

## **5.13 TRANSPORTATION**



This section evaluates traffic impacts associated with implementation of the proposed Southeast Area Strategic Plan Project, including impacts to study intersections, freeway facilities, and pedestrian, bicycle, and transit facilities. This section is based on the Draft Transportation Impact Analysis, Southeast Policy Area prepared by Fehr & Peers in February 2014 (**Appendix K**).

### 5.13.1 EXISTING SETTING

The City of Elk Grove is located in the southern portion of Sacramento County about 15 miles south of the City of Sacramento. Regional freeway access to Elk Grove is provided by State Route (SR) 99 and Interstate 5 (I-5). Grant Line Road provides access to regional destinations north and south of Elk Grove such as the cities of Rancho Cordova and Folsom and the community of El Dorado Hills. Elk Grove is generally served by a network of arterial-level roadways on a 1-mile grid with interchanges on SR 99. I-5 has two interchanges that provide direct access to the City. The following are descriptions of the major roadways in the area.

- **Big Horn Boulevard** is a four-lane arterial street extending from Franklin Boulevard to Whitelock Parkway. It is constructed to its General Plan designation.
- **Bruceville Road** is a north-south road extending from Valley Hi Drive near the Kaiser-Permanente complex in unincorporated Sacramento County to south of Kammerer Road. It is four lanes between Sheldon Road and Laguna Boulevard, six lanes between Laguna Boulevard and Elk Grove Boulevard, four lanes between Elk Grove Boulevard and Whitelock Parkway, and two lanes south of Whitelock Parkway. Bruceville Road is designated as a six-lane arterial in the General Plan.
- **Elk Grove Boulevard** is an east-west road extending from I-5 to Grant Line Road. It is six lanes from I-5 to East Stockton Boulevard, four lanes to Elk Grove Florin Road, and two lanes to Grant Line Road. Elk Grove Boulevard is constructed to its General Plan designation between I-5 and Waterman Road. The roadway is designated in the General Plan as a four-lane arterial east of Waterman Road.
- **Whitelock Parkway** is an east-west road extending from West Stockton Boulevard to Bruceville Road. The parkway is improved with four travel lanes between Bruceville Road and Big Horn Boulevard. East of Big Horn Boulevard, Whitelock Parkway is two lanes. It is planned as a four-lane arterial with a partial access interchange at SR 99 that will serve travel to/from the west only.
- **Grant Line Road** traverses Elk Grove in a southwest to northeast direction. Grant Line Road extends from SR 99 through Elk Grove to White Rock Road in Rancho Cordova. It is six lanes between SR 99 and East Stockton Boulevard. East of East Stockton Boulevard, Grant Line Road is two lanes. The roadway is designated as an eight-lane arterial between SR 99 and Bradshaw Road and as a six-lane arterial east of Bradshaw Road. Grant Line Road between Calvine Road and just east of Equestrian Drive is subject to the Elk Grove Rural Road Improvement Policy. It is also part of the Capital SouthEast Connector project.
- **Kammerer Road** is an east-west road extending from Bruceville Road to West Stockton Boulevard. Kammerer Road is two lanes from just west of Lent Ranch Parkway to Bruceville Road. Kammerer Road is part of the Capital SouthEast Connector project and is designated in the General Plan as an eight-lane arterial from SR 99 to Lent Ranch Parkway and as a six-lane arterial from Lent Ranch Parkway to Franklin Boulevard. The

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General Plan includes the extension of Kammerer Road from Bruceville Road to Franklin Boulevard.

- **State Route 99** is a north–south freeway that provides a connection between all of the major cities in the Central Valley, from Sacramento and Stockton in the north to the cities of Modesto, Merced, Fresno, and Bakersfield in the south. Access to SR 99 is provided through interchanges at Grant Line Road, Elk Grove Boulevard, Laguna Boulevard/Bond Road, and Sheldon Road. This section of SR 99 has two mainline travel lanes and one high occupancy vehicle (HOV) lane in either direction with a posted speed limit of 65 mph.
- **Interstate 5** is a north–south freeway that traverses California and is a major national freeway that connects between Mexico and Canada. Near the Hood Franklin Road interchange, I-5 is a four-lane freeway. (Fehr & Peers 2014, pp. 14–15)

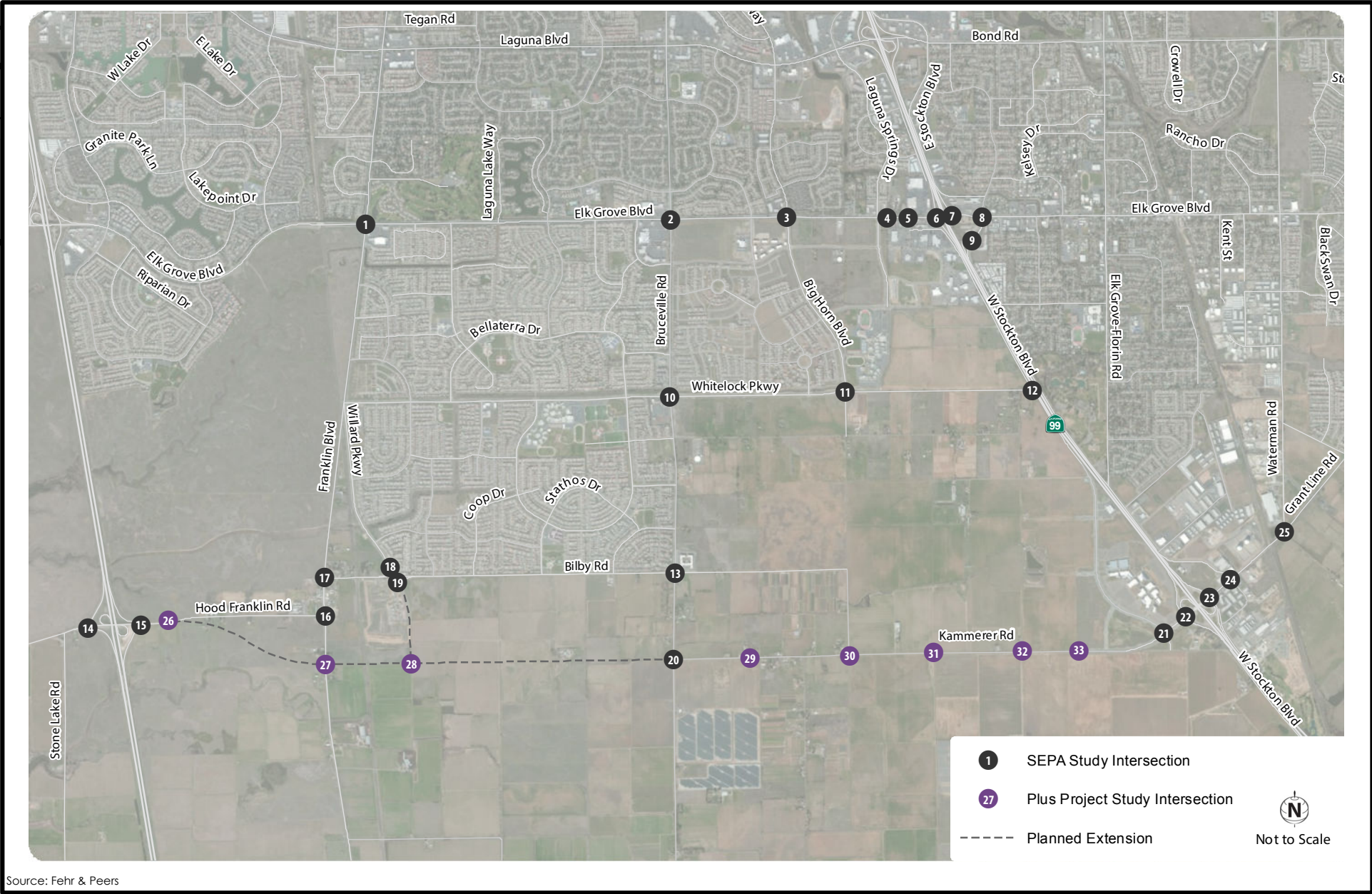
### STUDY AREA

The study area for the traffic impact analysis was selected based on the expected travel characteristics of the proposed Project, as well as the nearby transportation facilities' susceptibility to Project impacts. The study area is shown on **Figure 5.13-1**. Within the study area, 33 off-site intersections and 27 freeway facilities were selected for analysis.

### Study Area Intersections

The following 33 off-site intersections were selected for analysis:

1. Elk Grove Boulevard/Franklin Boulevard
2. Elk Grove Boulevard/Bruceville Road
3. Elk Grove Boulevard/Big Horn Boulevard
4. Elk Grove Boulevard/Laguna Springs Drive
5. Elk Grove Boulevard/Auto Center Drive
6. Elk Grove Boulevard/SR 99 SB Ramps
7. Elk Grove Boulevard/SR 99 NB On-Ramp
8. Elk Grove Boulevard/East Stockton Boulevard
9. Elk Grove Boulevard/SR 99 NB Off-Ramp
10. Bruceville Road/Whitelock Parkway
11. Big Horn Boulevard/Whitelock Parkway
12. Whitelock Road/West Stockton Boulevard
13. Bruceville Road/Bilby Road
14. Hood Franklin Road/I-5 SB Ramps
15. Hood Franklin Road/I-5 NB Ramps
16. Hood Franklin Road/Franklin Boulevard
17. Bilby Road/Franklin Boulevard
18. Willard Parkway/Bilby Road (North)
19. Willard Parkway/Bilby Road (South)
20. Kammerer Road/Bruceville Road
21. Kammerer Road/Promenade Parkway
22. Kammerer Road/SR 99 SB Ramps
23. Grant Line Road/SR 99 NB Ramps
24. Grant Line Road/East Stockton Boulevard
25. Kammerer Road/Waterman Road
26. Kammerer Road/Hood Franklin Road
27. Kammerer Road/Franklin Boulevard
28. Kammerer Road/Willard Parkway
29. Kammerer Road/Collector 2
30. Kammerer Road/Big Horn Boulevard
31. Kammerer Road/Collector 1
32. Kammerer Road/Lotz Parkway
33. Kammerer Road/Sterling Meadows



Source: Fehr & Peers



City of Elk Grove  
Development Services

**FIGURE 5.13-1**  
Transportation Impact Analysis Study Area



## Study Area Freeway Facilities

The following 27 freeway facilities were selected for analysis:

