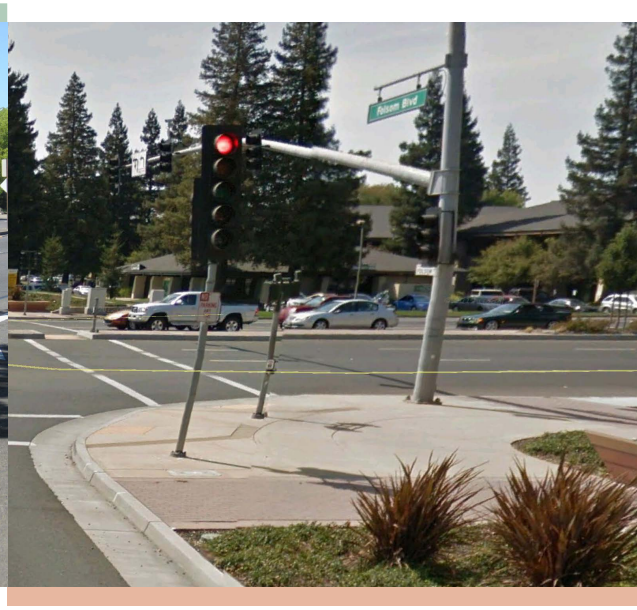
Appendix 6

TRAFFIC REPORT

Final Transportation Study

Folsom Boulevard Reclassification to Smart Growth Street



Submitted To:

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August, 2013

TRANSPORTATION IMPACT STUDY

FOR FOLSOM BOULEVARD RECLASSIFICATION TO SMART GROWTH STREET

This report was prepared under my direction and responsible charge. I attest to the technical information contained herein and have judged the qualification of any technical specialists providing engineering data upon which recommendations, conclusions, and decisions are based.

Bob Grandy 8-27-2013

Bob Grandy, P.E. Date

Registered Professional Traffic Engineer

Fehr & Peers

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EXECUTIVE SUMMARY

This study evaluates the potential impacts of the proposed reclassification of Folsom Boulevard between South Watt Avenue and Bradshaw Road from a six-lane thoroughfare to a "Smart Growth Street." This proposed amendment to the Sacramento County General Plan (November 9, 2011) would effectively retain the existing number of four travel lanes on this approximately 2.5 mile segment of Folsom Boulevard, and match the future number of travel lanes planned for the roadway within adjacent jurisdictions. Currently, the County's Transportation Plan identifies the adjacent segments of Folsom Boulevard located west of South Watt Avenue and east of Bradshaw Road as four lane arterial roadways (located in the City of Sacramento and the City of Rancho Cordova, respectively), but calls for the widening of the portion of the roadway located within unincorporated Sacramento County to six travel lanes prior to the year 2030.

EXISTING CONDITIONS

Seven intersections in the vicinity of the reclassification were selected for analysis during the weekday AM and PM peak hours, in addition to the parallel segment of U.S. Highway 50 (US 50). Five roadway segments (located along Folsom Boulevard and the parallel La Riviera Boulevard) were evaluated under daily conditions. All intersections operate at LOS D or better during the AM peak hour, with five of the seven study intersections operating at LOS B. With the exception of the Folsom Boulevard/South Watt Avenue intersection, all study intersections currently operate at LOS C or better during the PM peak hour. The Folsom Boulevard/South Watt Avenue intersection operates at LOS F during the PM peak hour. All study roadway segments and freeway facilities currently operate at LOS E or better during the study time periods.

EXISTING PLUS PROJECT CONDITIONS

Since Folsom Boulevard is currently a four-lane facility, and the project would reclassify Folsom Boulevard to a four-lane facility, no changes to traffic volumes would occur under Existing Plus Project Conditions. Therefore, the Existing Plus Project operations analysis results are identical to the results presented for Existing Conditions. Project-specific impacts to the study intersections, roadway segments, and freeway segment are considered less than significant.

CUMULATIVE CONDITIONS

Traffic forecasts were developed for the study facilities under cumulative year (2035) conditions. With the exception of the Folsom Boulevard/South Watt Avenue intersection, all study intersections are expected to operate at LOS C or better under Cumulative No Project and Plus Project conditions. Due to forecasted increases in traffic volume along South Watt Avenue and Folsom Boulevard, the Folsom Boulevard/South Watt Avenue intersection is expected to operate at LOS F during both the AM and PM peak hours. Although the project would result in an increase in delay at this location during the PM peak hour, the increase is less than five seconds. Therefore, this increase in delay does not constitute a project impact. All cumulative impacts to the study intersections are considered less than significant.

All study roadway segments of Folsom Boulevard would operate at LOS B or better under Cumulative No Project conditions, and LOS D or better under Cumulative Plus Project conditions. Due to a slight increase in the forecasted traffic volume along La Rivera Drive by the year 2035, the segment of La Riviera Drive located to the east of Watt Avenue is expected to operate at LOS F. The segment of La Riviera Drive located to the east of Watt Avenue would continue to operate at LOS F with the implementation of the Proposed Project; however, the proposed project does not result in an increase in the volume to capacity ratio of greater than 0.05. Therefore, all cumulative impacts to the study roadway segments are considered less than significant.

All freeway segments would not experience any degradation in operations between Cumulative No Project and Cumulative Plus Project conditions. Therefore, cumulative impacts to freeway facilities are considered less than significant.

All cumulative impacts to bicycle, pedestrian, and transit facilities are considered less than significant.

1. INTRODUCTION

This study evaluates the potential impacts of the proposed reclassification of Folsom Boulevard between South Watt Avenue and Bradshaw Road from a six-lane thoroughfare to a "Smart Growth Street." This proposed amendment to the *Sacramento County General Plan* (November 9, 2011) would effectively retain the existing number of four travel lanes on this approximately 2.5 mile segment of Folsom Boulevard, and match the future number of travel lanes planned for the roadway within adjacent jurisdictions. Currently, the County's Transportation Plan identifies the adjacent segments of Folsom Boulevard located west of South Watt Avenue and east of Bradshaw Road as four lane arterial roadways (located in the City of Sacramento and the City of Rancho Cordova, respectively), but calls for the widening of the portion of the roadway located within unincorporated Sacramento County to six travel lanes prior to the year 2030.

As defined in the General Plan, Smart Growth Streets "enable safe and efficient mobility and access for all users while positively contributing to the adjacent corridor, surrounding community and natural environment."[1] Streets with this designation attempt to balance the needs of multiple modes of travel, while streets designated as thoroughfares prioritize the efficient movement of motor vehicles to provide for a high level of mobility for through-traffic. Though Sacramento County is committed to building all streets as "complete streets" that enable access and mobility for all users of all transportation modes, planning for roadways with the Smart Growth Street designation takes a more "holistic view of the street, the adjacent corridor, the surrounding community and the natural environment, while allowing for more flexibility in the design of street and corridor improvements."[2]

To evaluate potential impacts as a result of this proposed reclassification, this study evaluates the surrounding transportation system under the following scenarios:

- **Existing Conditions:** This scenario documents the transportation system as it presently exists within the study area.
- **Existing Plus Project Conditions:** This scenario examines the near-term implications of the reclassification of Folsom Boulevard between South Watt Avenue and Bradshaw Road to a Smart Growth Street.

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[1] Sacramento County General Plan Circulation Element, p. 34.

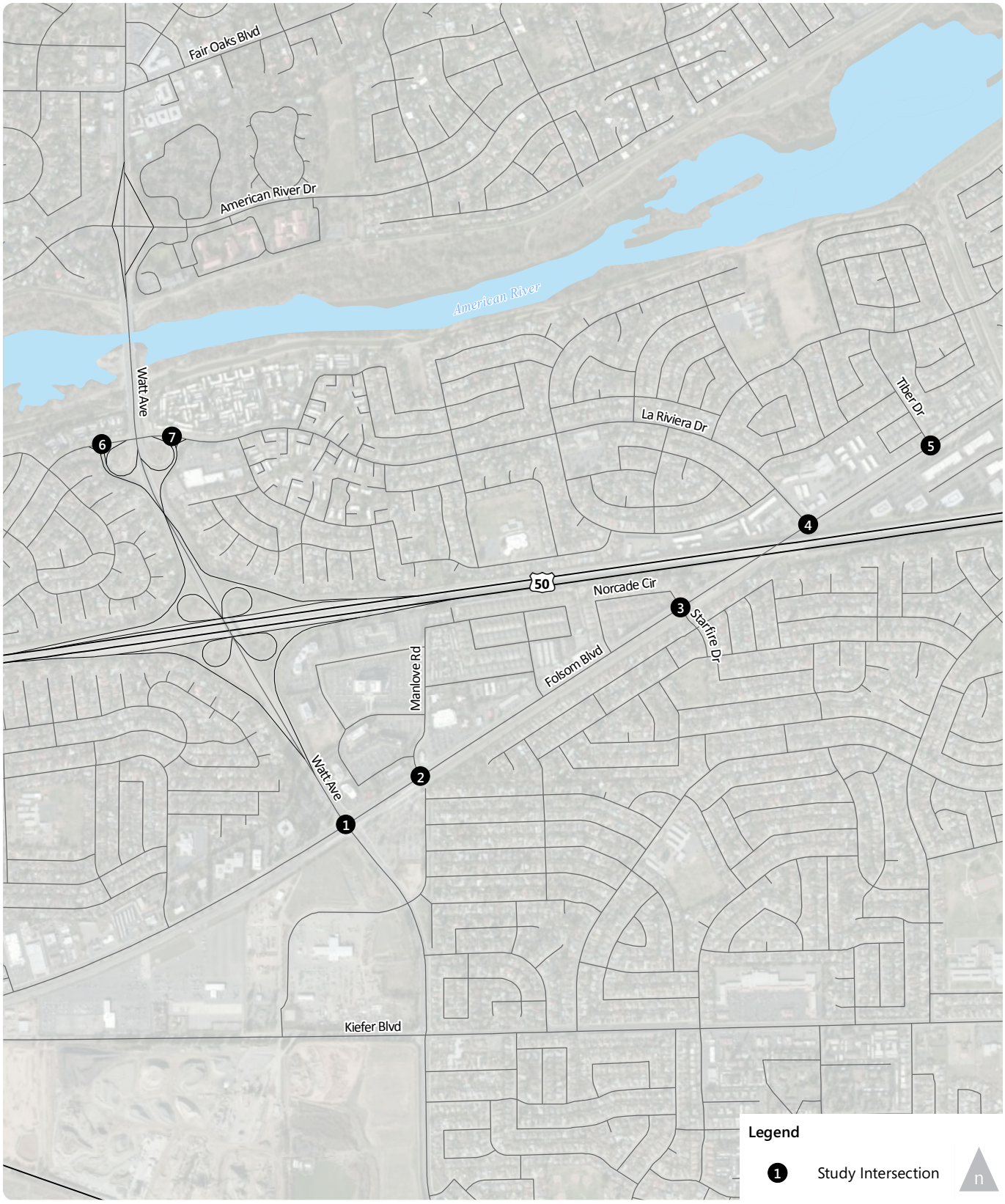
[2] Sacramento County General Plan Circulation Element, p. 35.

