.
- 7.9 miles of bicycle boulevards.

Bike paths, also called shared-use paths or multiuse paths, are paved rights-of-way for exclusive use by bicyclists, pedestrians, and other nonmotorized modes of travel. They are physically separated from vehicular traffic and can be constructed in roadway right-of-way or exclusive right-of-way. Most County bike paths are located along the creek and river channels, and along the beach. These facilities are often used for recreation but also provide important transportation connections. (Alta Planning + Design 2011.)

Bike lanes are defined by pavement striping and signage used to allocate a portion of a roadway for exclusive bicycle travel. Bike lanes are one-way facilities on either side of a roadway. Bike lanes are located adjacent to a curb where no on-street parking exists. Where on-street parking is present, bike lanes are striped to the left side of the parking lane. (Alta Planning + Design 2011.)

Bike routes provide shared use with motor vehicle traffic within the same travel lane. Designated by signs, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand. (Alta Planning + Design 2011.)

Bike boulevards are local roads or residential streets that have been enhanced with signage, traffic calming, and other treatments to prioritize bicycle travel. (Alta Planning + Design 2011.)

3.6.3.6 Pedestrian Facilities

The diversity of communities in the County creates distinct conditions, opportunities, and challenges for pedestrians. There are a number of trails and paths in the County that are available for use by pedestrians, such as sidewalks, hiking trails, overpasses, and underpasses. Together, these systems constitute a network for accommodating pedestrian travel throughout the County.

The Draft 2035 General Plan Update includes a program to prepare a Pedestrian Plan for the County that will set standards for sidewalks, street crossings, sidewalk continuity, street connectivity, and topography. The Pedestrian Plan will emphasize the connectivity of pedestrian paths to and from public transportation, major employment centers, shopping centers, and government buildings. (Los Angeles County 2011a.)

3.6.4 Project Impacts and Mitigation Measures

This section describes the impact analysis relating to traffic and transportation for the Bicycle Master Plan at the program level. It describes the methods used to determine the impacts of the project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, if necessary. Detailed analysis at the project level will determine the significance of impacts for individual Bicycle Master Plan projects and, if necessary, the applicability of mitigation measures.

3.6.4.1 Methods for Level-of-Service (LOS) Impact Analysis

LACDPW uses LOS to assess the congestion of roadways in the transportation system (Los Angeles County 2011a.). Based on a roadway's volume-to-capacity (v/c) ratio (the number of vehicles currently using the roadway compared to the ideal maximum number of vehicles that can efficiently use the roadway), a letter designation is assigned that represents the traffic flow conditions, or LOS. Letter designations A through F represent progressively declining traffic flow conditions. LOS designations indicate whether the roadways in the County are operating in excess of their intended capacity.

Table 3.6-1 provides the definitions for LOS A through F, which are based on the definitions in the 2000 Transportation Research Board Highway Capacity Manual.

Table 3.6-1. Department of Public Works Level of Service Definitions

LOS	Type of Flow	Delay	Maneuverability
A	Free flow	Little or no delay	Users are unaffected by other traffic; freedom of speed and movement, level of comfort, convenience and safety are excellent.
B	Stable flow	Short traffic delays	Users begin to notice other traffic; freedom of speed continues, but freedom to maneuver declines slightly.
C	Stable flow	Average traffic delays	Traffic may back up behind turning vehicles. Most drivers feel somewhat restricted. Traffic signals operate at maximum efficiency.
D	Approaching unstable flow	Long traffic delays	Maneuverability is severely limited during short periods when traffic backs up temporarily. Comfort, convenience, and safety are affected. Users wait one signal cycle to pass through a signalized intersection.
E	Unstable flow	Very long traffic delays	Traffic volumes are at or near capacity; users wait several cycles to pass through a signalized intersection.
F	Forced flow	Excessive delay	Traffic volumes exceed the capacity of the street and traffic queues develop. Stop-and-go traffic conditions predominate.

Source: Los Angeles County 2011a.

Acceptable LOS is determined on a case by case basis, but generally Level D is the desired minimum LOS in the County (Los Angeles County 2011a).