- |   |  |
|---|--|
| 1. NB SR 99 South of Grant Line Road          | 15. SB SR 99 Grant Line Road Loop On-Ramp  |
| 2. NB SR 99 Grant Line Road Off-Ramp          | 16. SB SR 99 Grant Line Road Slip On-Ramp  |
| 3. NB SR 99 Grant Line Road Loop On-Ramp      | 17. SB SR 99 South of Grant Line Road      |
| 4. NB SR 99 Grant Line Road Slip On-Ramp      | 18. NB I-5 South of Hood Franklin Road     |
| 5. NB SR 99 South of Elk Grove Boulevard      | 19. NB I-5 Hood Franklin Road Off-Ramp     |
| 6. NB SR 99 Elk Grove Boulevard Off-Ramp      | 20. NB I-5 Hood Franklin Road Loop On-Ramp |
| 7. NB SR 99 Elk Grove Boulevard Loop On-Ramp  | 21. NB I-5 Hood Franklin Road Slip On-Ramp |
| 8. NB SR 99 Elk Grove Boulevard Slip On-Ramp  | 22. NB I-5 North of Hood Franklin Road     |
| 9. NB SR 99 North of Elk Grove Boulevard      | 23. SB I-5 North of Hood Franklin Road     |
| 10. SB SR 99 North of Elk Grove Boulevard     | 24. SB I-5 Hood Franklin Road Off-Ramp     |
| 11. SB SR 99 Elk Grove Boulevard Off-Ramp     | 25. SB I-5 Hood Franklin Road Loop On-Ramp |
| 12. SB SR 99 Elk Grove Boulevard Slip On-Ramp | 26. SB I-5 Hood Franklin Road Slip On-Ramp |
| 13. SB SR 99 South of Elk Grove Boulevard     | 27. SB I-5 South of Hood Franklin Road     |
| 14. SB SR 99 Grant Line Road Off-Ramp         |  |

## LEVEL OF SERVICE ANALYSIS

### Analysis Methodology

#### Intersections

All intersections were analyzed using procedures and methodologies contained in the Highway Capacity Manual (HCM) published by the Transportation Research Board in 2000. These methodologies were applied using Synchro, a traffic operations analysis software package. HCM 2010 was not used for intersection operations analysis due to software errors that prevent the accurate analysis of some shared turn lane configurations present in the study area. Use of HCM 2000 methods for study intersections was approved by City of Elk Grove staff.

The HCM methodologies determine a level of service (LOS) for each study intersection. 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 with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions. **Table 5.13-1** presents the intersection LOS thresholds for signal- and stop-controlled intersections.

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**TABLE 5.13-1  
INTERSECTION LEVEL OF SERVICE THRESHOLDS**

Level of Service	Average Control Delay (seconds/vehicle) <sup>1</sup>	
	Signal Control	Stop Control
A	≤ 10.0	≤ 10.0
B	10.1–20.0	10.1–15.0
C	20.1–35.0	20.1–25.0
D	35.1–55.0	35.1–35.0
E	55.1–80.0	55.1–50.0
F	> 80.0	> 50.0

Source: Fehr & Peers 2014, p. 9

### Roadway Segments

Roadway segments were analyzed by comparing average peak-hour daily traffic volumes to capacity thresholds presented in the City of Elk Grove's Traffic Impact Analysis Guidelines. Consistent with assumptions in the City's General Plan Background Report, study segments were analyzed using thresholds for arterial roadways with moderate access control. **Table 5.13-2** shows daily volume thresholds for each LOS category for two-, four-, six-, and eight-lane roadways with moderate access control.

**TABLE 5.13-2  
LEVEL OF SERVICE DEFINITIONS FOR STUDY ROADWAYS**

Number of Lanes	Maximum Daily Volume <sup>1</sup>				
	LOS A	LOS B	LOS C	LOS D	LOS E
2	10,800	12,600	14,400	16,200	18,000
4	21,600	25,200	28,800	32,400	36,000
6	32,400	37,800	43,200	48,600	54,000
8	43,200	50,400	57,600	64,800	72,000

Source: Fehr & Peers 2014, p. 10

### Freeway Facilities

Pursuant to California Department of Transportation (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 density, which is expressed in passenger cars per lane per mile. **Table 5.13-3** displays the density ranges associated with each LOS category for basic segments and ramp merge/diverge movements. Consistent with the methodology described in the Caltrans Highway Design Manual, the Leisch Method was used to analyze weaving areas.



**TABLE 5.13-3  
FREEWAY LEVEL OF SERVICE DEFINITIONS**

Level of Service	Density (Passenger Cars per Mile per Lane) <sup>1</sup>	
	Basic Segments	Ramp Merge/Diverge
A	< 11	< 10
B	> 11 to 18	> 10 to 20
C	> 18 to 26	> 20 to 28
D	> 26 to 35	> 28 to 35
E	> 35 to 45	> 35
F	> 45 or any v/c ratio > 1.00 <sup>1</sup>	Demand exceeds capacity <sup>2</sup>

Source: Fehr & Peers 2014, p. 11

Notes:

1 – V/C ratio = demand flow rate divided by the capacity of a given segment

2 – Occurs when freeway demand exceeds upstream (diverge) or downstream (merge) freeway segment capacity, or if off-ramp demand exceeds off-ramp capacity.

## EXISTING TRAFFIC OPERATIONS

### Data Collection

To provide a baseline for the transportation analysis, traffic counts were collected at the existing study intersections on Tuesday, April 9, 2013, and Wednesday, April 10, 2013. The intersection turning movement counts were conducted during the AM (7:00 to 9:00) and PM (4:00 to 6:00) peak periods. During the counts, weather conditions were generally dry, no unusual traffic patterns were observed, and the Elk Grove Unified School District was in full session. Pedestrians were also counted at each of the study intersections.

Each intersection's peak hour within the peak period was used for the analysis. For the majority of study intersections, the counts indicate that the AM peak hour is between 7:00 AM and 8:00 AM and the PM peak hour is between 5:00 PM and 6:00 PM.

In addition to the intersection counts, the following additional data sources were used in the analysis of study facilities:

- Freeway traffic count data provided by Caltrans and available through the Caltrans Performance Measurement System (PeMS)
- Traffic signal timings provided by the City of Elk Grove

### Intersection Operations

Existing AM and PM weekday peak-hour intersection turning movement volumes, lane configurations, and traffic controls present at each of the study intersections is provided in Appendix A of **Appendix K. Table 5.13-4** summarizes the existing peak-hour intersection operations at the study intersections. As shown, most study intersections currently operate acceptably at LOS D or better during both peak hours, except for the Bilby Road/Franklin Boulevard intersection. The all-way stop-controlled intersection operates at LOS E during the AM peak hour.

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During field observations, Fehr & Peers observed significant vehicle queuing during the PM peak hour near the SR 99/Elk Grove Boulevard intersection. The Synchro intersection operations documented in **Table 5.13-4** are based on the number of vehicles served during the PM peak hour and do not include the operational effects of these closely spaced intersections. Therefore, conditions experienced by motorists may be worse than reported.

**TABLE 5.13-4  
PEAK-HOUR INTERSECTION LEVEL OF SERVICE – EXISTING CONDITIONS**

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Elk Grove Blvd/Franklin Blvd	Signal	40	D	37	D
2. Elk Grove Blvd/Bruceville Rd	Signal	38	D	40	D
3. Elk Grove Blvd/Big Horn Blvd	Signal	31	C	26	C
4. Elk Grove Blvd/Laguna Springs Dr	Signal	33	C	24	C
5. Elk Grove Blvd/Auto Center Dr	Signal	19	B	25	C
6. Elk Grove Blvd/SR 99 Southbound	Signal	26	C	35	C
7. Elk Grove Blvd/SR 99 Northbound	Signal	13	B	13	B
8. Elk Grove Blvd/East Stockton Blvd	Signal	35	C	39	D
9. East Stockton Blvd/SR 99 Northbound Off-Ramp	Side-Street Stop	5 (20)	A (C)	5 (22)	A (C)
10. Bruceville Rd/Whitelock Pkwy	Signal	28	C	26	C
11. Big Horn Blvd/Whitelock Pkwy	Signal	40	D	16	B
12. Whitelock Pkwy/West Stockton Blvd	Side-Street Stop	6 (14)	A (B)	5 (12)	A (B)
13. Bruceville Rd/Bilby Rd	Signal	11	B	10	A
14. Hood Franklin Rd/I-5 SB Ramps	Side-Street Stop	4 (10)	A (B)	7 (11)	A (B)
15. Hood Franklin Rd/I-5 NB Ramps	Side-Street Stop	0 (14)	A (B)	2 (12)	A (B)
16. Hood Franklin Rd/Franklin Blvd	All-Way Stop	22	C	13	B
17. Bilby Rd/Franklin Blvd	All-Way Stop	57	F	8	A
18. Willard Pkwy/Bilby Rd (North)	Signal	31	C	25	C
19. Willard Pkwy/Bilby Rd (South)	Signal	29	C	30	C
20. Kammerer Rd/Bruceville Rd	Side-Street Stop	9 (13)	A (B)	9 (12)	A (B)
21. Kammerer Rd/Promenade Pkwy	Signal	13	B	18	B
22. Kammerer Rd/SR 99 Southbound Ramps	Signal	6	A	6	A
23. Grant Line Rd/SR 99 Northbound Ramps	Signal	8	A	9	A
24. Grant Line Rd/East Stockton Blvd	Signal	27	C	29	C
25. Grant Line Rd/Waterman Rd	Signal	19	B	20	B
26. Kammerer Rd/Hood Franklin Rd	–	–	–	–	–
27. Kammerer Rd/Franklin Blvd	–	–	–	–	–
28. Kammerer Rd/Willard Pkwy	–	–	–	–	–

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
29. Kammerer Rd/Collector 2	–	–	–	–	–
30. Kammerer Rd/Big Horn Blvd	–	–	–	–	–
31. Kammerer Rd/Collector 1	–	–	–	–	–
32. Kammerer Rd/Lotz Pkwy	–	–	–	–	–
33. Kammerer Rd/Sterling Meadows Ct	–	–	–	–	–

Source: Fehr & Peers 2014, pp. 18–21

**Bold** indicates unacceptable operations

### Freeway Facility Operations

**Table 5.13-5** summarizes the existing AM and PM peak-hour freeway operations on SR 99 and I-5. As shown, the freeway facilities operate acceptably at LOS D or better during both peak hours.

However, peak period operations on SR 99 may be worse than reported due to reoccurring bottlenecks. As documented in the California Department of Transportation Mobility Performance Report (2009), several bottleneck locations exist on SR 99 that meter traffic northbound in the morning and southbound in the evening. These bottlenecks cause congested conditions (i.e., vehicle speed of 35 miles per hour or less) and vehicle queuing on northbound SR 99 during the AM peak period. Similarly, bottlenecks on southbound SR 99 in the evening meter traffic on SR 99 through Elk Grove.