- **Cumulative No Project Conditions:** This scenario evaluates the transportation system under year 2035 conditions with Folsom Boulevard as a six-lane thoroughfare between South Watt Avenue and Bradshaw Road, as currently designated in the General Plan.
- **Cumulative Plus Project Conditions:** This scenario evaluates the transportation system under year 2035 conditions with Folsom Boulevard as a four-lane Smart Growth Street between South Watt Avenue and Bradshaw Road.

STUDY AREA

The study area was selected based on the proposed extent of the project, and incorporates transportation facilities likely to experience changes in travel patterns as a result of the implementation of the project. Per Sacramento County's Traffic Impact Analysis Guidelines (July 2004), the study locations were submitted for review and approval by the Department of Transportation prior to commencing the study.

Folsom Boulevard serves as the primary east-west local roadway backbone of within the study area, which is shown in Figure 1. This roadway has two travel lanes in either direction with a center two-way left-turn turn lane, and carries 18,000 to 25,000 vehicles per day between South Watt Avenue and Bradshaw Road. Folsom Boulevard runs parallel to two major regional transportation facilities – U.S. Highway 50 (US 50) and Regional Transit's (RT) Gold Line.



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STUDY AREA

FIGURE 1

Study Intersections

The following seven intersections were selected for study as part of the transportation analysis:

1. Folsom Boulevard/South Watt Avenue
2. Folsom Boulevard/Manlove Road
3. Folsom Boulevard/Tiber Drive
4. Folsom Boulevard/Starfire Drive
5. Folsom Boulevard/La Riviera Drive
6. La Riviera Drive/northbound Watt Avenue on-ramp
7. La Riviera Drive/southbound Watt Avenue on-ramp

Study Roadway Segments

The following five roadway segments were selected for study as part of the transportation analysis:

1. Folsom Boulevard – South Watt Avenue to Manlove Road
2. Folsom Boulevard – Starfire Drive to LaRiviera Drive
3. Folsom Boulevard – Tiber Drive to Mayhew Road
4. La Riviera Drive – Folsom Boulevard to Tuolumne Drive
5. La Riviera Drive – East of northbound Watt Avenue ramps

Freeway Segment

The following freeway segment was selected for study as part of the transportation analysis:

1. US 50 – Mainline segment east of the Watt Avenue interchange

ANALYSIS METHODOLOGY

This section discusses the methodologies used to determine the impacts of the project alternatives on the surrounding transportation system. These methodologies incorporate the concept of level of service (LOS). Level of service is a qualitative measure of traffic operating conditions, whereby a letter grade, from A to F is assigned. These grades represent the perspective of drivers and are an

indication of the comfort and convenience associated with driving. In general, LOS A represents free-flow conditions, and LOS F represents severe delay under stop-and-go conditions.

Intersections

All study intersections were analyzed using Synchro (Version 7) traffic analysis software. Synchro applies the methodologies presented in the Highway Capacity Manual (Transportation Research Board, 2000). The HCM methodology determines the LOS at intersections by comparing the average control delay per vehicle at the intersection to the thresholds shown in Table 1.

TABLE 1:
INTERSECTION LEVEL OF SERVICE DEFINITIONS – SIGNALIZED INTERSECTIONS

Level of Service	Average Control Delay Per Vehicle (Seconds)	Description
A	≤ 10.0	Operations with very low delay occurring with favorable progression and/or short cycle lengths.
B	10.1 to 20.0	Operations with low delay occurring with good progression and/or short cycle lengths.
C	20.1 to 35.0	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.
D	35.1 to 55.0	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop and individual cycle failures are noticeable.
E	55.1 to 80.0	Operations with high delay values indicating poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.
F	> 80.0	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.

Source: *Highway Capacity Manual* (Transportation Research Board, 2000)

Detailed Assumptions and Methodologies

- Per HCM procedures, the level of service (LOS) for signalized intersections was based on the average control delay for all vehicles.
- Intersections were analyzed using the most up-to-date traffic signal timings provided by Sacramento County.

- Intersections were analyzed with a peak hour factor (PHF) of 1.0 per the Sacramento County Traffic Impact Analysis Guidelines (July 2004).
- Intersection peak hour heavy vehicle[3] percentages were set at 2 percent based on field observations.

Roadway Segments

Roadway segment operations were analyzed using daily traffic volume LOS thresholds. Table 2 displays the daily traffic volume thresholds for roadway segments for each LOS category included in this study, as documented in the Sacramento County General Plan.

TABLE 2:
ROADWAY SEGMENT THRESHOLDS

Lanes	Facility Type	Levels of Service				
		A	B	C	D	E
3	Residential Collector w/ frontage	2,400	4,800	7,200	9,600	12,000
4	Residential Collector w/ frontage	3,200	6,400	9,600	12,800	16,000
4	Arterial, moderate access control	21,600	25,200	28,800	32,400	36,000
6	Arterial, moderate access control	32,400	37,800	43,200	48,600	54,000

Source: Traffic Impact Analysis Guidelines (County of Sacramento, July 2004).

Freeway Segments

Per Caltrans standards, the freeway ramps and mainline were analyzed using procedures from the Highway Capacity Manual, 2010. This procedure determines the LOS based on the computed

[3] As defined by the *Highway Capacity Manual*, a heavy vehicle is any "vehicle with more than four wheels touching the pavement during normal operation."

density, which is expressed in passenger cars per lane per mile. Table 3 displays the density ranges associated with each LOS category for basic segments and ramp merge/diverge movements.

TABLE 3:
FREEWAY LEVEL OF SERVICE DEFINITIONS – MAINLINE SEGMENTS

Level of Service	Density (Passenger Cars per Mile per Lane)
A	< 11
B	> 11 to 18
C	> 18 to 26
D	> 26 to 35
E	> 35 to 45
F	> 45 or any v_d/c ratio > 1.00[1]

Notes: [1] v_d/c ratio = demand flow rate divided by the capacity of a given segment
Source: Exhibit 10-7 of 2010 HCM

Based on data obtained from Caltrans, the peak hour heavy vehicle percentage for all freeway facilities was set at 4 percent, equal to the heavy vehicle percentage for US 50 within the study area.

SIGNIFICANCE CRITERIA

In accordance with CEQA, the lead agency evaluates the effects of a proposed project to determine if they could result in significant adverse impacts on the environment. The standards of significance in this analysis are based upon the thresholds found in Sacramento County's Traffic Impact Analysis Guidelines (July 2004). For the purposes of this analysis, an impact is considered significant if implementation of the project would result in any of the following:

Signalized Intersections:

- An intersection operating at an acceptable LOS (without the project) to deteriorate to an unacceptable LOS (with the project).
- An increase in control delay of more than five seconds at an intersection already operating at an unacceptable LOS without the project.

Unsignalized Intersections:

- An intersection movement/approach operating at an acceptable LOS (without the project) to deteriorate to an unacceptable LOS (with the project), and also cause the intersection to meet a traffic signal warrant.
- An increase in control delay of more than five seconds at an intersection approach/movement operating at an unacceptable LOS without the project, and also cause the intersection to meet a traffic signal warrant.

Roadway Segments:

- A roadway segment operating at an acceptable LOS (without the project) to deteriorate to an unacceptable LOS (with the project).
- An increase in the volume/capacity ratio of more than 0.05 on a roadway segment already operating at an unacceptable LOS without the project.

Freeway Segments:

- A freeway segment operating at an acceptable LOS (without the project) to deteriorate to an unacceptable LOS (with the project) according to the LOS threshold defined in the Caltrans Corridor System Management Plan for that facility.

Bicycle and Pedestrian Facilities:

- Eliminate or adversely affect an existing bikeway or pedestrian facility in a way that would discourage its use.
- Interfere with the implementation of a planned bikeway as shown in the Bicycle Master Plan, or conflict with the Pedestrian Master Plan.
- Result in unsafe conditions for bicyclists or pedestrians, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflict.

Safety:

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Policy CI-9 contained in the Circulation Element of the *Sacramento County General Plan* (amended November 9, 2011) sets forth definitions for what is considered an acceptable level of service. The following excerpt from the level of service policy is relevant to this study:

CI-9 Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways, unless it is infeasible to implement project alternatives or mitigation measure that would achieve LOS D on rural roadways or LOS E on urban roadways. The urban areas are those areas within the Urban Service Boundary as shown in the Land Use Element of the Sacramento County General Plan. The areas outside the Urban Service Boundary are considered rural.

All seven study intersections and five roadway segments are located within the Urban Service Boundary identified in the General Plan. Therefore, the LOS E standard set forth in Policy CI-9 applies to these facilities.

The *Highway 50 Corridor System Management Plan* (Caltrans 2009) contains the 20-year improvement concept for US 50 and forecasted LOS. For the segment of US 50 within the study (Watt Avenue to Zinfandel Drive), the ultimate facility concept is a ten lane freeway with four mainline lanes one HOV lane in either direction (the same as existing). According to this document, the concept service level for this facility is LOS F.

2. EXISTING CONDITIONS

This chapter describes the physical and operational characteristics of the transportation system within the study area, and includes the roadway, transit, bicycle, and pedestrian components of the transportation system.