3.6.4.2 Thresholds of Significance

County LOS Significance Threshold

The County of Los Angeles has adopted significance criteria for signalized intersections and two-lane roadways. Generally, the County is concerned with adverse LOS impact on traffic if “traffic generated by a project considered alone or cumulatively with other related projects, when added to existing traffic volumes, exceeds certain capacity thresholds of an intersection or roadway, contributes to an unacceptable LOS, or exacerbates an existing congested condition.” (Los Angeles County 1997.)

Intersection

The Intersection Capacity Utilization and Critical Movement Analysis are two methods often used to assess existing and future LOS at intersections. The impact is considered significant if the project-related increase in the v/c ratio equals or exceeds the threshold shown in Table 3.6-2 below.

Table 3.6-2. Intersection LOS Significant Impact Threshold

Pre-Project		
LOS	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

Source: Los Angeles County 1997

Two-Lane Roadways

The project’s impact on two-lane roadways should be analyzed if those two-lane roadways are used for access. LOS service analysis contained in the Highway Capacity Manual, Chapter 8, Two-Lane Highways (Transportation Research Board 2000), should be used to evaluate the project’s impact. The project is deemed to have a significant impact on two-lane roadways when it adds the following percentages based on LOS of the pre-project conditions.

Table 3.6-3. Two-Lane Roadway LOS Significant Impact Threshold

Directional Splits	Total Capacity (PCPH)	Percentages Increase in Passenger Car Per Hour (PCPH) by Project Pre-Project LOS		
		C	D	E/F
50/50	2,800	4	2	1
60/40	2,650	4	2	1
70/30	2,500	4	2	1
80/20	2,300	4	2	1
90/10	2,100	4	2	1
100/0	2,000	4	2	1

Source: Los Angeles County 1997

CMP LOS Significance Threshold

The CMP transportation impact analysis guidelines establish that a significant project impact occurs when a CMP facility would be significantly impacted if the project increases v/c by 0.02 or greater and would cause the facility to operate at LOS F (v/c > 1.00); or if the facility is already at LOS F, a significant impact occurs when the proposed project increases v/c by 0.02 or greater (Metro 2010).

Initial Study Thresholds of Significance

An impact pertaining to traffic and transportation was considered significant if it would result in a “yes” answer to any of the following questions from the County of Los Angeles Initial Study Checklist.

- Will the project result in any hazardous traffic conditions?
- Will the project result in parking problems with a subsequent impact on traffic conditions?¹

3.6.4.3 Impacts and Mitigation Measures

Impact 3.6-1: Cause an increase in traffic that is substantial in relation to the existing traffic volumes and capacity of the roadway system (e.g., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections) or exceed, either individually or cumulatively, a LOS standard established by the County Congestion Management Agency for designated roadways or highways.

Construction

The construction of the bicycle facility improvements identified in the Bicycle Master Plan could result in a temporary increase in traffic volumes due to construction-generated traffic. In some cases, construction would require temporary road or lane closure, especially for projects requiring roadway widening, removal of parking, restriping, etc., which in turn would result in a decrease in roadway capacity and an increase of traffic on nearby roads. Reduced roadway capacity and an increase in construction-related congestion could result in temporary localized increases in traffic congestion that exceed applicable LOS standards. Therefore, the construction impact on transportation operations is considered significant. (Note: Some projects in the Bicycle Master Plan would be constructed as part of larger roadway rehabilitation and improvement projects, with the traffic impacts accounted for in these larger projects.)

Operation

Overall, the Bicycle Master Plan would encourage the use of bicycles instead of cars; therefore, reducing the number of (automobile) vehicles trips and the total vehicle miles traveled (VMT) in the County. Estimates provided in Appendix B of the Plan and summarized in Table 3.6-4 show that the total 2030 VMT would be reduced by over 155,000 every weekday as a result of the Plan implementation. This would be achieved through travelers changing mode from driving to bicycling.

¹ In 2002, the California Appellate Court found that parking impacts *per se* are social, not environmental, impacts, and thus not subject to CEQA review. However, the court also recognized that secondary impacts that would result from the lack or removal of parking may be subject to CEQA review, such as congestion, air quality, or land use impacts. (*San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* 2002.)