**TABLE 5.13-5  
FREEWAY ANALYSIS – EXISTING CONDITIONS**

Freeway Facility	Type	AM Peak Hour		PM Peak Hour	
		Density	LOS	Density	LOS
1. NB SR 99 South of Grant Line Road	Basic Segment	20.9	C	20.4	C
2. NB SR 99 Grant Line Road Off-Ramp	Diverge	19.1	B	16.8	B
3. NB SR 88 Grant Line Road Loop On-Ramp	Basic Segment	11.9	B	10.9	A
4. NB SR 99 Grant Line Road Slip On-Ramp	Merge	16.6	B	16.3	B
5. NB SR 99 South of Elk Grove Boulevard	Basic Segment	17.6	B	17.8	B
6. NB SR 99 Elk Grove Boulevard Off-Ramp	Diverge	18.0	B	17.9	B
7. NB SR 99 Elk Grove Boulevard Loop On-Ramp	Merge	–	–	–	–
8. NB SR 99 Elk Grove Boulevard Slip On-Ramp	Merge	22.2	C	20.7	C
9. NB SR 99 North of Elk Grove Boulevard	Basic Segment	18.4	C	17.7	B
10. SB SR 99 North of Elk Grove Boulevard	Basic Segment	16.7	B	20.3	C
11. SB SR 99 Elk Grove Boulevard Off-Ramp	Diverge	17.4	B	21.5	C
12. SB SR 99 Elk Grove Boulevard Slip On-Ramp	Merge	20.9	C	23.9	C
13. SB SR 99 South of Elk Grove Boulevard	Basic Segment	15.9	B	18.5	C
14. SB SR 99 Grant Line Road Off-Ramp	Diverge	12.3	B	15.0	B
15. SB SR 99 Grant Line Road Loop On-Ramp	Basic Segment	12.7	B	14.8	B
16. SB SR 99 Grant Line Road Slip On-Ramp	Merge	16.5	B	18.6	B
17. SB SR 99 South of Grant Line Road	Basic Segment	12.0	B	14.4	B

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Freeway Facility	Type	AM Peak Hour		PM Peak Hour	
		Density	LOS	Density	LOS
18. NB I-5 South of Hood Franklin Road	Basic Segment	15.5	B	17.0	B
19. NB I-5 Hood Franklin Road Off-Ramp	Diverge	21.8	C	21.9	C
20. NB I-5 Hood Franklin Road Loop On-Ramp	Merge	19.8	B	19.3	B
21. NB I-5 Hood Franklin Road Slip On-Ramp	Merge	25.8	C	20.6	C
22. NB I-5 North of Hood Franklin Road	Basic Segment	20.8	C	17.1	B
23. SB I-5 North of Hood Franklin Road	Basic Segment	12.3	B	16.8	B
24. SB I-5 Hood Franklin Road Off-Ramp	Diverge	20.8	C	24.0	C
25. SB I-5 Hood Franklin Road Loop On-Ramp	Merge	19.3	B	20.5	C
26. SB I-5 Hood Franklin Road Slip On-Ramp	Merge	19.8	B	20.9	C
27. SB I-5 South of Hood Franklin Road	Basic Segment	12.7	B	15.8	B

Source: Fehr & Peers 2014, pp. 22–25

### BICYCLE AND PEDESTRIAN FACILITIES

Bicycle and pedestrian trips account for approximately 2.8 percent of all work trips and 4.9 percent of all non-work trips made by residents and employees in suburban areas. This estimate is from the Pre-Census Travel Behavior Report Analysis of the 2000 SACOG Household Travel Survey.

The majority of the bike paths in the City limits are Class II lanes, which are located on existing streets or highways and are striped for one-way bicycle travel. Below are descriptions of bicycle paths and their classifications.

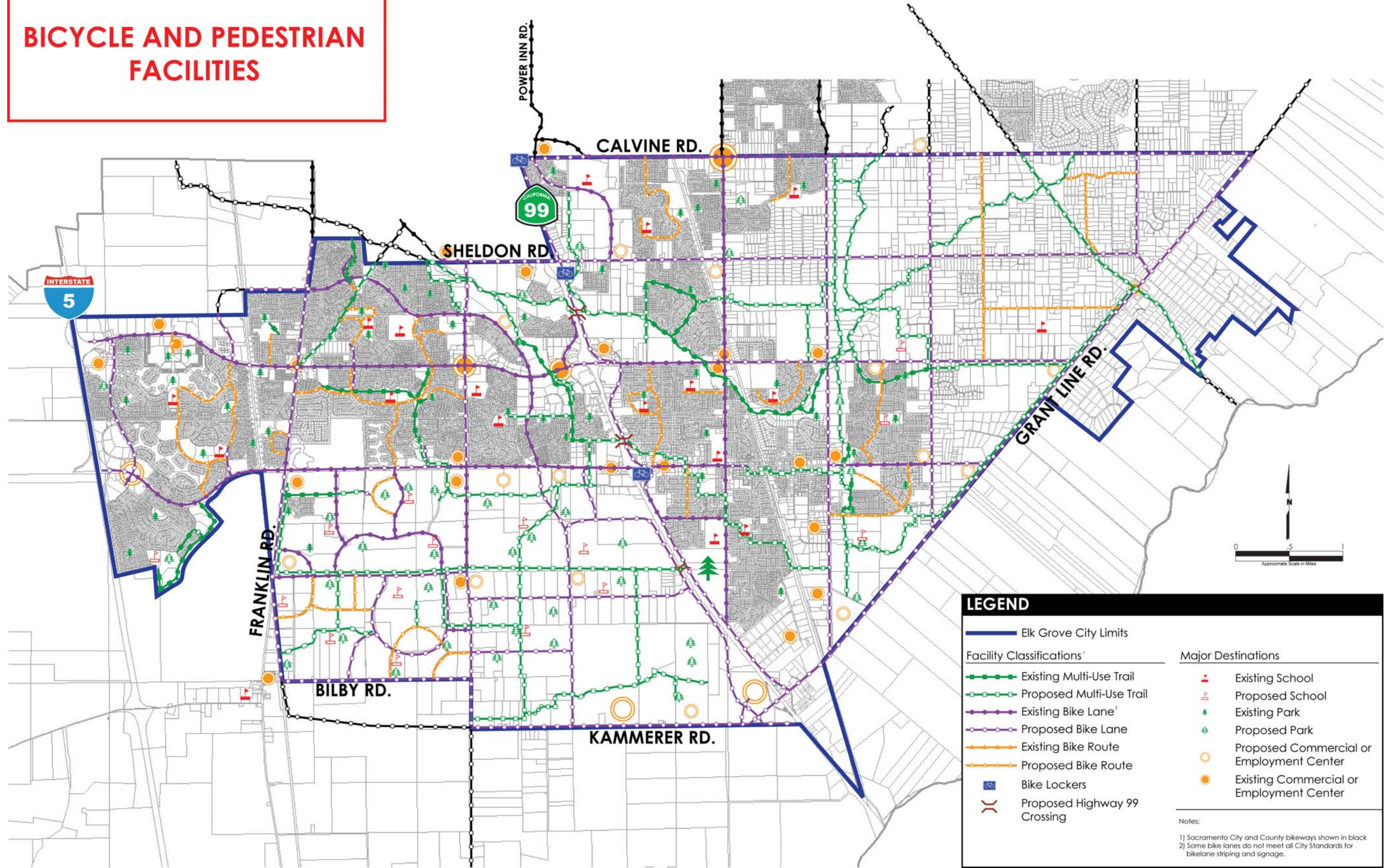
- Class I bike paths provide a completely separated right-of-way for the exclusive use of bicycles and pedestrian with cross-flow minimized.
- Class II bike lanes are striped lanes for one-way bike travel on a street or highway.
- Class III bike routes provide for shared use with pedestrians or motor vehicle traffic.

The City adopted the City of Elk Grove Bicycle and Pedestrian Master Plan (BPMP) in July 2004. The BPMP identifies existing facilities opportunities, constraints, and destination points for bicycle users and pedestrians in Elk Grove. Existing and proposed bicycle and pedestrian facilities documented in the BPMP are shown on **Figure 5.13-2**.

### TRANSIT FACILITIES

The City of Elk Grove is served by its own transit system, e-Tran, including e-Tran neighborhood shuttle service (ez-tran), limited local transit service, and commuter routes. Local transit service is provided on weekdays (six routes) and weekends (three routes). E-Tran provides nine commuter routes that operate mid-week, including two reverse commuter routes. The current e-Tran system map is shown on **Figure 5.13-3**.