EXISTING TRANSPORTATION SYSTEM

Folsom Boulevard stretches for approximately 20 miles, connecting the City of Sacramento and the City of Folsom. A description of this key regional facility as well as the local roadways, pedestrian and bicycle facilities, and transit services that provide access to the study area is below. Figure 2 displays the posted speed limits on all major roadways located within the study area.

Roadway System

- **Folsom Boulevard** is an east-west roadway with two travel lanes in each direction, a center two-way left-turn lane, and class II (on-street with appropriate signage and striping) bicycle lanes within the study area. This section of Folsom Boulevard carries between 18,000 and 25,000 vehicles per day, and is designated in the General Plan as a thoroughfare (though thoroughfare improvements are not currently in place). The roadway extends approximately 20 miles from the intersection of Capitol Avenue/Alhambra Boulevard in the City of Sacramento to Greenback Lane in the City of Folsom. Within the study area, Folsom Boulevard has a posted speed limit of 40 mph, and parallels the Regional Transit Gold Line light rail transit, which is located immediately south of the roadway. On-street parking is prohibited on both sides of Folsom Boulevard within the study area.

- **Watt Avenue/South Watt Avenue** is a north-south six-lane thoroughfare located on the western edge of the study area. Watt Avenue provides access to US 50 via a full cloverleaf interchange located between Folsom Boulevard and La Riviera Drive. Watt Avenue crosses the American River just north of the study area, and is one of the few roadways within the County with a crossing of the river. Watt Avenue transitions into South Watt Avenue at Folsom Boulevard. Both roadways have a posted speed limit of 45 miles per hour within the study area, and on-street parking is prohibited.

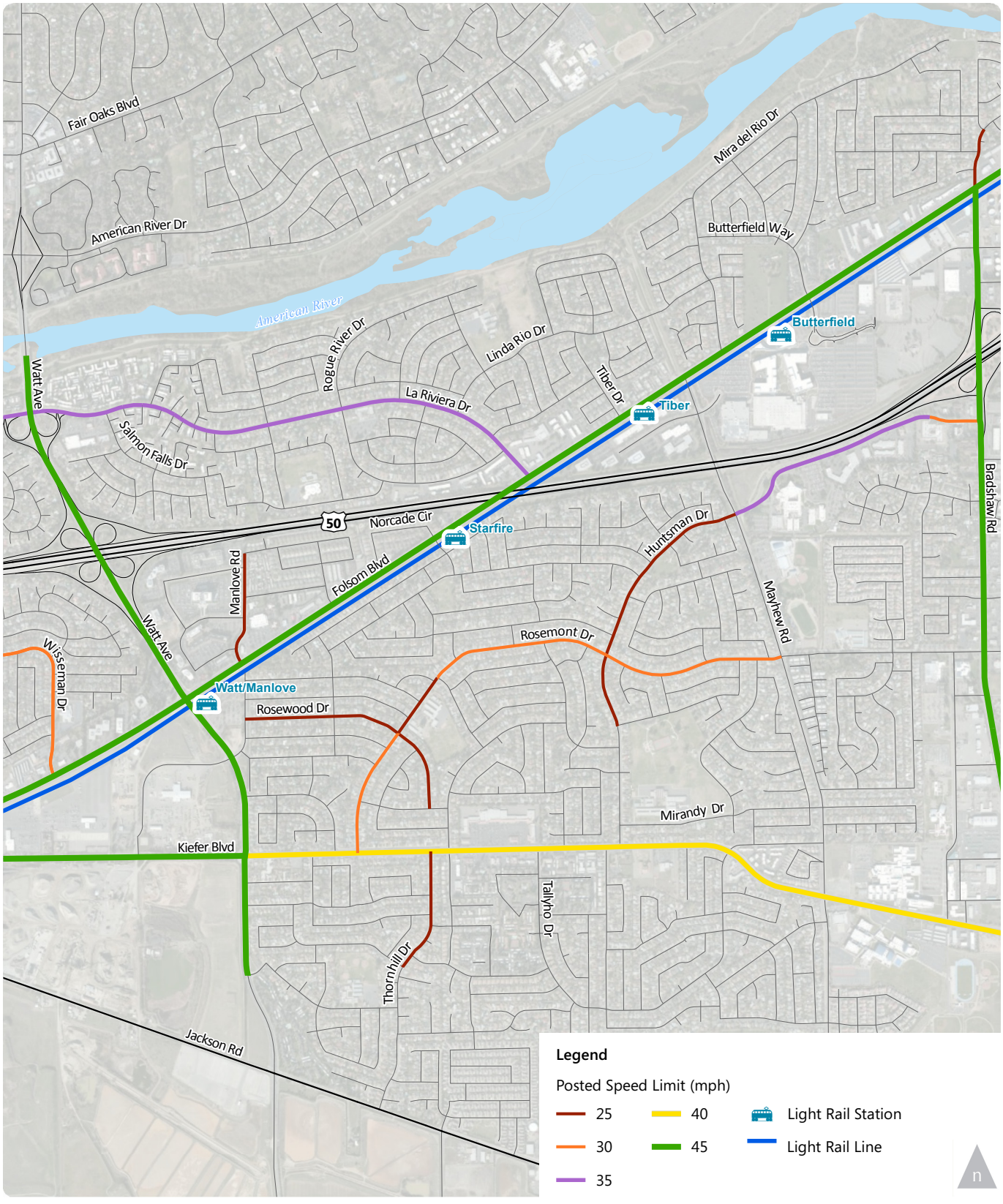
- **La Riviera Drive** is a two-lane residential street with a center two-way left-turn lane and class II (on-street with appropriate signage and striping) bicycle lanes within the study area. The roadway has a grade-separated interchange with Watt Avenue located just south of the Watt Avenue Bridge over the American River. Adjacent to this interchange, La Riviera Drive widens

to two travel lanes in either direction separated by a raised median. The roadway generally runs east-west, and extends just over three miles from College Town Drive in the City of Sacramento to Folsom Boulevard within the study area. La Riviera Drive has a posted speed limit of 35 miles per hour and on-street parking is allowed on both sides of the roadway.

- **Manlove Road** is a two-lane local roadway with class II on-street bicycle lanes to the north of Folsom Boulevard. The roadway has a posted speed limit of 25 miles per hour, and provides access to employment and residential land uses located between Folsom Boulevard and US 50. A second discontinuous segment of Manlove Road extends northward from South Watt Avenue and provides access to the Watt/Manlove Light Rail Station. This segment does not extend beyond the railroad tracks, and has no connection to Folsom Boulevard.

- **Starfire Drive** is a two-lane residential street that begins at Folsom Boulevard and extends southward to Caldera Way. The street has an at-grade crossing of the railroad tracks just west of the Starfire Light Rail Station, and has a signalized intersection with Folsom Boulevard. Starfire Drive has a posted speed limit of 25 miles per hour.

- **Tiber Drive** is a two-lane residential street that begins at Folsom Boulevard and extends northward to Linda Rio Drive. This street has a posted speed limit of 25 miles per hour, and has a signalized intersection with Folsom Boulevard.



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POSTED SPEED LIMITS

FIGURE 2

Transit Facilities

The Sacramento Regional Transit District (RT) provides public transit service within unincorporated Sacramento County, including the Gold Line light rail service and three fixed bus routes that operate within the study area. Each of these services is described below.

- **Gold Line** provides east-west light rail service between Downtown Sacramento and Folsom. This route operates on exclusive track outside of downtown Sacramento, and is double-tracked throughout the study area. Within the study area, the Gold Line runs parallel to Folsom Boulevard along the south side of the roadway. Four stations are located within the study area: Watt/Manlove (platform shown in image to the right), Starfire, Tiber, and Butterfield. Weekday trip headways are 15 minutes from 5:00 a.m. to 7:00 p.m., with 30-minute headways from 7:00 p.m. to midnight. Weekend and holiday service is provided.

- **Route 72 (Rosemont – Lincoln Village)** generally runs east-west between Watt Avenue and Mather Field Road south of Folsom Boulevard. Service is provided from 6:00 AM to 9:30 PM Monday through Friday, from 8:00 AM to 7:30 PM on Saturdays, and from 8:00 AM to 7:00 PM on Sundays and holidays.

- **Route 80 (Watt – Elkhorn)** generally runs north-south from Folsom Boulevard/Watt Avenue to Watt Avenue/Elkhorn Road to Elkhorn Road/Auburn Boulevard. Service is provided from 5:30 AM to 9:45 PM Monday through Friday, from 7:00 AM to 8:30 PM on Saturdays, and from 7:00 AM to 8:00 PM on Sundays and holidays.

- **Route 84 (Watt – North Highlands)** generally runs north-south from Folsom Boulevard/Watt Avenue to Watt Avenue/Elverta Road. Service is provided from 5:30 AM to

9:30 PM Monday through Friday, from 8:30 AM to 7:00 PM on Saturdays. Service is not provided on Sundays and holidays.

The City of Elk Grove's transit service, "e-tran," also provides bus service within the study area, as described below.

- **Route 70 (Bradshaw Express)** is a commuter route that runs between Butterfield Station and Laguna Creek Town Center in Elk Grove via Bradshaw Road, Elk Grove Boulevard, Harbour Point Drive, and Laguna Boulevard. Monday through Friday service is provided twice each morning from Laguna Creek Town Center to Butterfield Station from 5:20 AM to 6:15 AM and from 5:55 AM to 6:50 AM. Return service is provided twice each evening from Butterfield Station to Laguna Creek Town Center from 4:10 PM to 5:15 PM and from 4:40 PM to 5:45 PM. Service is not provided on Saturdays, Sundays, or holidays.

- **Route 71 (Laguna Express)** is a commuter route that runs between Butterfield Station and Laguna Boulevard/Harbour Point Drive in Elk Grove via Bradshaw Road, Calvine Road, Elk Grove Florin Road, and Bond Road-Laguna Boulevard. Monday through Friday service is provided twice each morning from Laguna Boulevard/Harbour Point Drive to Butterfield Station from 5:00 AM to 5:45 AM and from 6:45 AM to 7:45 AM. Three return routes are provided each evening from Butterfield Station to Laguna Boulevard/Harbour Point Drive from 2:40 PM to 3:35 PM, from 3:40 PM to 4:35 PM, and from 5:40 PM to 6:35 PM. Service is not provided on Saturdays, Sundays, or holidays.