Table 3.6-4. Estimated VMT Reductions per Weekday (2030)

Planning Area	VMT Reduction
Antelope Valley	8,597
East San Gabriel Valley	43,994
Gateway	16,574
Metro	31,660
San Fernando Valley	6,928
Santa Clarita Valley	12,498
Santa Monica Mountains	3,535
South Bay	8,331
West San Gabriel Valley	16,783
Westside	6,473
TOTAL	155,373
Source: Bicycle Master Plan Appendix B, Tables B1-10.	

Therefore, in general, the implementation of the Plan would result in reduced vehicular traffic volumes on roadways and improved traffic performances. However, some of the proposed Class II bike lanes would require the removal of one or more travel lanes. According to Table 5-2 of the Plan, 44.3 miles of proposed bikeways may require travel lane removals, or “road diets.” A list of potential road diet projects is presented in Table 3.6-5. Of these road diet locations, Firestone Boulevard between Central Avenue and Alameda Street is the only proposed bikeway classified as a CMP principal arterial.

These projects would involve vehicular travel lane reduction to add bike lanes and could potentially affect traffic operations and level of service at these locations. Therefore, the traffic operation impacts at these road diet locations are considered significant.

Table 3.6-5. Potential Road Diet Locations

ID	Planning Area – Street Location	From	To	Miles
East San Gabriel Valley				
8	Glendora Ave	Arrow Hwy.	Cienega Ave	0.3
29	Gale Ave	7th Ave.	Stimson Ave	2.0
41	Valley Center Ave	Arrow Hwy.	Badillo St	0.6
Gateway				
1	Mills Ave.	Telegraph Rd.	Lambert Rd.	1.4
2	Compton Blvd.	Harris Ave.	LA River Bike Path	0.8
3	Colima Rd.	Poulter Dr.	Mulberry Ave.	0.3
12	1st Ave.	Lambert Ave.	Imperial Hwy	0.8

ID	Planning Area – Street Location	From	To	Miles
12	Rosecrans Ave.	Butler Ave.	Gibson Ave.	0.5
16	Lambert Rd.	Mills Ave.	Scott Ave.	1.3
Metro				
1	Cesar Chavez Ave	Mednik Ave.	Vancouver Ave	0.4
3	Normandie Ave.	98th St.	El Segundo Blvd.	2.1
4	Florence Ave.	Central Ave.	Mountain View Ave.	2.2
5	Firestone Blvd.	Central Ave.	Alameda St.	1.4
10	El Segundo Blvd.	Figuroa St.	Central Ave.	1.6
15	Holmes Ave.	Slauson Ave.	Gage Ave.	0.5
16	Compton Ave.	Slauson Ave.	92nd St.	2.5
17	Nadeau St./ Broadway	Central Ave.	State St.	2.6
20	Hooper Ave.	Slauson Ave.	95th St.	2.7
24	Olympic Blvd	Indiana St.	Concourse Ave	3.3
28	120th St.	Central Ave.	Wilmington Ave.	0.8
29	Eastern Ave	0.1 mile south of Whiteside St.	Olympic Blvd	3.1
30	Imperial Hwy.	Central Ave.	Wilmington.	0.9
35	1st Ave.	Indiana St.	Eastern Ave.	1.8
42	City Terrace Dr	Hazard Ave.	Eastern Ave	0.4
48	120th St.	Western Ave.	Vermont Ave	
San Fernando Valley				
6	Ocean View Blvd.	Foothill Blvd.	Honolulu Ave.	0.9
South Bay				
6	Aviation Blvd	Imperial Hwy.	154th St.	0.6
15	223rd St.	Normandie Ave.	Vermont Ave.	0.5
18	El Segundo Blvd.	Isis Ave.	Inglewood Ave.	0.8
22	Inglewood Ave.	El Segundo Blvd.	Rosecrans Ave.	1.0
West San Gabriel Valley				
38	Washington Blvd.	Belford Dr.	Altadena Dr.	0.7
39	Temple City Blvd.	Duarte Rd.	Lemon Ave.	0.5
40	California Blvd.	0.1 mile east of Brightside Ln.	Michillinda Ave.	1.0
Westside				
8	Overhill Dr.	Stocker St.	Slauson Ave.	0.7
11	Angeles Vista Blvd.	Slauson Ave.	Vernon Ave.	1.7
Source: Corbett pers. comm.				