# BICYCLE AND PEDESTRIAN FACILITIES



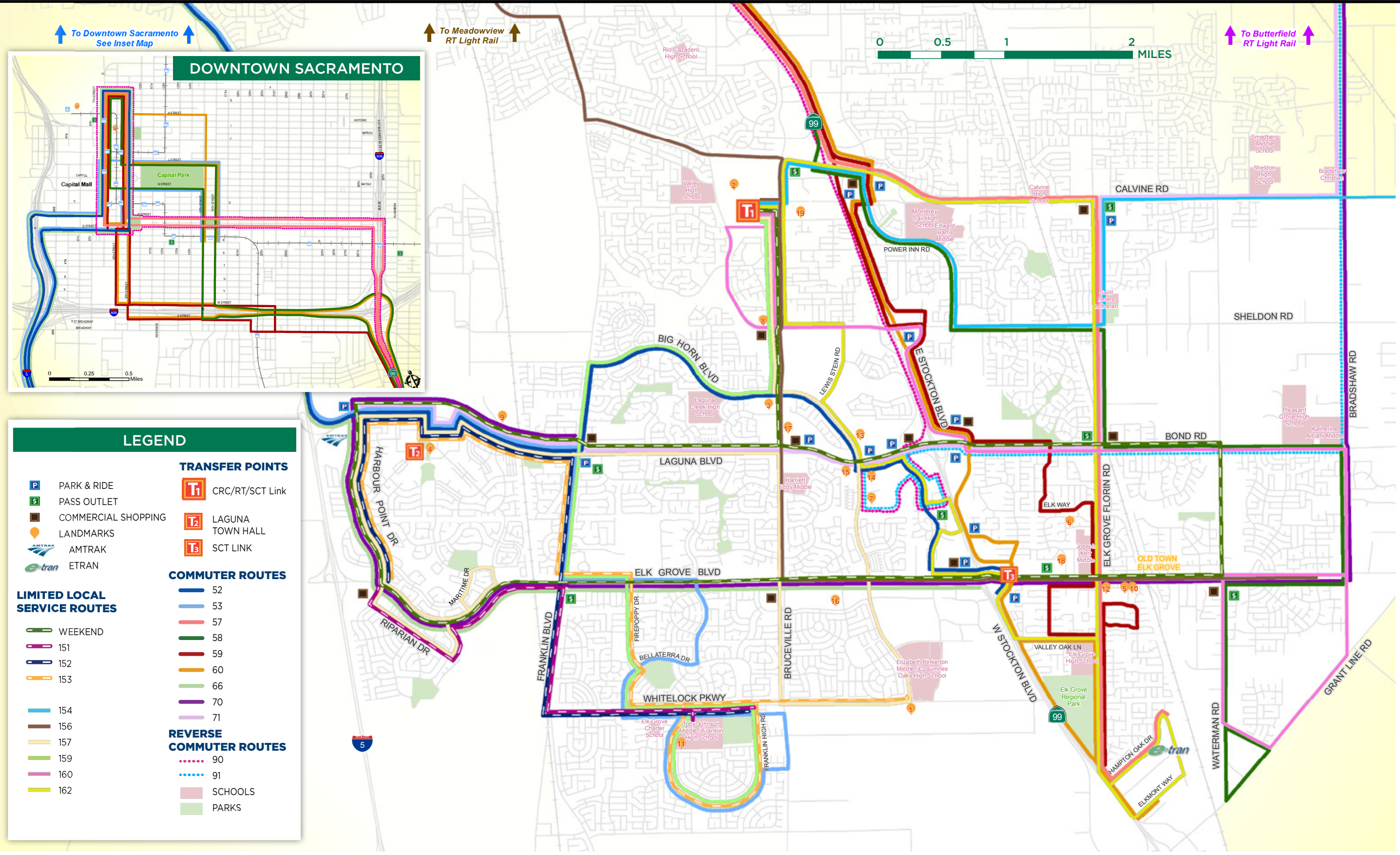
Source: City of Elk Grove



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**FIGURE 5.13-2**  
Elk Grove Bicycle and Pedestrian Facilities





Source: City of Elk Grove



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**FIGURE 5.13-3**  
Elk Grove Transit System Map





**5.13.2 REGULATORY FRAMEWORK**

## STATE

**California Department of Transportation**

Caltrans operates and maintains State Route 99 and Interstate 5, which provide regional access to Elk Grove and the adjacent areas. Additionally, the Caltrans Division of Planning has four major functions including the Office of Advance Planning, Regional Planning/Metropolitan Planning Organization, Local Assistance/IGR/CEQA, and System Planning Public Transportation.

The Office of System Planning Public Transportation prepares Transportation Concept Reports in coordination with the regional planning partners and other district divisions. The Transportation Concept Reports (TCRs) are long-term planning documents, which evaluate current and projected conditions along specified routes. The TCRs establish 20-year planning visions and concepts and recommend long-term improvements to achieve the concept. The TCRs also reflect the plans of the applicable Regional Transportation Planning Agencies (RTPAs, SACOG) and Metropolitan Planning Organizations (MPOs) for managing local and regional travel demand on state routes. Caltrans has established a Concept Level of Service for all roadways under its jurisdiction. The Concept LOS assumes a 20-year horizon and improvements to the identified facility. The Concept LOS for SR 99 from Elk Grove Boulevard to Martin Luther King Jr. Boulevard is LOS F (Caltrans 2004).

## LOCAL

**Sacramento Area Council of Governments**

In 2002, the Sacramento Area Council of Governments (SACOG) completed a three-year process of updating its long-range transportation plan for the Sacramento region, which covers all of Sacramento, Yolo, Sutter, Yuba, Placer, and El Dorado counties, except for the Tahoe Basin. The 2025 Metropolitan Transportation Plan (MTP) was updated in 2006 and uses the transportation plans of cities and counties to provide coordination on transportation strategies that link different locations in the region, such as highways, rail, bus services, and bikeways. The plan encompasses ten broad goals, only three dealing directly with transportation, with the main goal to improve the quality of life in the greater Sacramento area. The MTP is a comprehensive, coordinated, multimodal plan for the region that can be used as an advocacy document to obtain funding for the proposed projects. Half of the funds in the MTP go toward the maintenance of roads and transit services and the other half goes toward capital construction projects. The last MTP for 2025 proposed using \$22.5 billion in transportation funds to operate, maintain, and expand the region's transportation system. Expenditures included \$2.5 billion for state highway improvements, \$3 billion for state highway maintenance, \$2.5 billion for transit improvements, \$5 billion for transit operations, and \$5 billion for local road improvements (SACOG 2014).

**City of Elk Grove General Plan**

The General Plan identifies specific policies regarding transportation. The Project does not include any actions or components that conflict with these General Plan policies. However, it should be noted that the final authority for interpretation of a policy statement, determination of the Project's consistency, ultimately rests with the Elk Grove City Council. The following policies are applicable to the proposed Project:

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- "Policy CI-2:** The City shall coordinate and participate with the City of Sacramento, Sacramento County and Caltrans on roadway improvements that are shared by the jurisdictions in order to improve operations."
- Policy CI-4:** Specific Plans, Special Planning Areas, and development projects shall be designed to promote pedestrian movement through direct, safe, and pleasant routes that connect destinations inside and outside the plan or project area."
- "Policy CI-8:** The City shall encourage the extension of bus rapid transit and/or light rail service to the planned office and retail areas north of Kammerer Road and west of Hwy 99."
- "Policy CI-10-Action 1:** Require the dedication of right of way and the installation of roadway improvements as part of the review and approval of development projects. The City shall require the dedication of major road rights of way (generally, arterials and thoroughfares) at the earliest opportunity in the development process in order to implement this policy."
- "Policy CI-11:** The City shall assist Caltrans in implementing improvements to I-5 and Hwy 99 within the city."
- "Policy CI-12:** The City supports efforts to locate an alternative route for a future regional roadway connecting Hwy 99 and Hwy 50 in order to reduce the need for widening of Grant Line Road, particularly in the "Sheldon town" area."
- "Policy CI-13:** The City shall require that all roadways and intersections in Elk Grove operate at a minimum Level of Service "D" at all times."
- "Policy CI-14:** The City recognizes that Level of Service D may not be achieved on some roadway segments, and may also not be achieved at some intersections. Roadways on which LOS D is projected to be exceeded are shown in the General Plan Background Report, based on the latest traffic modeling conducted by the City. On these roadways, the City shall ensure that improvements to construct the ultimate roadway system as shown in this Circulation Element are completed, with the recognition that maintenance of the desired level of service may not be achievable."
- "Policy CI-15:** Development projects shall be required to provide funding or to construct roadway/intersection improvements to implement the City's Circulation Master Plan. The payment of established traffic impact or similar fees shall be considered to provide compliance with the requirements of this policy with regard to those facilities included in the fee program, provided that the City finds that the fee adequately funds all required roadway and intersection improvements. If payment of established fees is used to provide compliance with this policy, the City may also require the payment of additional fees if necessary to cover the fair share cost of facilities not included in the fee program."
- "Policy CI-16:** Where a development project is required to perform new roadway construction or road widening, the entire roadway shall be completed to its planned width from curb-to-curb prior to the operation of the project for

which the improvements were constructed, unless otherwise approved by the City Engineer. Such roadway construction shall also provide facilities adequate to ensure pedestrian safety as determined by the City Engineer."

- "Policy CI-18: To the extent possible, major traffic routes for residential areas should be separate from those used by the city's industrial areas, with the purpose of avoiding traffic conflicts and potential safety problems."
- "Policy CI-19: The circulation system serving the city's industrial areas should be designed to safely accommodate heavy truck traffic."
- "Policy CI-21: The City shall require the installation of traffic pre-emption devices for emergency vehicles (police and fire) at all newly constructed intersections, and shall seek to retrofit all existing intersections to incorporate these features."
- "Policy CI-22: Where traffic calming devices or techniques are employed, the City shall coordinate design and implementation with the Elk Grove Police Department and the Elk Grove CSD to ensure adequate access for police and fire vehicles."
- "Policy CI-23: All public streets should have sufficient width to provide for parking on both sides of the street and enough remaining pavement width to provide for fire emergency vehicle access."

### **Elk Grove Bicycle and Pedestrian Master Plan**

The Bicycle and Pedestrian Master Plan (2004; BPMP) identifies existing facilities, opportunities, constraints, and destination points for bicycle users and pedestrians in the City of Elk Grove that served as the basis for developing BPMP goals and supporting policies for planning and implementation of bikeway and pedestrian facilities within the public right-of-way. The BPMP includes an implementation program, phasing priorities, and a map showing recommended locations of bicycle and pedestrian paths. The BPMP includes future bicycle lanes and multiuse trails in the Project area.

### **Elk Grove Trails Master Plan**

The Elk Grove Trails Master Plan (EGTMP) is the expression of the City's desire to have an exemplary off-street multi-use trail system that provides connectivity throughout the City and the wider Sacramento region in order to offer recreational opportunities and an alternative method for transportation for Elk Grove residents. In order to achieve this system, the City acknowledges that it is necessary to provide direction on where trails should be located, design standards and guidelines to describe the desired characteristics of trails, identify funding sources for trail planning, construction, and maintenance, establish prioritization criteria regarding which trail projects to implement first, and to describe the City and inter-agency collaborative actions required to create the trail system. The EGTMP was adopted by the City Council in January 2007, but will be continually updated as goals are achieved, as new funding sources become available, and in order to ensure consistency with the Elk Grove General Plan. The EGTMP includes future multiuse trails in the Project area.

## 5.13 TRANSPORTATION

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### 5.13.3 IMPACTS AND MITIGATION MEASURES

#### STANDARDS OF SIGNIFICANCE

##### **CEQA Thresholds**

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. A transportation impact is considered significant if implementation of the Project would result in any of the following:

- 1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- 2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- 3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- 4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- 5) Result in inadequate emergency access.
- 6) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The Project area is not located in the vicinity of an airport and would have no effect on air traffic patterns. Therefore, Standard of Significance 3 would not apply and is not addressed further in this Draft EIR.

##### **City of Elk Grove Thresholds**

Consistent with the City of Elk Grove's Traffic Impact Analysis Guidelines, the following evaluation criteria were also used to determine the significance of Project impacts:

##### Intersections

An impact to a roadway segment is considered significant, and mitigation measures must be identified when:

- The traffic generated by the Project degrades the level of service from an acceptable LOS D or better (without the Project) to an unacceptable LOS E or LOS F (with the Project)
- The level of service (without Project) is unacceptable and Project-generated traffic increases the average vehicle delay by more than 5 seconds.

### Roadway Segments

An impact to a roadway segment is considered significant, and mitigation measures will be identified when:

- The traffic generated by the Project degrades the level of service from an acceptable LOS D or better (without the Project) to an unacceptable LOS E or LOS F (with the Project)
- The level of service (without the Project) is unacceptable and Project-generated traffic increases the volume-to-capacity (V/C) ratio by 0.05 or more

### Freeway Facilities

An impact is considered significant on freeway facilities if the Project causes the facility to change from an acceptable to unacceptable level of service.