- **Route 91 (Butterfield Light Rail Station to Elk Grove Express)** is a reverse commuter route that runs from Butterfield Station to Elk Grove in the morning, and from Elk Grove to Butterfield Station in the evening. Monday through Friday service is provided once each morning from 6:55 AM to 7:40 AM and once each evening from 4:55 PM to 5:40 PM. Service is not provided on Saturdays, Sundays, or holidays.

Bicycle and Pedestrian Facilities

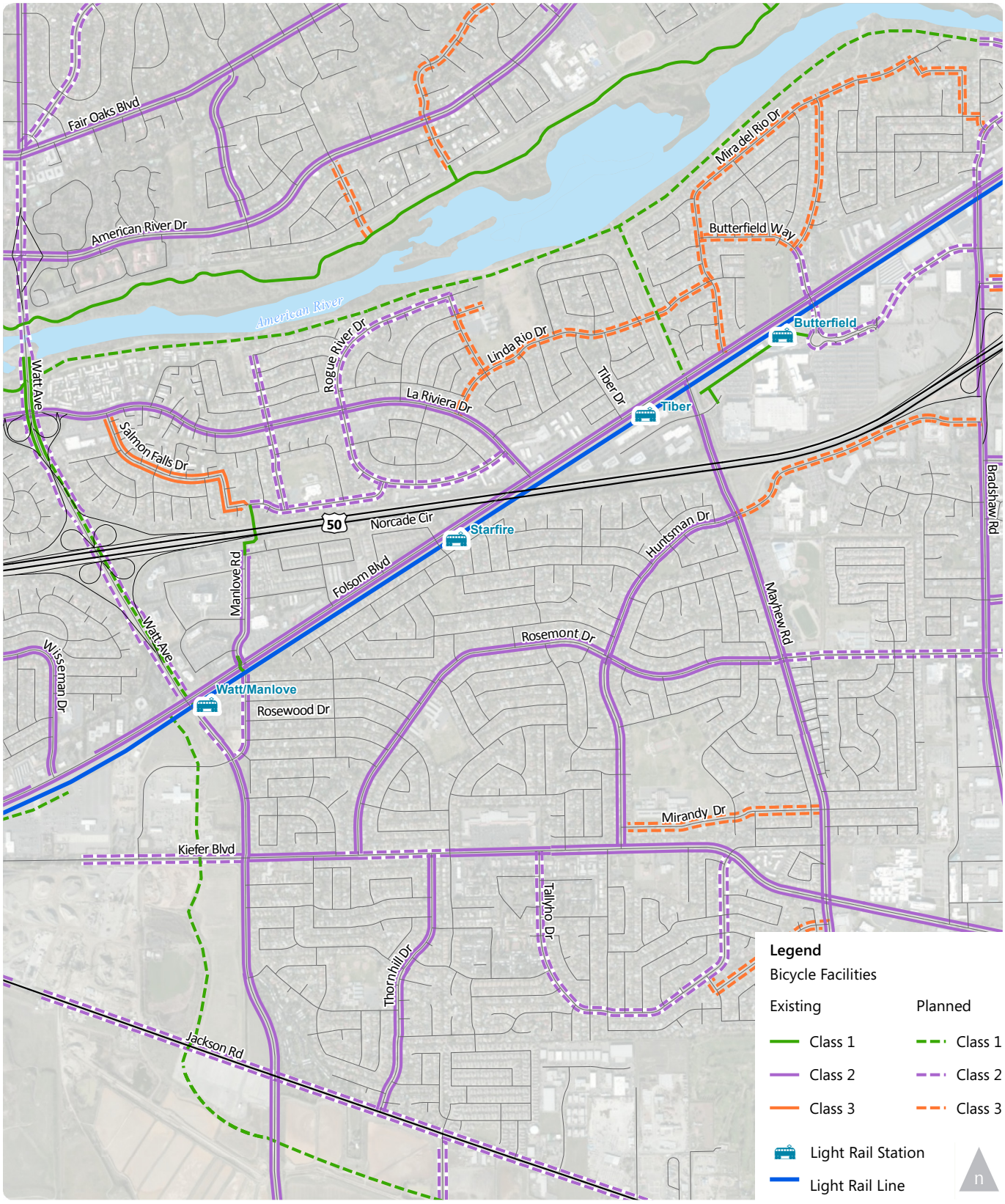
Folsom Boulevard experiences moderate levels of pedestrian and bicycle activity, due in part to the adjacent RT light rail transit line (Gold Line). Folsom Boulevard features continuous class II on-street bicycle lanes within the study area on both sides of the roadway. Several other key roadways within the study area have class II bicycle lanes including La Riviera Drive, Bradshaw Road, Manlove Road, and Mayhew Road. A short class I off-street path connects the Butterfield Light Rail Station with Mayhew Road along the south side of the railroad tracks. Figure 3 shows the location of existing

bicycle facilities, alongside planned bicycle facilities identified in the *Sacramento County Bicycle Master Plan*.

Pedestrian activity along Folsom Boulevard is somewhat concentrated near light rail station locations, and crosswalks provided at signalized intersections experience higher utilization immediately after the arrival/departure of light rail trains. All signalized intersections along Folsom Boulevard within the study area provide at least one marked north-south crosswalk, however multiple intersections, including Manlove Road, Starfire Drive, La Riviera Drive, and Tiber Road, lack a marked crosswalk on one approach. The lack of a marked crosswalk on an intersection approach reduces convenience for pedestrians, and may result in out-of-direction travel.

Between Watt Avenue and Bradshaw Road, marked crosswalks exist only at signalized intersections. The spacing of signalized intersections on this stretch of the roadway varies, with the shortest distance between marked pedestrian crossings of Folsom Boulevard being 0.2 miles (Tiber Drive to Mayhew Road) and the longest being 0.6 miles (Manlove Road to Starfire Drive).

Sidewalk coverage along Folsom Boulevard is intermittent between Watt Avenue and Bradshaw Road, with significantly more coverage along the north side of the road than the south side. On the south side of the roadway, sidewalks only exist along the frontage of RT light rail stations. Most of the north side of the roadway currently has sidewalks; however two gaps exist near the Butterfield Light Rail Station. Figure 4 displays existing sidewalk coverage on Folsom Boulevard, as well as on other major roadways located within the study area.



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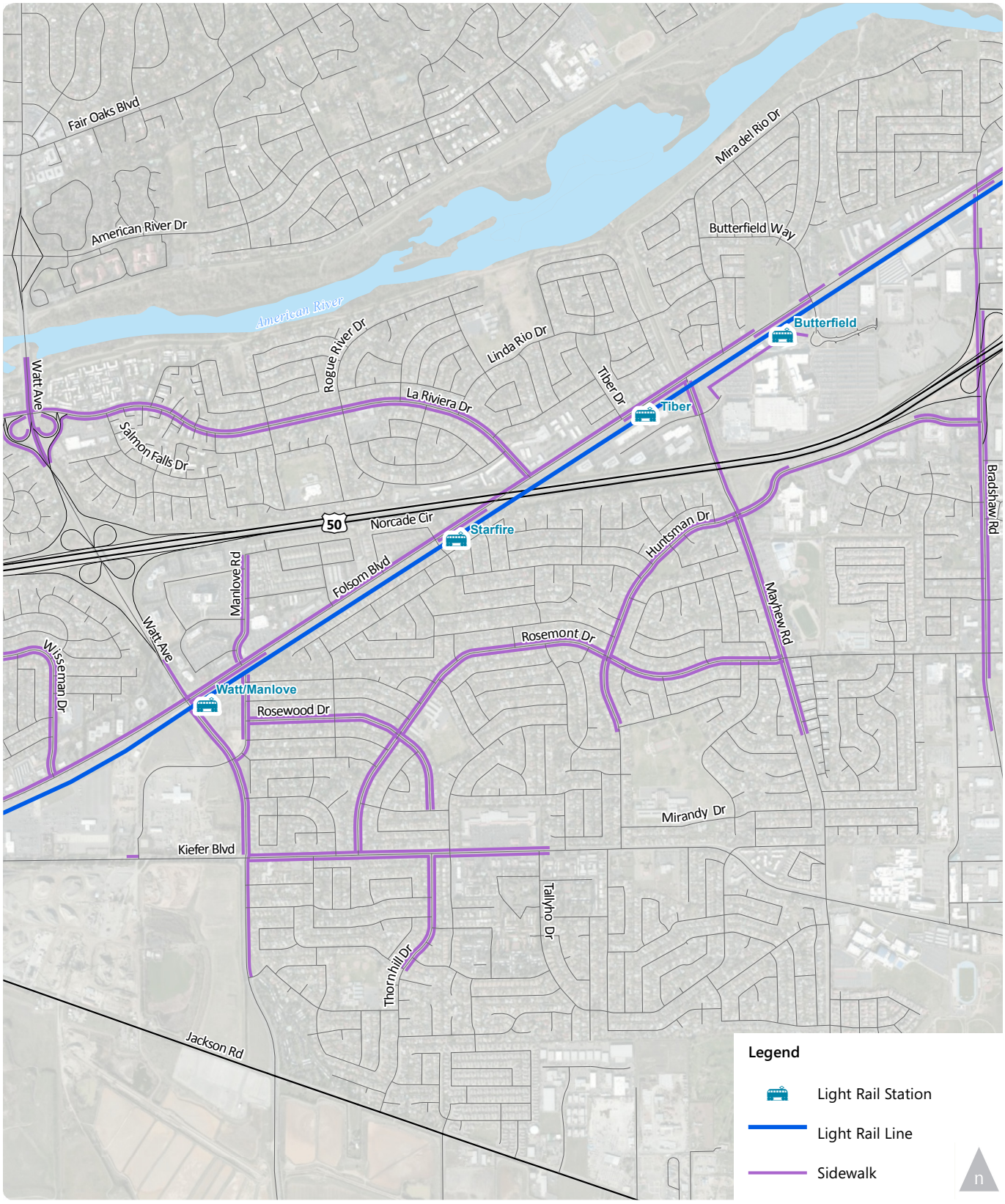
EXISTING AND PLANNED BICYCLE FACILITIES