Mitigation Measures

Detailed analysis of traffic impacts will be required prior to implementation of individual Bicycle Master Plan projects that would require closure of lanes, widening of existing roadways, or other changes to a roadway that would affect traffic. For individual projects, including road diets (removal of vehicular lanes to accommodate bicycle lanes), a detailed traffic study will be conducted during the project-level environmental review. This analysis will determine the exact nature and extent of anticipated traffic impacts based on existing and projected future traffic volumes, speeds, and amount of heavy vehicle traffic.

MM 3.6-1: Implement a Traffic Control Plan.

For projects requiring significant construction within existing streets, lane closures, removal of parking, or similar traffic disruptions, temporary traffic control during construction will meet the requirements of the California Manual on Traffic Control Devices (CA-MUTCD). Daytime closures will be covered by the typical applications shown in Chapter 6 of the manual. Overnight closures, long-term closures, and detours will require a Traffic Control Plan that will be prepared as part of the project design package according to CA-MUTCD requirements. The Traffic Control Plan may include, but is not limited to, the following elements. Note that some of these elements may not be feasible or appropriate in all circumstances. The project-level environmental analysis will identify the appropriate measures for each project.

- Provide a roadway layout showing the location of construction activity and surrounding roadways to be used as detour routes, including special signage.
- Establish detour routes with local jurisdictions so as to minimize disturbance of local traffic conditions; review potential detour routes to make sure adequate capacity is available.
- Avoid creating additional delay at intersections currently operating at congested conditions, either by choosing routes that avoid these locations, or constructing during non-peak times of day.
- Maintain access to existing residences at all times.
- Work with each affected jurisdiction's police and fire departments to coordinate all construction-related plans and minimize disturbance to local emergency service providers; ensure that alternative evacuation and emergency routes are designed to maintain response times during construction.
- Provide adequate off-street parking areas at designated staging areas for construction-related vehicles.
- Work with local and regional transit providers to maintain access and circulation routes to existing stops and stations during construction phases, and to identify appropriate detours to provide traffic rerouting during construction while minimizing disturbance to bus services.
- Work with local and regional agencies to maintain continuity and operation of existing pedestrian and bicycle facilities during construction.

MM 3.6-2: Implement site-specific traffic study recommendations.

For individual Bicycle Master Plan projects that would remove travel lane(s), if the site-specific traffic study concludes that the removal of lane(s) would cause a roadway section or intersection to operate at an unacceptable LOS, one of the following will occur:

- The project will be redesigned to maintain an acceptable LOS.
- Appropriate mitigation measures will be implemented to maintain an acceptable LOS.
- A statement of overriding considerations will be adopted by the County.
- The project will be dropped.

Level of Significance after Mitigation

With implementation of MM 3.6-1 and MM 3.6-2, impacts would be less than significant.

Impact 3.6-2: Result in hazardous traffic conditions.**Construction**

The construction of the bicycle facility improvements could result in temporary sidewalk or roadway closures and could create gaps in pedestrian or bicycle routes and interfere with safe travel, but usually only when the bicycle facility improvements are part of a larger road rehabilitation or improvement project. Construction activities would also increase the mix of heavy construction vehicles with general purpose traffic and could result in an increase in safety hazards due to a higher proportion of heavy trucks. Therefore, the impact of construction-generated traffic on safety could be significant for projects that would require roadway restrictions, lane closures, and similar impacts. (The Traffic Control Plan called for in MM 3.6-1 would reduce any safety impacts to less-than-significant levels.)

Operation

All bikeways to be constructed as part of Plan implementation would be required at a minimum to meet the design guidelines outlined in Chapter 1000 of the Highway Design Manual (Caltrans 2009) and in the California Manual on Uniform Traffic Control Devices (Caltrans 2010). One of the key principles for these bicycle guidelines is that the bicycling environment should be safe. On- and off-road bikeways should be designed and built to be free of hazards and to minimize conflicts with external factors such as noise, vehicular traffic, and protruding architectural elements.

Class I Bike Paths

In general, safety is improved with the creation of Class I bike paths due to the effective separation of bicyclists (and pedestrians) from motorized circulation. Other ways to enhance safety through design for Class I bike paths include the following:

- Identify and address potential safety and security issues up front.
- Limit the number of places where bicyclists need to cross streets, railroads, or driveways.