For facilities that are or will be (in the cumulative condition) operating at unacceptable LOS without the Project, an impact is considered significant if the Project:

- Increases the V/C ratio on a freeway mainline segment or freeway ramp junction by 0.05
- Increases the number of peak-hour vehicles on a freeway mainline segment or freeway ramp junction by more than 5 percent

According to the Guide for the Preparation of Traffic Impact Studies, Caltrans strives to maintain a target level of service at the transition between LOS C and LOS D on State highway facilities; therefore, LOS D was selected as the minimum standard for all study freeway facilities.

### Bicycle/Pedestrian/Transit Facilities

An impact is considered significant if implementation of the Project would disrupt or interfere with existing or planned bicycle, pedestrian, or transit facilities.

## METHODOLOGY

### **Proposed Project**

#### Trip Generation

Trip generation estimates for the proposed Project were prepared based on methodologies and trip rates presented in the Institute of Transportation Engineers' (2012) *Trip Generation*, 9<sup>th</sup> Edition, with adjustments to account for internal vehicle trips and walking trips given the mix of land use proposed and the location of the Project relative to other services.

The traffic study determined that the combined effects of the Project's land use, location, and development scale would contribute to a reduction in off-site average weekday vehicle "trips." (For example one vehicle trip is when a person drives from their home to shopping or their job. Their return drive home is another trip.) This reduction is due largely to the Project's mix of land uses and proximity to commercial and retail services and connections between the Project area and these services.

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Traditionally, traffic engineers and transportation planners have estimated internalization of project trips using one of two methods. First, they would estimate it based on their professional judgment. Alternatively, professionals relied on the Institute of Transportation Engineers' (ITE) internalization methodology presented in the ITE *Trip Generation* handbook. Although it has been applied in thousands of studies in California, the methodology was limited as it was based on only six surveys in Florida. Additionally, the ITE internalization methodology only accounts for the land use types on the mixed-use site. Given the limited input information (land use amount and type) and the limited range of data (six surveys), the accuracy of the internalization estimates has recently been found to generally underestimate internalization of trips from mixed-use projects.

Recognizing the limitations of the simplified methodology applied in the ITE handbook, the US Environmental Protection Agency (EPA) commissioned a study to develop a more substantial, statistically superior methodology. This methodology, identified as MXD (or mixed-use development trip generation), begins with ITE rates and develops trip internalization estimates based on a series of factors tied to numerous site attributes. It should also be noted that the MXD model has been developed in cooperation with the EPA and the ITE and that the ITE is currently reviewing the model for potential inclusion in their updated recommended practice for evaluating MXD projects. The MXD methodology is described in greater detail in **Appendix K**. The Project's trip generation, based on the MXD methodology, is summarized in **Table 5.13-6**.

**TABLE 5.13-6  
PROJECT TRIP GENERATION**

Land Use	Quantity	ITE Code	Trip Rate			Trips		
			Daily	AM	PM	Daily	AM	PM
Multi-Family Housing (dwelling units)	1,690	220	6.65	0.51	0.62	11,239	862	1,048
Single-Family Detached Housing (dwelling units)	3,040	210	9.52	0.75	1.00	28,941	2,280	3,040
Commercial (1,000 square feet)	190	820	54.25	1.22	4.85	10,307	232	921
Office (1,000 square feet)	6,042	710	11.03	1.56	1.49	66,643	9,426	9,003
Industrial (1,000 square feet)	1,437	110	6.97	0.92	0.97	10,016	1,322	1,394
School (students)	2,550	520	1.29	0.45	0.15	3,290	1,148	383
<b>Gross Trips</b>						<b>130,435</b>	<b>15,269</b>	<b>15,788</b>
<b>Internal Capture</b>						<b>33,874</b>	<b>3,893</b>	<b>4,373</b>
<b>Net Trips Made by Motor Vehicle</b>						<b>96,561</b>	<b>11,376</b>	<b>11,415</b>

Source: Fehr & Peers 2014, p. 30

### Planned Circulation

Primary access to the Project area would be provided by Kammerer Road, Bilby Road, Kyler Road, Bruceville Road, Big Horn Boulevard, Lotz Parkway, and West Stockton Boulevard/Poppy Ridge Road. As an important part of the Capital SouthEast Connector project, Kammerer Road will serve both local and regional traffic. Consistent with the connector and the City of Elk Grove conceptual circulation system for Sterling Meadows and the Southeast Policy Area, half-mile intersection spacing is preserved on Kammerer Road.

Roadways

Table 5.13-7 summarizes on-site roadway travel lanes and level of service based on the roadway segment capacities from Table 5.13-2.

**TABLE 5.13-7  
EXISTING PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE – ON-SITE ROADWAYS**

Roadway	Segment		Lanes	Volume	Capacity	Volume-to-Capacity	LOS
	From	To					
1. Bruceville Road	Bilby Road	Kammerer Road	4	8,000	36,000	0.22	A
2. Big Horn Boulevard	Poppy Ridge Road	Residential Collector 1	4	29,400	36,000	0.82	D
	Residential Collector 1	Bilby Road		27,100		0.75	C
	Bilby Road	Kammerer Road		21,800		0.61	B
3. Lotz Parkway	Whitelock Parkway	Poppy Ridge Road	4	32,150	36,000	0.89	D
	Poppy Ridge Road	Residential Collector 1		19,100		0.53	A
	Residential Collector 1	Bilby Road		15,600		0.43	A
	Bilby Road	Kammerer Road		18,000		0.50	A
4. Residential Collector	South of Poppy Ridge Road			2,500	18,000	0.14	A
5. Residential Collector	South of Poppy Ridge Road			2,100	18,000	0.12	A
6. Poppy Ridge Road	Big Horn Boulevard	Lotz Parkway	2	8,100	18,000	0.45	A
7. West Stockton Boulevard	East of Lotz Parkway		4	20,700	36,000	0.58	A
8. Residential Collector	Big Horn Boulevard	Lotz Parkway	2	10,200	18,000	0.57	A
	East of Lotz Parkway			8,100		0.45	A
9. Bilby Road	Bruceville Road	Connector 2	4	10,100	36,000	0.28	A
	Connector 2	Big Horn Boulevard		12,900		0.36	A
	Big Horn Boulevard	Connector 1		13,100		0.36	A
	Connector 1	Lotz Parkway		10,600		0.29	A
	East of Lotz Parkway		2	4,200	18,000	0.23	A
10. Kammerer Road	Bruceville Road	Connector 2	4	28,400	36,000	0.79	C
	Connector 2	Big Horn Boulevard		26,400		0.73	C
	Big Horn Boulevard	Connector 1		26,600		0.74	C
	Connector 1	Lotz Parkway		31,400		0.87	D

Source: Fehr & Peers 2014, pp. 32–35

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As shown in **Table 5.13-7**, all of the on-site roadways would operate at LOS D or better. Along the Project frontage, Kammerer Road would operate acceptably with four lanes and half-mile intersection spacing, consistent with the Capital SouthEast Connector project. The highest volumes on-site occur on Big Horn Boulevard and Lotz Parkway at the northern end of the Project area. The Project area would also accommodate the planned (but not yet programmed) SR 99/Whitelock Parkway interchange, which would serve traffic generated by land uses to/from the west of SR 99. As envisioned, the SR 99/Whitelock Parkway interchange would not provide access to/from the east, due to constraints associated with Elk Grove Regional Park.

### Intersections

**Figure 5.13-4** shows recommended on-site intersection control. Each intersection was evaluated using the Manual on Uniform Traffic Control Devices (MUTCD) peak-hour volume warrant for traffic signal installation. As shown, all of the intersections on Big Horn Boulevard and the Bruceville Road/Bilby Road (partially constructed) intersection are consistent with planned signalized intersection in the Laguna Ridge Specific Plan.

Traffic signals designated by a yellow symbol are warranted based on forecast traffic volume, but will require special consideration as more detailed development plans are available due to a combination of factors, such as intersection spacing and sight distance. The intersection on Big Horn Boulevard will likely be needed to serve the commercial parcel on the northwest corner of the Big Horn Boulevard/Kammerer Road intersection, given the access restrictions on Kammerer Road. This intersection should be located as far north of Kammerer Road as possible to ensure adequate intersection operation. Similarly, the planned intersections on Bilby Road between Big Horn Boulevard and Lotz Parkway satisfy the peak-hour volume warrant for signalization. However, while intersection spacing may be optimum, signal control may be necessary due to the horizontal curves in this segment of Big Horn Boulevard, which may limit sight distance.

Other on-site intersections designated with a triangle symbol do not satisfy the peak-hour volume warrant. At these intersections, stop or roundabout control should be considered.

### Light Rail Transit

The proposed Project also identifies a preferred corridor for the future extension of Sacramento Regional Transit light-rail transit (LRT). The preferred LRT corridor would travel on Big Horn Boulevard to Bilby Road and continue east on Bilby Road through the Project area connecting to the Sterling Meadows and Elk Grove Promenade areas. The preferred alignment would be within reasonable walking distance to significant residential and employment uses in the Project area (Fehr & Peers 2014, p. 37).

### **Analysis Methodology**

The following impact analysis is based on the Draft Transportation Impact Analysis Southeast Policy Area prepared by Fehr & Peers in February 2014.

### Travel Demand Forecasting

A modified version of SACOG's MTP/SCS travel demand forecasting (TDF) model was used to develop traffic volumes for the study facilities. The base year model is generally representative of 2008 conditions, and the future year model has a 2035 forecast year. The TDF model was used to develop traffic volume forecasts for Project conditions under existing and cumulative conditions.