FIGURE 3



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EXISTING SIDEWALKS

FIGURE 4

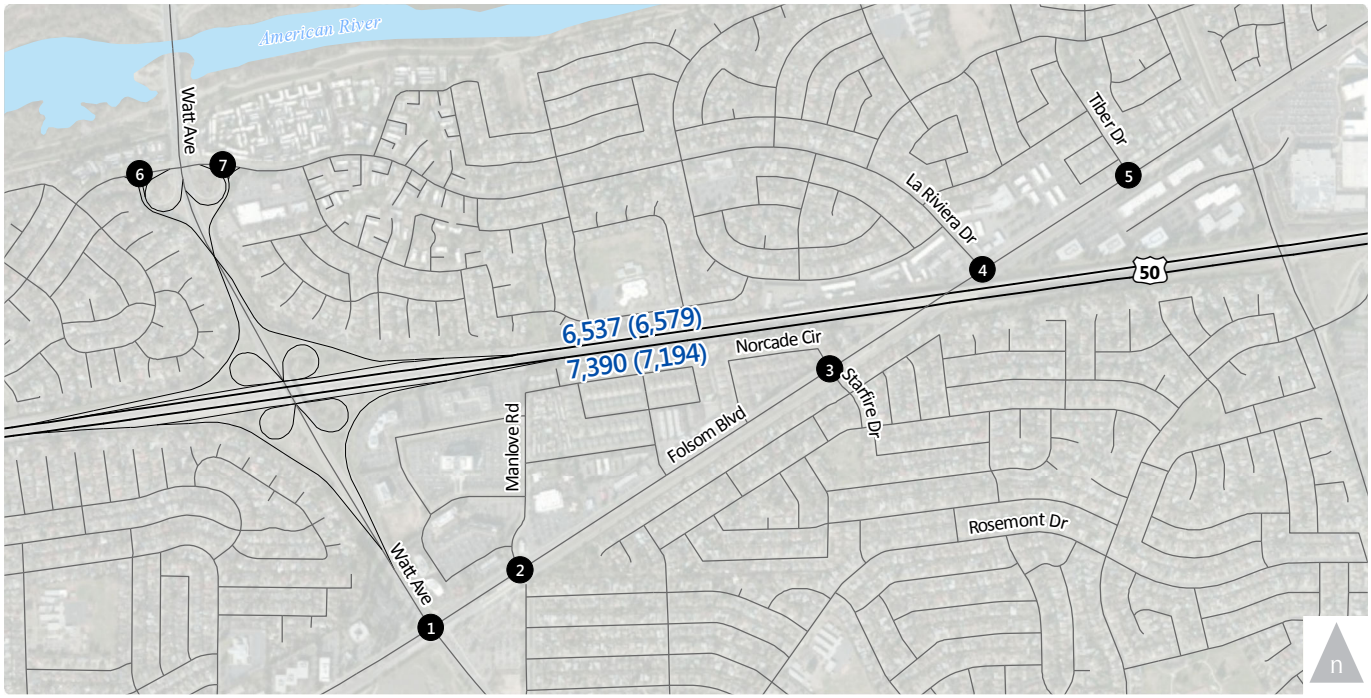
TRAFFIC VOLUMES

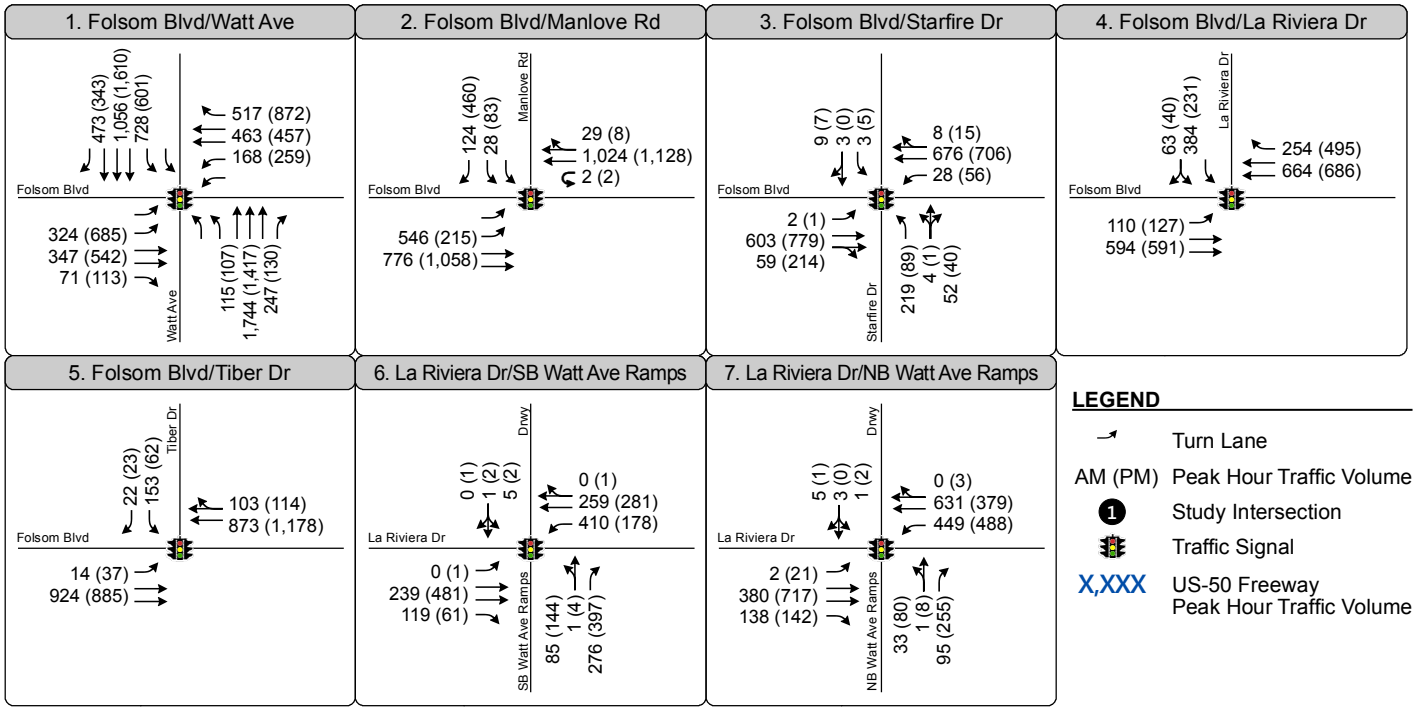
The Sacramento County Department of Transportation conducted intersection turning movement counts at the seven study intersections in April 2013. The counts took place during the morning (6:30 – 8:30 AM) and evening (4:00 – 6:00 PM) peak periods. During the counts, the local school districts and California State University Sacramento (CSUS) were in full session. Additionally, weather conditions were dry and no unusual traffic patterns were observed during the collection of the traffic counts.

The April 2013 intersection turning movement data collected during these counts is presented in Figure 5, in addition to the current lane configurations and traffic controls present at each of the seven study intersections. Each intersection's peak hour within the peak period was used for the AM and PM analyses. In general, study intersections experienced the AM peak from 7:00 – 8:00 AM, and the PM peak from 4:45 – 5:45 PM.

In addition to the intersection turning movement counts, 24 hour daily roadway segment counts were conducted by the Department of Transportation in March of 2013. Figure 6 presents the daily traffic volumes at each of the five study roadway segments.

Historic daily traffic count data on La Riviera Drive provided by the County shows a trend of decreasing traffic volumes on the roadway over the past eight years. This data indicates that between 2008 and 2013, traffic volume on the segment of the roadway immediately east of Watt Avenue has steadily dropped, resulting in a decrease of approximately 35 percent over the eight year time period to the value shown on Figure 6 (16,000). The data indicates that traffic on the eastern end of the roadway, just north of Folsom Boulevard, has also declined over this time period to a value of 8,100 (as shown on Figure 6), a reduction of approximately 26 percent.





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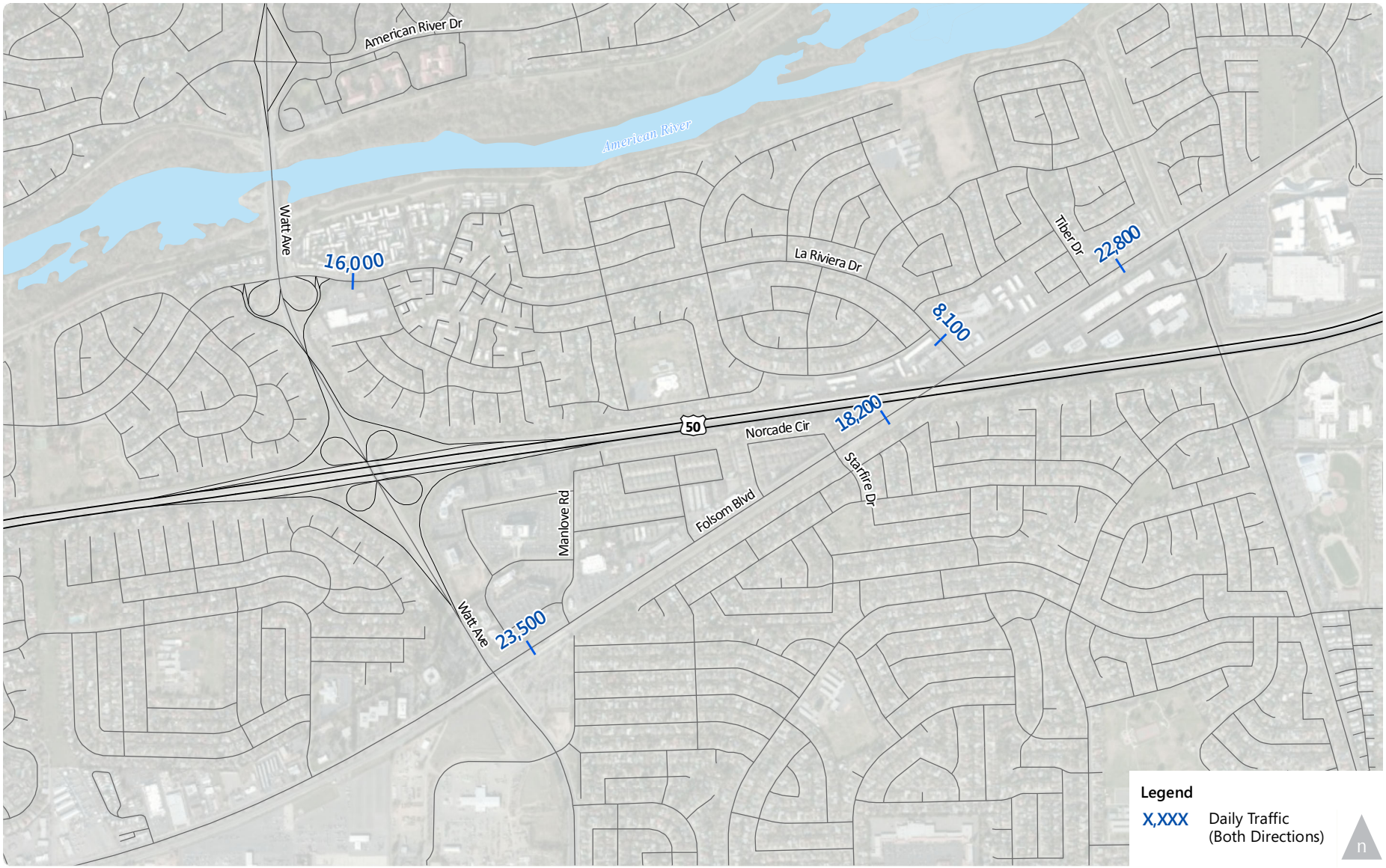
PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - EXISTING CONDITIONS