- Whenever possible, and especially where heavy use can be expected, separate bicycle paths and pedestrian walkways should be provided to reduce bicycle/pedestrian conflicts.
- Separate users through one or more of the following: barrier separation (vegetated buffers or barriers, elevation changes, walls, fences, railings, and bollards), distance separation, centerline striping, different surfaces, and user behavior guidance signage.
- Terminate the path where it is easily accessible to and from the street system, preferably at a controlled intersection or at the beginning of a dead-end street. If poorly designed, the point where the path joins the street system can put pedestrians and cyclists in a position where motor vehicle drivers do not expect them, resulting in potential safety issues.

While at-grade crossings create a potential hazard between Class I bike path users and motorists, properly designed crossings can meet traffic and safety standards. Appendix F of the Bicycle Master Plan presents path/roadway at-grade crossing recommendations² based on roadway type, average daily traffic volume, and speed limit.

Potential treatments include:

- Type 1: Marked/Unsignalized: Uncontrolled crossings include trail crossings of residential, collector, and sometimes major arterial streets or railroad tracks.
- Type 1+: Marked/Enhanced: Unsignalized intersections can provide additional visibility with flashing beacons and other treatments.
- Type 2: Route Users to Existing Signalized Intersection: Trails that emerge near existing intersections may be routed to these locations, provided that sufficient protection is provided at the existing intersection.
- Type 3: Signalized/Controlled: Trail crossings that require signals or other control measures due to traffic volumes, speeds, and trail usage.

Grade-separated crossings (bridges or undercrossings) provide the maximum level of traffic safety but are more expensive, require maintenance and lighting, and can generate other public safety issues.

Class II Bike Lanes, Class III Bike Routes, and Bicycle Boulevards

Adoption of the Bicycle Master Plan would increase the number of bicyclists using existing roadways within the County, thereby increasing the risk of bicycle/vehicle conflicts or accidents on roadways. However, these potential safety issues would be addressed through proper design, as well as an education, training, and enforcement programs. (Note: Other studies have suggested that newly designated bikeways and bike lanes encourage more bike usage and reduce the potential conflicts between cars and bikes [City of Cambridge Community Development Department 2011], and that the frequency of bicycle collisions has an inverse relationship to bicycling rates, meaning that more bicycles on the road can equate to lower crash rates [Jacobsen 2003]).

² This table is based on information contained in the U.S. Department of Transportation Federal Highway Administration Study, "Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations," February 2002.

Following guidelines from the California Manual on Uniform Traffic Control Devices, all these facilities would include signage and striping that would contribute to enhanced traffic safety by providing additional guidance and information to drivers and bicyclists. Signage and striping would improve wayfinding for bicyclists, alert drivers to the potential presence of bicyclists, and help different types of users to better share the available roadway.

Education programs described in Chapter 4.1 of the Bicycle Master Plan contribute to enhancing safety by ensuring that bicyclists, pedestrians, and motorists understand how to travel safely in the roadway environment and are cognizant of the laws that govern these modes of transportation. The programs include: bicycle skills courses for the general public, youth bicycle safety education in classrooms, bicycle rodeos for children, and public service announcement campaigns such as “Share the Path” awareness campaigns for bike path users. Safety is also the main focus of the “suggested biking and walking route to school maps” that are prepared by the County to guide students to walk and bicycle along the safest routes to school.

Enforcement programs are also described in Chapter 4.1 of the Bicycle Master Plan. These programs contribute to enhancing safety by targeting unsafe bicyclist and motorist behaviors and enforcing laws that reduce bicycle/motor vehicle collisions and conflicts.

With the implementation of the measures included in the Plan—following standard design guidelines and conducting education and enforcement programs—this impact is considered less than significant.

Mitigation Measures

MM-3.6-1 (Implement a Traffic Control Plan) will mitigate the construction impact on safety. No mitigation measure is required for the operation impact.

Level of Significance after Mitigation

With implementation of MM 3.6-1, impacts would be less than significant.

Impact 3.6-3: Result in Parking Problems with a Subsequent Impact on Traffic Conditions.