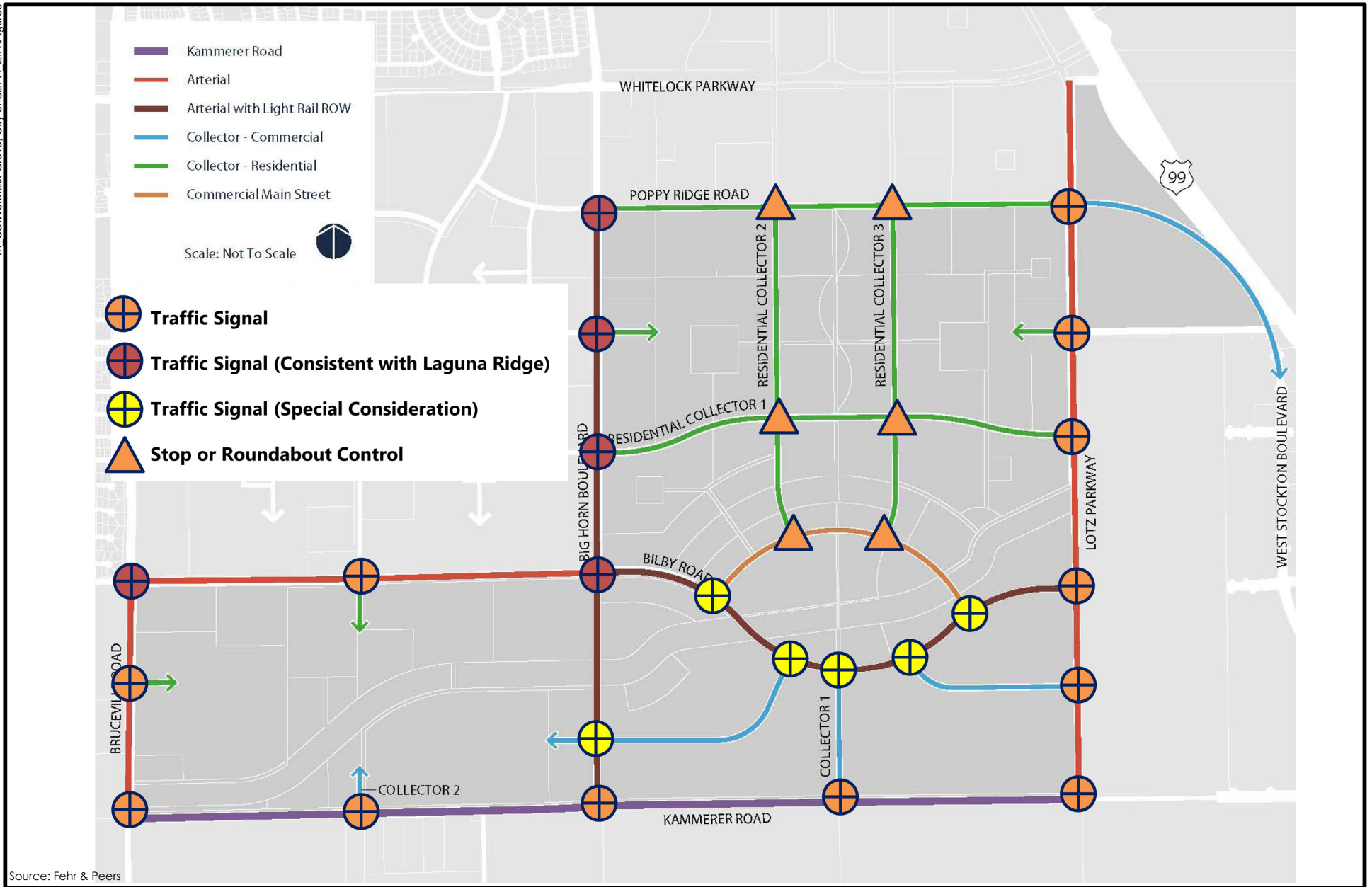


The TDF model was modified to reflect buildout development levels in Elk Grove, including buildout of the Laguna Ridge Specific Plan, Sterling Meadows, the Elk Grove Promenade, and Lent Ranch Marketplace adjacent to the Project. The traffic model trip generation was adjusted to match (i.e., equal to or greater than) trip generation based on the ITE's (2012) *Trip Generation*, 9<sup>th</sup> Edition. Year 2035 levels of development are assumed outside the City of Elk Grove. All forecasts are adjusted using a growth increment method (i.e., the difference method) that adds the growth in forecast travel demand to existing traffic counts. The base year TDF model transportation network (in the study area) was modified to account for changes to the network that have occurred between 2008 and 2013 (i.e., when the traffic counts were collected). The 2035 transportation network includes funded roadway projects and is consistent with programmed improvements listed in the Final MTP/SCS Project List.

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**FIGURE 5.13-4**  
On-Site Intersection Traffic Control



### Improvement Assumptions

The Existing Plus Project Conditions analysis assumes the Project (i.e., and its trips) added to existing conditions. Existing conditions represent development in the study area at the times the traffic counts were conducted. The Existing Plus Project scenario assumes buildout of the Project area on the existing transportation network. Consequently, planned transportation improvements to adjacent facilities, including the Kammerer Road Widening and Extension Project, Big Horn Boulevard, Bruceville Road, and Lotz Parkway, are not assumed. However, the analysis presented in Impact 5.13.1 assumes the transportation improvements needed to support development in the Project area, including the widening of Kammerer Road from Bruceville Road to Lotz Parkway and access intersections, consistent with typical City of Elk Grove expanded intersections. Other off-site improvements were not modified.

Note that the City is in the process of completing several roadway improvement projects that have a relationship to the Project. These include the SR 99/Northbound Loop On-Ramp project and the Grant Line Road Phase 1 Widening project. Since these projects have not been completed, they are not assumed in the existing conditions and may be included as possible improvements under the Project.

### IMPACTS AND MITIGATION MEASURES

#### **Intersection Operations (Standards of Significance 1 and 2)**

**Impact 5.13.1** Implementation of the proposed Project would result in a decline in service at seven intersections in the study area. This impact would be **potentially significant**.

The existing AM and PM weekday peak-hour intersection turning movement volumes, lane configurations, and traffic controls present at each of the study intersections are provided in Appendix B of **Appendix K. Table 5.13-4** summarizes the existing peak-hour intersection operations at the study intersections. As shown, study intersections currently operate acceptably at LOS D or better during both peak hours, except the Bilby Road/Franklin Boulevard intersection, which operates at LOS F during the AM peak hour. The addition of the proposed Project would result in or contribute to unacceptable LOS E or F operations at the following study intersections:

- Elk Grove Boulevard/Laguna Springs Drive – LOS F during the AM peak hour
- Elk Grove Boulevard/SR 99 Southbound Ramps – LOS F during the AM peak hour and LOS E during the PM peak hour
- Whitelock Parkway/West Stockton Boulevard – LOS F during the AM peak hour
- Bruceville Road/Bilby Road – LOS E during the AM peak hour
- Bilby Road/Franklin Boulevard – LOS F during the AM peak hour
- Willard Parkway/Bilby Road (South) – LOS E during the AM peak hour
- Kammerer Road/Bruceville Road – LOS F during the AM and PM peak hour

As noted under existing conditions, during field observations, significant vehicle queuing was observed during the PM peak hour near the SR 99/Elk Grove Boulevard intersection. The Synchro

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intersection operations documented in **Table 5.13-8** are based on the number of vehicles served during the PM peak hour, plus traffic added due to the addition of the proposed Project. The analysis does not account for the operational effects of these closely spaced intersections. Therefore, conditions experienced by motorists may be worse than reported at the intersections on Elk Grove Boulevard between Laguna Springs Drive and East Stockton Boulevard during the AM and PM peak hours. This impact would be **significant**.

**TABLE 5.13-8  
PEAK-HOUR INTERSECTION LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS**

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
		Existing Conditions				Existing Plus Project Conditions			
1. Elk Grove Blvd/Franklin Blvd	Signal	40	D	37	D	40	D	36	D
2. Elk Grove Blvd/Bruceville Rd	Signal	38	D	40	D	42	D	41	D
3. Elk Grove Blvd/Big Horn Blvd	Signal	31	C	26	C	45	D	33	C
4. Elk Grove Blvd/Laguna Springs Dr	Signal	33	C	24	C	<b>185</b>	<b>F</b>	54	D
5. Elk Grove Blvd/Auto Center Dr	Signal	19	B	25	C	20	C	31	C
6. Elk Grove Blvd/SR 99 Southbound	Signal	26	C	35	C	<b>89</b>	<b>F</b>	<b>72</b>	<b>E</b>
7. Elk Grove Blvd/SR 99 Northbound	Signal	13	B	13	B	12	B	12	B
8. Elk Grove Blvd/East Stockton Blvd	Signal	35	C	39	D	35	C	40	D
9. East Stockton Blvd/SR 99 Northbound Off-Ramp	Side-Street Stop	5 (20)	A (C)	5 (22)	A (C)	5 (21)	A (C)	5 (22)	A (C)
10. Bruceville Rd/Whitelock Pkwy	Signal	28	C	26	C	30	C	29	C
11. Big Horn Blvd/Whitelock Pkwy	Signal	40	D	16	B	32	C	28	C
12. Whitelock Pkwy/West Stockton Blvd	Side-Street Stop	6 (14)	A (B)	5 (12)	A (B)	<b>60 (145)</b>	<b>F (F)</b>	11 (33)	B (D)
13. Bruceville Rd/Bilby Rd	Signal	11	B	10	A	<b>58</b>	<b>E</b>	31	C
14. Hood Franklin Rd/I-5 SB Ramps	Side-Street Stop	4 (10)	A (B)	7 (11)	A (B)	4 (11)	A (B)	7 (12)	A (B)
15. Hood Franklin Rd/I-5 NB Ramps	Side-Street Stop	0 (14)	A (B)	2 (12)	A (B)	0 (14)	A (B)	1 (13)	A (B)
16. Hood Franklin Rd/Franklin Blvd	All-Way Stop	22	C	13	B	28	D	16	C
17. Bilby Rd/Franklin Blvd	All-Way Stop	<b>57</b>	<b>F</b>	8	A	<b>135</b>	<b>F</b>	10	A
18. Willard Pkwy/Bilby Rd (North)	Signal	31	C	25	C	<b>56</b>	<b>E</b>	30	C
19. Willard Pkwy/Bilby Rd (South)	Signal	29	C	30	C	32	C	33	C
20. Kammerer Rd/Bruceville Rd	Side-Street Stop	9 (13)	A (B)	9 (12)	A (B)	<b>45 (172)</b>	<b>E (F)</b>	<b>48 (66)</b>	<b>E (F)</b>
21. Kammerer Rd/Promenade Pkwy	Signal	13	B	18	B	17	B	21	C

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Intersection	Traffic Control	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
		Existing Conditions				Existing Plus Project Conditions			
22. Kammerer Rd/SR 99 Southbound Ramps	Signal	6	A	6	A	12	B	9	A
23. Grant Line Rd/SR 99 Northbound Ramps	Signal	8	A	9	A	15	B	13	B
24. Grant Line Rd/East Stockton Blvd	Signal	27	C	29	C	31	C	40	D
25. Grant Line Rd/Waterman Rd	Signal	19	B	20	B	20	C	22	C
26. Kammerer Rd/Hood Franklin Rd	-	-	-	-	-	-	-	-	-
27. Kammerer Rd/Franklin Blvd	-	-	-	-	-	-	-	-	-
28. Kammerer Rd/Willard Pkwy	-	-	-	-	-	-	-	-	-
29. Kammerer Rd/Collector 2	-	-	-	-	-	9	A	12	B
30. Kammerer Rd/Big Horn Blvd	-	-	-	-	-	12	B	14	B
31. Kammerer Rd/Collector 1	-	-	-	-	-	13	B	13	B
32. Kammerer Rd/Lotz Pkwy	-	-	-	-	-	9	A	5	A
33. Kammerer Rd/Sterling Meadows Ct	-	-	-	-	-	-	-	-	-

Source: Fehr & Peers 2014, pp. 41-46

**Bold** indicates unacceptable operating conditions



Implementation of the following improvements would improve peak-hour intersection operations at the identified locations.