FIGURE 5



Note: Values rounded to the nearest hundred

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DAILY TRAFFIC VOLUMES - EXISTING CONDITIONS

FIGURE 6

INTERSECTION OPERATIONS

Table 4 summarizes the existing peak hour intersection operations at each of the study intersections (refer to separate Appendix A for detailed calculations).

TABLE 4:
EXISTING CONDITIONS – INTERSECTION OPERATIONS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Folsom Blvd / S. Watt Ave	Signal	53	D	**85**	**F**
2. Folsom Blvd / Manlove Rd	Signal	16	B	22	C
3. Folsom Blvd / Starfire Dr	Signal	11	B	10	A
4. Folsom Blvd / La Riviera Dr	Signal	26	C	23	C
5. Folsom Blvd / Tiber Dr	Signal	14	B	10	B
6. La Riviera Dr / SB Watt Ave Ramps	Signal	14	B	13	B
7. La Riviera Dr / NB Watt Ave Ramps	Signal	12	B	21	C

Notes: [1]For signalized intersections, the overall average intersection control delay is reported in seconds per vehicle.
[2]Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).
[3]Bold and underlined text indicates unacceptable operations.
Source: Fehr & Peers, 2013

As shown in Table 2, all intersections operate at LOS D or better during the AM peak hour, with five of the seven study intersections operating at LOS B. With the exception of the Folsom Boulevard/South Watt Avenue intersection, all study intersections currently operate at LOS C or better during the PM peak hour. The Folsom Boulevard/South Watt Avenue intersection operates at LOS F during the PM peak hour.

ROADWAY SEGMENT OPERATIONS

Table 5 summarizes the existing daily roadway segment operations. As shown in Table 5, all study roadway segments along Folsom Boulevard operate at LOS A – C, while study segments on La Riviera Drive operate at LOS D – E. It should be noted that the analysis classifies La Riviera as a "Residential Collector with frontage" due to the fact that the General Plan does not include this roadway as part of the County's arterial system. If the study roadway segments of La Riviera Drive were analyzed with a low access control arterial designation, the reported operations on both of these segments would improve to LOS A existing conditions.

TABLE 5:
EXISTING CONDITIONS – ROADWAY SEGMENT OPERATIONS

Segment	Roadway Classification	Average Daily Traffic (ADT)[1]	LOS
1. Folsom Blvd – S. Watt to Manlove Rd	4 lane Arterial, moderate access control	23,500	B
2. Folsom Blvd – Starfire Dr to La Riviera Dr	4 lane Arterial, moderate access control	18,200	A
3. Folsom Blvd – Tiber Dr to Mayhew Rd	4 lane Arterial, moderate access control	22,800	C
4. La Riviera Dr – Folsom Blvd to Tuolumne Dr	3 lane Residential Collector w/ frontage	8,100	D
5. La Rivera Dr – east of NB Watt Ave ramps	4 lane Residential Collector w/ frontage	16,000	E

Note:
1. Volumes represent both directions of travel and are rounded to the nearest 100.

Source: Fehr & Peers, 2013

FREEWAY OPERATIONS

Table 6 presents the existing freeway operations for the segment of US 50 between Watt Avenue and Bradshaw Road (refer to separate Appendix A for detailed calculations). As shown in Table 6, this segment of US 50 currently operates at LOS E or better during both peak hours.

TABLE 6:
EXISTING CONDITIONS – FREEWAY ANALYSIS

Freeway	Location	Type	AM Peak Hour		PM Peak Hour	
			Density	LOS	Density	LOS
EB US 50	Watt Ave to Bradshaw Rd	Basic	37	E	32	D
WB US 50	Bradshaw Rd to Watt Ave	Basic	22	C	21	C

Notes:
1. Average density is reported in passenger cars per lane per mile (pcplpm).
2. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).

Source: Fehr & Peers, 2013

3. EXISTING PLUS PROJECT CONDITIONS

This chapter discusses the conditions of the transportation system under Existing Plus Project conditions.

PROJECT DESCRIPTION

As discussed in Chapter 1, the proposed project would result in the reclassification of Folsom Boulevard between South Watt Avenue and Bradshaw Road from a six-lane thoroughfare to a "Smart Growth Street." This proposed amendment to the *Sacramento County General Plan* (November 9, 2011) would effectively retain the existing number of four travel lanes on this approximately 2.5 mile segment of Folsom Boulevard, and match the future number of travel lanes planned for the roadway within adjacent jurisdictions. In addition to maintaining the current number of travel lanes, the project would provide for the construction of improved streetscapes along Folsom Boulevard associated with its reclassification as a "Smart Growth Street." The improved streetscapes would include additional and/or improved facilities for bicyclists and pedestrians.

INTERSECTION, ROADWAY SEGMENT, AND FREEWAY OPERATIONS – EXISTING PLUS PROPOSED PROJECT

Since Folsom Boulevard is currently a four-lane facility, and the project would reclassify Folsom Boulevard to a four-lane facility, no changes to traffic volumes would occur under Existing Plus Project Conditions. Therefore, the Existing Plus Project operations analysis results are identical to the results previously presented for Existing Conditions in Chapter 2. Therefore, project-specific impacts to the study intersections, roadway segments, and freeway segment are considered less than significant.

BICYCLE AND PEDESTRIAN FACILITIES

Implementation of the proposed project would include the construction additional pedestrian and bicycle facilities, and the enhancement of existing pedestrian and bicycle facilities along Folsom Boulevard. Although streetscape plans for the corridor have not yet been created, it is anticipated that a portion of the additional right-of-way and costs associated with the widening of Folsom Boulevard to six lanes would be shifted to these pedestrian and bicycle improvements. The proposed project would not disrupt or interfere with existing bicycle or pedestrian facilities, and would not disrupt or interfere with the implementation of any planned bicycle or pedestrian facilities. Rather, the project would improve the comfort and convenience of these travel modes by providing

additional amenities and safety enhancements. Therefore, project-specific impacts to bicycle or pedestrian facilities are considered less than significant.

TRANSIT FACILITIES

The previously discussed improvements to pedestrian and bicycle amenities along the Folsom Boulevard corridor would benefit riders accessing transit via non-motorized modes of travel. These improvements would increase the attractiveness of walking or biking to/from the four light rail transit stations located adjacent to Folsom Boulevard as well as to the multiple bus stops located within the study area. Implementation of the proposed project would not disrupt or interfere with existing or planned transit operations or facilities. Therefore, project-specific impacts to transit facilities are considered less than significant.

2. CUMULATIVE CONDITIONS

This chapter discusses the cumulative conditions of the transportation system with and without the implementation of the project alternatives. The cumulative conditions analysis considers all future planned developments and transportation improvements within the vicinity of the study area.

TRAFFIC FORECASTS

The most recent version of the SACSIM regional travel demand model (TDM) developed and maintained by the Sacramento Area Council of Governments (SACOG) was used to forecast cumulative (year 2035) traffic volumes within the study area. The cumulative version of this model accounts for planned land use growth within Sacramento County, as well as within the surrounding region. The SACSIM model also accounts for planned improvements to the surrounding transportation system, and incorporates the current Sustainable Communities Strategy (SCS) and Metropolitan Transportation Plan (MTP) for the Sacramento region.

Within the study area, the MTP includes a project to improve the US 50/Watt Avenue interchange. The planned improvements include widening of the overcrossing to accommodate additional travel lanes in either direction, reconfiguration of the ramps to/from US 50, a new median-running transit-only lane, and new bicycle and pedestrian facilities that are grade-separated from vehicle travel lanes. This project is currently under construction and is accounted for in the cumulative year traffic forecasts.

The study area itself is generally built-out, however large-scale development is planned immediately west of the study area along South Watt Avenue. According to the model, daily traffic is expected to increase by approximately 20 to 40 percent along the Folsom Boulevard corridor by 2035. The resulting traffic forecasts show higher levels of growth toward the western end of the study corridor (approximately 40 percent) near planned development, and lower growth towards the largely built-out eastern end of the corridor (approximately 20 percent).

Separate model runs were conducted for the Cumulative No Project and Cumulative Plus Project scenarios to account for the reclassification of Folsom Boulevard (i.e., No Project model run assumes six travel lanes between Watt Avenue and Bradshaw Road while the Plus Project model run assumes four travel lanes). At the center of the study corridor just west of La Riviera Drive, Folsom Boulevard is forecasted to handle approximately 3,000 fewer vehicles a day with four travel lanes under Cumulative (year 2035) Plus Project conditions.