Construction

Construction activities could increase parking demand in the project vicinity and could result in parking demand exceeding the available supply. Therefore, the impact of construction-generated traffic on parking demand is considered significant.

Operation

The Bicycle Master Plan would encourage the use of bicycles instead of cars, thereby reducing the demand for parking. However, the construction of bike lanes proposed in the Plan may result in a permanent loss of on-street parking at specific locations, which may result in shortage of parking supply in these areas. This impact is considered substantial and significant.

Table 3.6-6 below shows potential locations where existing parking may have to be removed for implementation of the proposed Class II bike lanes.

3.6-6. Potential Locations of On-street Parking Removal

ID	Street	From	To	Length (miles)
East San Gabriel Valley				
12	Fairway Dr. / Brea Canyon Cut Off Rd.	Walnut Rd.	Bickford Dr.	1.0
22	Halliburton Rd.	Hacienda Blvd.	Stimson Ave.	0.2
27	Cam Del Sur	Vallecito Dr.	Colima Rd.	0.9
42	7 th Ave.	Clark Ave.	Beech Hill Dr.	1.3
Gateway				
1	Mills Ave.	Telegraph Rd.	Lambert Rd.	1.4
7	Colima Rd.	Poulter Dr.	Leffingwell Rd.	0.3
13	1 st Ave.	Lambert Rd.	Imperial Hwy.	0.8
20	Leffingwell Rd.	Imperial Hwy.	Scott Ave.	3
Metro				
23	Avalon Blvd.	121 st St.	E. Alondra Blvd.	2.5
33	El Segundo Blvd.	Wilmington Ave.	Alameda St.	0.9
43	Central Ave.	121 st St.	127 th St.	1.0
South Bay				
2	Redondo Beach Blvd.	Prairie Ave.	Crenshaw Blvd.	1.2
10	Marine Ave.	Prairie Ave.	Crenshaw Blvd.	0.9
17	Vermont Ave.	190 th St.	Lomita Blvd.	3.7
West San Gabriel Valley				
9	Colorado Blvd.	Kinneola Ave.	Michillinda Ave.	1.1
10	Huntington Dr.	San Gabriel Blvd.	Michillinda Ave.	1.4
31	Duarte Rd.	San Gabriel Blvd.	Sultana Ave.	1.0
36	Longden Ave.	San Gabriel Blvd.	Rosemead Blvd.	1.0
Westside				
10	Centinela Ave.	Green Valley Cir.	La Tijera Blvd.	0.9
12	Fairfax Ave.	Stocker St.	W 57 th St.	0.6
Source: Corbett pers. comm.				

Mitigation Measures

MM-3.6-1 (Implement a Traffic Control Plan) will mitigate the construction impact related to parking.

Detailed analysis of impacts from removal of parking will be required prior to implementation of individual Bicycle Master Plan projects that would require removal of parking lanes. This study will determine the exact number of parking spaces that would be removed based on site conditions. Parking removal is not recommended in locations where land uses generate a high demand for parking that is not adequately served by off-street parking facilities. The parking study findings will inform the decision-making process regarding design and implementation of each proposed project.

MM 3.6-3: Implement site-specific parking study recommendations.

For individual Bicycle Master Plan projects that would require removal of parking lanes, the recommendations of the site-specific parking study will be implemented. In some cases, parking removal could be recommended on only one side of the roadway. On streets where parking is at a premium and the roadway width constrains bicycle lane implementation, a Class III bike route could be considered instead of a Class II bicycle lane.

Level of Significance after Mitigation

With implementation of MM 3.6-1 and MM 3.6-3, impacts would be less than significant.

3.6.5 Cumulative

Construction and operation of the proposed bicycle network has the potential to result in impacts with respect to increasing traffic that is substantial in relation to existing traffic volumes or roadway capacity, increasing hazards in a design feature, adversely affecting emergency access, and resulting in inadequate parking. As discussed above, these impacts would be reduced to less-than-significant levels with implementation of the recommended mitigation measures. The extent to which the Plan would contribute to a cumulatively significant impact depends on how well the impact can be mitigated at a specific project location. On a regional scale, implementation of the plan would result in fewer VMT, which is anticipated to improve traffic and transportation congestion.