Mitigation Measures

The City shall require the completion of roadway improvements necessary to mitigate for the potential traffic impact from the Project as those improvements are triggered by subsequent development projects. If improvements are triggered by the subsequent project, the project proponent shall be responsible for implementation of the improvement. Subsequent projects that do not trigger improvements shall pay its fair share toward improvements. The following shall be implemented:

**MM 5.13.1a** The City shall establish an analysis and tracking mechanism to determine when the roadway improvements identified in this EIR are triggered.

*Timing/Implementation:* Prior to approval of subsequent development projects

*Enforcement/Monitoring:* City of Elk Grove Public Works Department

**MM 5.13.1b** The City shall require that the following roadway improvements are completed either (1) as the need for the improvement is triggered by subsequent development projects or (2) as City CIP projects funded on a fair share basis by subsequent development projects.

A) Optimize and coordinate traffic signal timings along Elk Grove Boulevard and at the following intersections as described in the improvement section below:

- Elk Grove Boulevard/Laguna Springs Drive (Improvement 1)
- Elk Grove Boulevard/SR 99 Southbound Ramps (Improvement 1)
- Whitelock Parkway/West Stockton Boulevard (Improvement 2)
- Bruceville Road/Bilby Road (Improvement 3)
- Bilby Road/Franklin Boulevard (Improvement 4)
- Willard Parkway/Bilby Road (North) (Improvement 5)
- Kammerer Road/Bruceville Road (Improvement 6)

B) Construct improvements to the Bruceville Road/Bilby Road intersection to accommodate the typical City of Elk Grove expanded intersection for a four-lane arterial.

C) Install a traffic signal at the intersection of Bilby Road and Franklin Boulevard. Widen the northbound and southbound approaches to the intersection to provide the following lane configuration:

- A shared left-turn/through lane and a separate right-turn lane on the northbound approach

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- A separate left-turn lane and shared through/right-turn lane on the southbound approach
- A shared left/through/right-turn lane on the eastbound and westbound approach.

OR

Implement the planned Kammerer Road widening and extension project.

D) Install a traffic signal and provide the following lane configurations at the Kammerer Road/Bruceville Road intersection:

- A shared through/right-turn lane on the northbound approach
- A shared left/through lane on the southbound approach
- A shared left/right-turn lane on westbound approach.

*Timing/Implementation:*      *Prior to approval of subsequent development projects*

*Enforcement/Monitoring:*      *City of Elk Grove Public Works Department*

As discussed below, with implementation of the planned improvements described above and mitigation measures **MM 5.13.1a** and **MM 5.13.1b**, operations at the Bruceville Road/Bilby Road, Bilby Road/Franklin Boulevard, Willard Parkway/Bilby Road (South), and Kammerer Road/Bruceville Road intersections would be acceptable and the impact would be reduced to less than significant. However, it is possible that, due to funding constraints, the timing of some of these improvements could be delayed, which could result in a short-term impact until the improvements are completed. Further, due to the close spacing of intersections along Elk Grove Boulevard and the uncertain timing of the planned Lotz Parkway extension, operations at the Elk Grove Boulevard/Laguna Springs Drive, Elk Grove Boulevard/SR 99 Southbound Ramps, and Whitelock Parkway/West Stockton Boulevard intersections would remain unacceptable, and the impact would be **significant and unavoidable**.

### Improvement 1 – Elk Grove Boulevard Corridor (Near SR 99/Elk Grove Boulevard Interchange)

Under existing conditions, the intersection operations were conducted using current traffic signal timings. The addition of traffic from the proposed Project to the existing circulation system would alter travel in the study area, degrading the effectiveness of the current traffic signal timings along the Elk Grove Boulevard corridor. The City routinely modifies traffic signal coordination in response to traffic growth. Optimization of traffic signal timings and coordination along Elk Grove Boulevard would reduce delay along the corridor. At the impacted locations identified above, traffic signal coordination would result in the following reduction in delay at the Laguna Springs Drive and SR 99 Southbound Ramps intersections.

Implementation of Improvement 1 – Traffic Signal Coordination

Intersection	AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>1</sup>	
	Before	After	Before	After
Elk Grove Boulevard/Laguna Springs Drive	F (185)	F (88)	–	–
Elk Grove Boulevard/SR 99 Southbound Ramps	F (89)	E (68)	E (72)	E (56)

Notes:

<sup>1</sup> – Level of Service (Delay)

There is limited right-of-way for physical (i.e., capacity) improvements along the Elk Grove Boulevard corridor. The corridor is largely constructed to its General Plan designation as a six-lane arterial. However, the City is nearing completion of the SR 99/Elk Grove Boulevard interchange northbound loop on-ramp, which is the final phase of the interchange project. In addition, the SR 99/Whitelock Parkway interchange that is planned between Elk Grove Boulevard and Grant Line Road would provide an alternative to Elk Grove Boulevard and Grant Line Road for trips with an origin and destination west of SR 99 in the East Franklin Specific Plan, the Laguna Ridge Specific Plan, and the proposed Project. Implementation of the SR 99/Northbound Loop On-Ramp and the planned SR 99/Whitelock Parkway interchange would reduce delay at study intersections as identified below.

Implementation of Improvement 1 – Northbound Loop On-Ramp and Whitelock Parkway Interchange

Intersection	AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>1</sup>	
	Before	After	Before	After
Elk Grove Boulevard/Laguna Springs Drive	F (185)	D (54)	D (54)	D (37)
Elk Grove Boulevard/SR 99 Southbound Ramps	F (89)	D (53)	E (72)	D (37)

Notes:

<sup>1</sup> – Level of Service (Delay)

While the Whitelock Parkway interchange is planned, funding for the improvement has not been identified. The effect of these improvements diminishes as one travels west of Elk Grove Boulevard and Kammerer Road. Elk Grove Boulevard between Bruceville Road and East Stockton Boulevard is identified in the General Plan Background Report as operating worse than LOS D during the PM peak hour. Consistent with General Plan Policy CI-14, the City recognizes that LOS D may not be achieved on these roadway segments.

Implementation of the improvements outlined above would reduce delay at the Elk Grove Boulevard/Laguna Springs Drive and Elk Grove Boulevard/SR 99 Southbound Ramps intersections and result in acceptable LOS D conditions when considered independently. However, due to the closely spaced intersections, Elk Grove Boulevard is still expected to experience congested conditions due to poor vehicle progression through the corridor. Therefore, this impact would remain **significant and unavoidable**.

Improvement 2 – Whitelock Parkway/West Stockton Boulevard

The Whitelock Parkway/West Stockton Boulevard intersection will be abandoned and replaced with the extension of Lotz Parkway, south of its current location at Auto City Drive. This improvement is part of the Laguna Ridge Specific Plan and will be constructed as a condition of approval associated with development in the Laguna Ridge Specific Plan area. The timing of

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the Lotz Parkway is not certain, but is anticipated to occur well before development in the Project area. The planned Lotz Parkway/Whitelock Parkway intersection will operate acceptably at LOS D or better with traffic from the proposed Project. However, due to the uncertain timing of the improvement, this impact would remain **significant and unavoidable**.

### Improvement 3 – Bruceville Road/Bilby Road

The Bruceville Road/Bilby Road intersection is currently signalized and has been widened to accommodate its General Plan designation along improved frontages. Completion of the intersection improvements to accommodate the typical City of Elk Grove expanded intersection for a four-lane arterial would provide acceptable LOS C operations. The expanded intersection would include two left-turn lanes, two through lanes, and a right-turn lane on each approach. The Project includes Bilby Road as a four-lane arterial. Implementation of this improvement would require transition from four to two through lanes on Bilby Road across Bruceville Road. Otherwise, westbound through travel lanes on Bilby Road could be terminated at the intersection (i.e., into left- and/or right-turn lanes) to minimize widening on Bilby Road west of Bruceville Road. With this improvement, this impact would be **less than significant**.

### Implementation of Improvement 3

Intersection	AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>1</sup>	
	Before	After	Before	After
Bruceville Road/Bilby Road	E (58)	C (23)	C (31)	–

Notes:

<sup>1</sup> – Level of Service (Delay)

### Improvement 4 – Bilby Road/Franklin Boulevard

The Bilby Road/Franklin Boulevard intersection is currently all-way stop-controlled. The addition of traffic from the proposed Project would result in unacceptable LOS F operations during the AM peak hour. Installation of traffic signal control and widening of the northbound and southbound approaches to the intersection to provide the following lane configuration would provide acceptable LOS D or better operation during the AM peak hour:

- A shared left/through turn lane and a separate right-turn lane on the northbound approach
- A separate left-turn lane and shared through/right-turn lane on the southbound approach
- A shared left/through/right-turn lane on the eastbound and westbound approach.

OR

Implement the planned Kammerer Road extension project, which is currently being planned as part of a joint project between the City of Elk Grove and Sacramento County. The Kammerer Road Extension would provide an alternative to traveling through the Franklin community for trips from the proposed Project with an origin/destination to/from I-5. With either of these improvements, this impact would be **less than significant**.

Implementation of Improvement 4

Intersection	AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>1</sup>	
	Before	After	Before	After
Bilby Road/Franklin Boulevard	F (135)	D (47)	A (10)	–

Notes:

<sup>1</sup> – Level of Service (Delay)Improvement 5 – Willard Parkway/Bilby Road (North)

Under existing conditions, the intersection operations were conducted using current traffic signal timings. The addition of traffic from the proposed Project to the existing circulation system would alter travel in the study area, degrading the effectiveness of the current traffic signal at the Willard Parkway/Bilby Road (north) intersection. The City routinely modifies traffic signal coordination in response to traffic growth. Optimization of traffic signal timings at this intersection would reduce delay and improve operations to acceptable LOS D conditions during the AM peak hour. Therefore, this impact would be **less than significant**.

Implementation of Improvement 5

Intersection	AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>1</sup>	
	Before	After	Before	After
Willard Parkway/Bilby Road (North)	E (56)	D (38)	C (30)	–

Notes:

<sup>1</sup> – Level of Service (Delay)Improvement 6 – Kammerer Road/Bruceville Road

The Kammerer Road/Bruceville Road intersection is currently side-street stop-controlled with control on Kammerer Road. Addition of traffic from the proposed Project would result in unacceptable LOS F. Installation of traffic signal control with the following lane configuration would provide acceptable LOS C or better operation during the AM peak hour:

- A shared through/right-turn lane on the northbound approach
- A shared left/through lane on the southbound approach
- A shared left/ right-turn lane on westbound approach.