As previously noted, historic traffic count data provided by the County for La Riviera Drive indicates a steady reduction in daily traffic volumes along this roadway over the past eight years. The SACSIM model also indicates a slight reduction in daily traffic volumes along this roadway between the base and cumulative years. However, for the purposes of this study, the daily roadway segment forecasts used for the cumulative analyses conservatively assume slight growth over existing conditions.

INTERSECTION OPERATIONS – CUMULATIVE CONDITIONS

Figure 7 presents the Cumulative No Project intersection turning movement forecasts, and Table 7 summarizes traffic operations at the study intersections under Cumulative No Project conditions (refer to separate Appendix B for detailed calculations). As shown in Table 7, with the exception of the Folsom Boulevard/South Watt Avenue intersection, all study intersections are expected to operate at LOS C or better under Cumulative No Project conditions. Due to forecasted increases in traffic volume along South Watt Avenue and Folsom Boulevard, the Folsom Boulevard/South Watt Avenue intersection is expected to operate at LOS F during both the AM and PM peak hours.

TABLE 7:
CUMULATIVE NO PROJECT CONDITIONS – INTERSECTION OPERATIONS

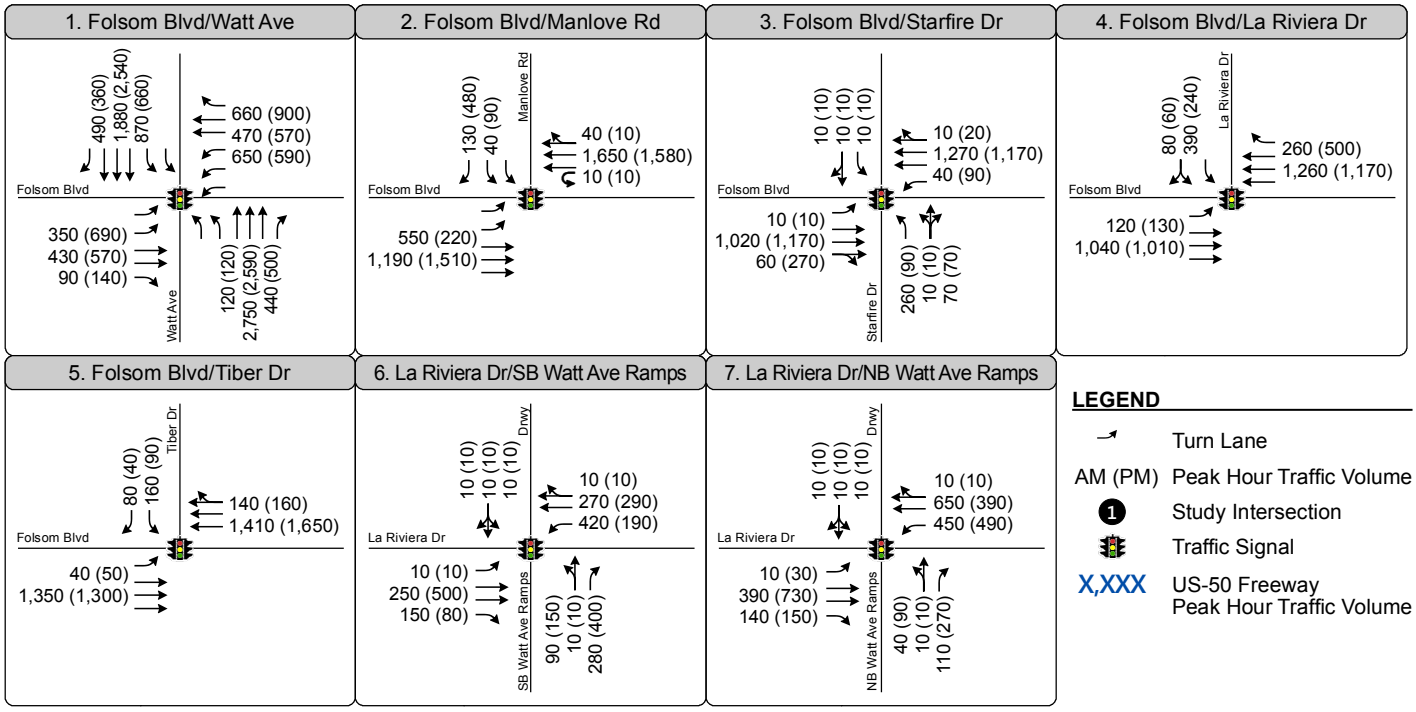
Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Folsom Blvd / S. Watt Ave	Signal	**123**	**F**	**140**	**F**
2. Folsom Blvd / Manlove Rd	Signal	16	B	28	C
3. Folsom Blvd / Starfire Dr	Signal	12	B	11	B
4. Folsom Blvd / La Riviera Dr	Signal	27	C	22	C
5. Folsom Blvd / Tiber Dr	Signal	14	B	11	B
6. La Riviera Dr / SB Watt Ave Ramps	Signal	16	B	14	B
7. La Riviera Dr / NB Watt Ave Ramps	Signal	13	B	22	C

Notes: [1]For signalized and all-way stop-controlled intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop control, the average control delay for the worst movement is reported in seconds per vehicle.

[2]Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).

[2]Bold and underlined text indicates unacceptable operations.

Source: Fehr & Peers, 2013



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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE NO PROJECT CONDITIONS

FIGURE 7

Figure 8 displays the Cumulative Plus Proposed Project traffic volumes, and Table 8 summarizes traffic operations at each of the study intersections (refer to Appendix B for detailed calculations). As shown in Table 8, all intersections other than Folsom Boulevard/South Watt Avenue continue to operate at LOS C or better with the implementation of the proposed project. The Folsom Boulevard/South Watt Avenue intersection would continue to operate at LOS F during both the AM and PM peak hours. Although the project would result in an increase in delay at this location during the PM peak hour, the increase is less than five seconds. Therefore, this increase in delay does not constitute a project impact. All cumulative impacts to the study intersections are considered less than significant.

TABLE 8:
CUMULATIVE PLUS PROJECT CONDITIONS – INTERSECTION OPERATIONS

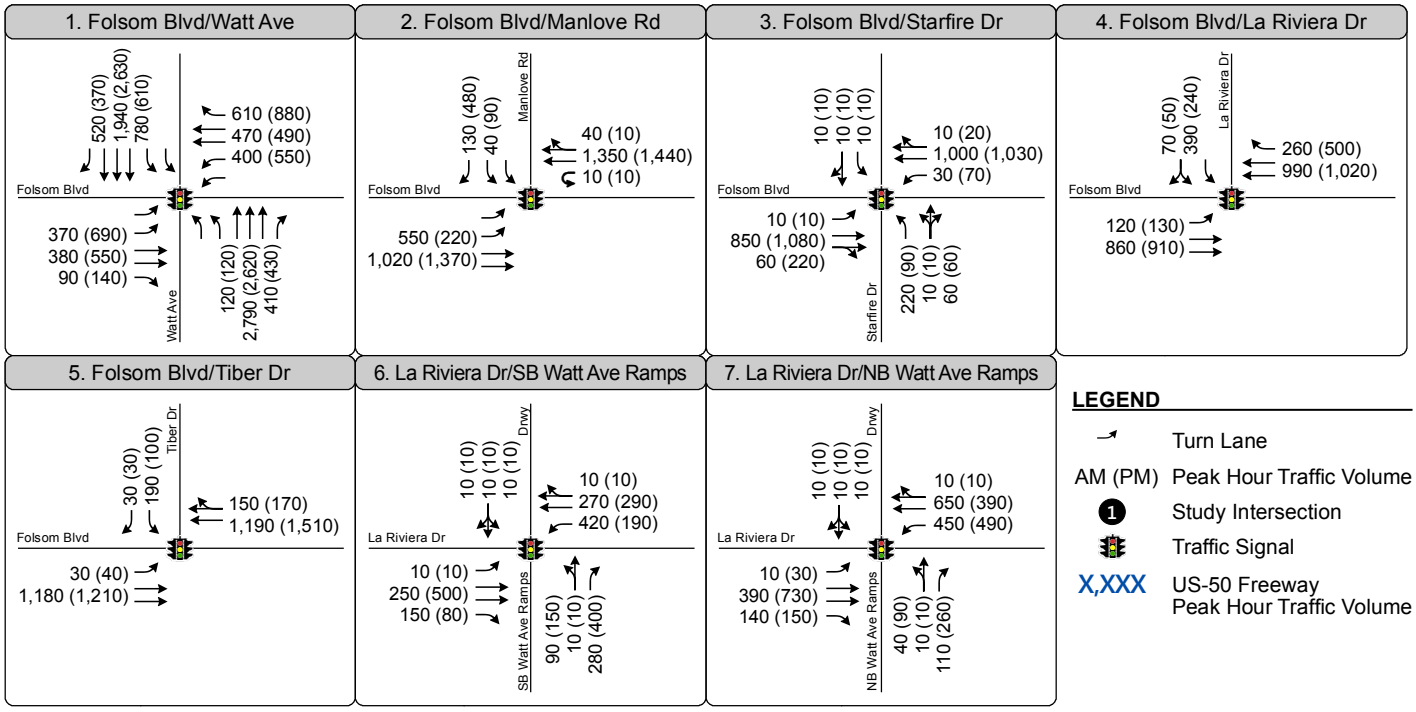
Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Folsom Blvd / S. Watt Ave	Signal	**108**	**F**	**143**	**F**
2. Folsom Blvd / Manlove Rd	Signal	19	B	34	C
3. Folsom Blvd / Starfire Dr	Signal	12	B	12	B
4. Folsom Blvd / La Riviera Dr	Signal	28	C	23	C
5. Folsom Blvd / Tiber Dr	Signal	17	B	16	B
6. La Riviera Dr / SB Watt Ave Ramps	Signal	16	B	14	B
7. La Riviera Dr / NB Watt Ave Ramps	Signal	13	B	22	C

Notes: [1]For signalized and all-way stop-controlled intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop control, the average control delay for the worst movement is reported in seconds per vehicle.

[2]Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).

[2]Bold and underlined text indicates unacceptable operations.

Source: Fehr & Peers, 2013



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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE PLUS PROJECT CONDITIONS

FIGURE 8

ROADWAY SEGMENT OPERATIONS – CUMULATIVE CONDITIONS

Figure 9 displays the Cumulative No Project daily roadway segment forecasts alongside the Cumulative Plus Project daily roadway segment forecasts. Tables 9 and 10 summarize the Cumulative No Project and Cumulative Plus Project roadway segment analysis results, respectively. As shown in Table 9, all study segments of Folsom Boulevard would operate at LOS B or better under Cumulative No Project conditions. Due to a slight increase in the forecasted traffic volume along La Rivera Drive by the year 2035, the segment of La Riviera Drive located to the east of Watt Avenue is expected to operate at LOS F.

TABLE 9:
CUMULATIVE NO PROJECT CONDITIONS – ROADWAY SEGMENT OPERATIONS

Segment	Roadway Classification	Average Daily Traffic (ADT)[1]	LOS
1. Folsom Blvd – S. Watt to Manlove Rd	6 lane Arterial, moderate access control	35,200	B
2. Folsom Blvd – Starfire Dr to La Riviera Dr	6 lane Arterial, moderate access control	30,200	A
3. Folsom Blvd – Tiber Dr to Mayhew Rd	6 lane Arterial, moderate access control	29,600	A
4. La Riviera Dr – Folsom Blvd to Tuolumne Dr	3 lane Residential Collector w/ frontage	8,200	D
5. La Riviera Dr – East of NB Watt Ave Ramps	4 lane Residential Collector w/ frontage	**16,100**	**F**

Note:
1. Volumes represent both directions of travel and are rounded to the nearest 100.
2. Bold and underlined text indicates unacceptable operations.

Source: Fehr & Peers, 2013

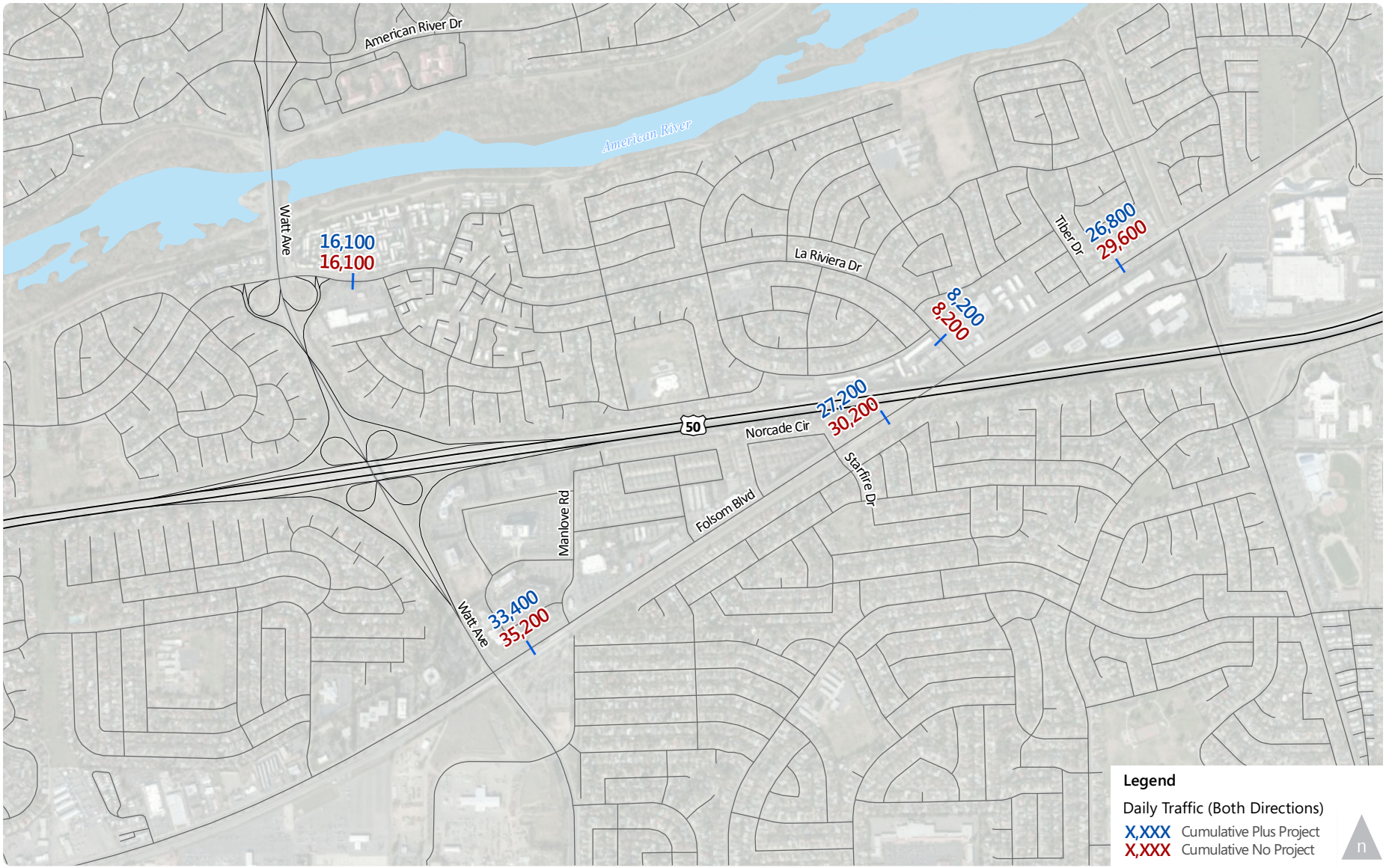
As shown in Table 10, all study roadway segments on Folsom Boulevard would operate at LOS D or better. The segment of La Riviera Drive located to the east of Watt Avenue would continue to operate at LOS F with the implementation of the Proposed Project; however, the proposed project does not result in an increase in the volume to capacity ratio of greater than 0.05. Therefore, all cumulative impacts to the study roadway segments are considered less than significant.

TABLE 10:
CUMULATIVE PLUS PROJECT CONDITIONS – ROADWAY SEGMENT OPERATIONS

Segment	Roadway Classification	Average Daily Traffic (ADT)[1]	LOS
1. Folsom Blvd – S. Watt to Manlove Rd	4 lane Arterial, moderate access control	32,400	D
2. Folsom Blvd – Starfire Dr to La Riviera Dr	4 lane Arterial, moderate access control	27,200	C
3. Folsom Blvd – Tiber Dr to Mayhew Rd	4 lane Arterial, moderate access control	26,800	C
4. La Riviera Dr – Folsom Blvd to Tuolumne Dr	3 lane Residential Collector w/ frontage	8,200	D
5. La Rivera Dr – East of NB Watt Ave Ramps	4 lane Residential Collector w/ frontage	**16,100**	**F**

Note:
1. Volumes represent both directions of travel and are rounded to the nearest 100.
2. Bold and underlined text indicates unacceptable operations.

Source: Fehr & Peers, 2013



Note: Values rounded to the nearest hundred

FEHR PEERS

DAILY TRAFFIC VOLUMES - CUMULATIVE YEAR CONDITIONS

FIGURE 9

FREEWAY OPERATIONS – CUMULATIVE CONDITIONS

Tables 11 and 12 summarize the Cumulative No Project and Cumulative Plus Project freeway analysis results, respectively (refer to Appendix B for detailed calculations). As shown in Table 11, eastbound US 50 is expected to operate at LOS F during the AM peak hour, and LOS E during the PM peak hour. Westbound US 50 is expected to operate at LOS C during both peak hours.

TABLE 11:
CUMULATIVE NO PROJECT CONDITIONS – FREEWAY ANALYSIS

Freeway	Location	Type	AM Peak Hour		PM Peak Hour	
			Density	LOS	Density	LOS
EB US 50	Watt Ave to Bradshaw Rd	Basic	**--**	**F**	**39**	**E**
WB US 50	Bradshaw Rd to Watt Ave	Basic	25	C	25	C

Notes:
1. Average density is reported in passenger cars per lane per mile (pcplpm).
2. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2010).
3. Bold and underlined text indicates unacceptable operations. Density is not reported for LOS F conditions.

Source: Fehr & Peers, 2013

As shown in Table 12, with the implementation of the Proposed Project, all freeway segments would continue to operate similarly to Cumulative No Project conditions. Therefore, cumulative impacts to freeway facilities are considered less than significant.

TABLE 12:
CUMULATIVE PLUS PROJECT CONDITIONS – FREEWAY ANALYSIS

Freeway	Location	Type	AM Peak Hour		PM Peak Hour	
			Density	LOS	Density	LOS
EB US 50	Watt Ave to Bradshaw Rd	Basic	**--**	**F**	**39**	**E**
WB US 50	Bradshaw Rd to Watt Ave	Basic	25	C	25	C

Notes:
1. Average density is reported in passenger cars per lane per mile (pcplpm).
2. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2010).
3. Bold and underlined text indicates unacceptable operations. Density is not reported for LOS F conditions.

Source: Fehr & Peers, 2013

BICYCLE AND PEDESTRIAN FACILITIES

Implementation of the proposed project would include the construction additional pedestrian and bicycle facilities, and the enhancement of existing pedestrian and bicycle facilities along Folsom Boulevard. Although streetscape plans for the corridor have not yet been created, it is anticipated that a portion of the additional right-of-way and costs associated with the widening of Folsom Boulevard to six lanes would be shifted to these pedestrian and bicycle improvements.

The proposed project would not disrupt or interfere with existing bicycle or pedestrian facilities, and would not disrupt or interfere with the implementation of any planned bicycle or pedestrian facilities. Rather, the project would improve the comfort and convenience of these travel modes by providing additional amenities and safety enhancements. Relative to Cumulative No Project conditions, the proposed project would result in a narrower cross-section of Folsom Boulevard, resulting in shorter pedestrian crossing distances. Therefore, cumulative impacts to bicycle or pedestrian facilities are considered less than significant.

TRANSIT FACILITIES

The previously discussed improvements to pedestrian and bicycle amenities along the Folsom Boulevard corridor would benefit riders accessing transit via non-motorized modes of travel. These improvements would increase the attractiveness of walking or biking to/from the four light rail transit stations located adjacent to Folsom Boulevard as well as to the multiple bus stops located within the study area. Implementation of the proposed project would not disrupt or interfere with existing or planned transit operations or facilities. Therefore, cumulative impacts to transit facilities are considered less than significant.