Therefore, this impact would be **less than significant**.

Implementation of Improvement 6

Intersection	AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>1</sup>	
	Before	After	Before	After
Kammerer Road/Bruceville Road	E (45)	C (23)	F (172)	C (27)

Notes:

<sup>1</sup> – Level of Service (Delay)

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### Summary

As discussed above, with implementation of the above measures, operations at the Elk Grove Boulevard/Laguna Springs Drive, Elk Grove Boulevard/SR 99 Southbound Ramps, and Whitelock Parkway/West Stockton Boulevard intersections would remain unacceptable, and the impact would be **significant and unavoidable**. Physical effects of implementation of these improvements would vary, from no impact for minor improvements like changing lane configurations, to potentially significant impacts for construction projects. The physical effects for the construction of improvements are those identified for the Project in the technical sections of this Draft EIR (Sections 5.1 through 5.13). Changes to signal timing at Willard Parkway/Bilby Road and a new traffic signal and lane configuration changes at Kammerer Road/Bruceville Road would not result in physical effects. Construction of the SR 99/Whitelock Parkway would have temporary construction impacts to SR 99 and air, noise, and visual impacts, and could result in potential impacts to Elk Grove Regional Park (depending on the final design). This improvement could also result in impacts on sensitive species and habitats, cultural resources, and agricultural resources; however, the extent to which these resources would be affected would also depend on final design. Similarly, construction of intersection improvements at Whitelock Parkway/West Stockton Boulevard, Bruceville Road/Bilby Road, and Bilby Road/Franklin Boulevard could result in impacts on sensitive species and habitats, cultural resources, agricultural resources, and temporary air, noise, and visual impacts related to construction.

The timing of development of the proposed Project, and therefore the timing of any needed mitigation related to traffic increases, is not known. Some of these improvements could be constructed for other projects prior to being triggered by development in the proposed Project. Impacts from off-site improvements would be similar to those disclosed for the proposed Project and would be subject to environmental review at the time construction of the improvement is proposed.

### Freeway Facility Operations (Standards of Significance 1 and 2)

**Impact 5.13.2** Implementation of the proposed Project would worsen existing unacceptable conditions along SR 99. This impact would be **potentially significant**.

**Table 5.13-9** summarizes the existing AM and PM peak-hour freeway operations on SR 99 and I-5. As shown, the study freeway facilities would operate acceptably at LOS D or better during both peak hours with the addition of Project traffic. However, as documented in the *California Department of Transportation Mobility Performance Report*, several bottleneck locations exist on SR 99 that meter traffic northbound in the morning and southbound in the evening and cause congested conditions (i.e., vehicle speed of 35 miles per hour or less) and vehicle queuing on northbound SR 99 during the AM peak period. Similarly, bottlenecks on southbound SR 99 in the evening meter traffic on SR 99 through Elk Grove. Due to these reoccurring bottlenecks, peak period operations on SR 99 may be worse than reported. The addition of traffic from the proposed Project would exacerbate congested conditions on SR 99 during the AM and PM peak hours.

**TABLE 5.13-9  
 FREEWAY ANALYSIS – EXISTING PLUS PROJECT CONDITIONS**

Intersection	Traffic Control	Existing Conditions				Existing Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
1. NB SR 99 South of Grant Line Road	Basic Segment	20.9	C	20.4	C	23.1	C	21.2	C
2. NB SR 99 Grant Line Road Off-Ramp	Diverge	19.1	B	16.8	B	21.7	C	17.8	B
3. NB SR 88 Grant Line Road Loop On-Ramp	Basic Segment	11.9	B	10.9	A	11.8	B	13.4	B
4. NB SR 99 Grant Line Road Slip On-Ramp	Merge	16.6	B	16.3	B	16.6	B	18.7	B
5. NB SR 99 South of Elk Grove Boulevard	Basic Segment	17.6	B	17.8	B	17.5	B	21.8	C
6. NB SR 99 Elk Grove Boulevard Off-Ramp	Diverge	18.0	B	17.9	B	18.0	B	21.0	C
7. NB SR 99 Elk Grove Boulevard Loop On-Ramp	Merge	–	–	–	–	–	–	–	–
8. NB SR 99 Elk Grove Boulevard Slip On-Ramp	Merge	22.2	C	20.7	C	23.0	C	24.5	C
9. NB SR 99 North of Elk Grove Boulevard	Basic Segment	18.4	C	17.7	B	18.9	C	21.1	C
10. SB SR 99 North of Elk Grove Boulevard	Basic Segment	16.7	B	20.3	C	21.3	C	20.9	C
11. SB SR 99 Elk Grove Boulevard Off-Ramp	Diverge	17.4	B	21.5	C	22.4	C	22.2	C
12. SB SR 99 Elk Grove Boulevard Slip On-Ramp	Merge	20.9	C	23.9	C	24.2	C	23.0	C
13. SB SR 99 South of Elk Grove Boulevard	Basic Segment	15.9	B	18.5	C	18.9	C	17.7	B
14. SB SR 99 Grant Line Road Off-Ramp	Diverge	12.3	B	15.0	B	16.2	B	13.9	B
15. SB SR 99 Grant Line Road Loop On-Ramp	Basic Segment	12.7	B	14.8	B	12.2	B	13.2	B
16. SB SR 99 Grant Line Road Slip On-Ramp	Merge	16.5	B	18.6	B	17.6	B	20.7	C
17. SB SR 99 South of Grant Line Road	Basic Segment	12.0	B	14.4	B	12.5	B	15.1	B
18. NB I-5 South of Hood Franklin Road	Basic Segment	15.5	B	17.0	B	15.6	B	17.0	B
19. NB I-5 Hood Franklin Road Off-Ramp	Diverge	21.8	C	21.9	C	21.9	C	21.9	C
20. NB I-5 Hood Franklin Road Loop On-Ramp	Merge	19.8	B	19.3	B	15.2	B	19.7	B
21. NB I-5 Hood Franklin Road Slip On-Ramp	Merge	25.8	C	20.6	C	26.4	C	22.6	C

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Intersection	Traffic Control	Existing Conditions				Existing Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
22. NB I-5 North of Hood Franklin Road	Basic Segment	20.8	C	17.1	B	21.4	C	19.2	C
23. SB I-5 North of Hood Franklin Road	Basic Segment	12.3	B	16.8	B	12.4	B	16.9	B
24. SB I-5 Hood Franklin Road Off-Ramp	Diverge	20.8	C	24.0	C	20.9	C	24.1	C
25. SB I-5 Hood Franklin Road Loop On-Ramp	Merge	19.3	B	20.5	C	19.4	B	20.5	C
26. SB I-5 Hood Franklin Road Slip On-Ramp	Merge	19.8	B	20.9	C	19.9	B	21.0	C
27. SB I-5 South of Hood Franklin Road	Basic Segment	12.7	B	15.8	B	12.8	B	15.9	B

Source: Fehr & Peers 2014, pp. 53–57



General Plan Policy CI-2 relates to coordination and participation with the City of Sacramento, Sacramento County, and Caltrans on roadway improvements that are shared by the jurisdictions in order to improve operations, including joint transportation planning efforts, roadway construction, and funding. Consistent with Policy CI-2, the City should continue to work with Caltrans and other affected agencies to address operational conditions on SR 99, which may include the extension of HOV lanes from their current terminus just south of Elk Grove Boulevard to south of Grant Line Road, which would ensure additional capacity on SR 99 through the City. However, this improvement would not address the impact of existing bottleneck locations that cause reoccurring congestion on SR 99. The commitment to improving operation on SR 99 in the City is also demonstrated with General Plan Policy CI-11, related to implementing improvements to I-5 and SR 99, and Policy CI-12, related to the Capital SouthEast Connector project. However, since SR 99 is under the jurisdiction of Caltrans, these facilities are outside the City's jurisdiction to implement improvements that would mitigate these impacts. Therefore, these impacts would be **significant and unavoidable**.

### Mitigation Measures

None available.

### **Emergency Access (Standards of Significance 4 and 5)**

**Impact 5.13.3** Implementation of the proposed Project would not result in inadequate emergency access within the Project area. This impact would be **less than significant**.

Because the internal circulation for the Project area has not been proposed at this time, emergency access cannot be evaluated. Individual development projects in the Project area will be reviewed to determine if they have adequate access for emergency vehicles. General Plan Policy CI-21 requires the installation of traffic pre-emption devices for emergency vehicles at new intersections, while Policy CI-23 requires all streets to have sufficient width to accommodate emergency vehicle access. In addition, individual projects would be reviewed by the Elk Grove Police Department and the Cosumnes Community Services District (CCSD) Fire Department to ensure they are properly designed to provide adequate emergency access. In addition, all proposed roadway improvements would be reviewed by the City Public Works Department to ensure they are designed properly and in accordance with City standards and would not create a hazard for drivers or pedestrians. Compliance with existing City policies, which would be evaluated through the City's existing review process, would ensure this impact would be **less than significant**.

### Mitigation Measures

None required.

### **Bicycle, Pedestrian, and Transit Facilities (Standard of Significance 6)**

**Impact 5.13.4** Implementation of the proposed Project would not disrupt or interfere with existing or planned bicycle, pedestrian, or transit facilities. This impact would be **less than significant**.

Implementation of the proposed Project would not disrupt or interfere with the operation or implementation of any existing or planned bicycle or pedestrian facilities. One of the Project's guiding principles is to provide landscaped parkways and pedestrian and bicycle connections

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throughout the Project area to provide linkages between land uses internally and to surrounding areas. Implementation of the proposed Project would not disrupt or interfere with existing or planned transit operations or facilities. The proposed Project identifies a preferred corridor for the future extension of Sacramento Regional Transit LRT and has a guideline intending sufficient intensity of employment and residential opportunities to attract an appropriate level of public transit services. This impact would be **less than significant**.

### Mitigation Measures

None required.

### 5.13.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

#### CUMULATIVE SETTING

Existing AM and PM weekday peak-hour intersection turning movement volumes, lane configurations, and traffic controls at each of the study intersections under cumulative conditions are provided in Appendix C of **Appendix K**. The TDF model was used to develop traffic volume forecasts for Project conditions under cumulative conditions. The TDF model was modified to reflect buildout development levels in the City of Elk Grove, including buildout of the Laguna Ridge Specific Plan, Sterling Meadows, the Elk Grove Promenade, and Lent Ranch Marketplace adjacent to the Project. The traffic model trip generation was adjusted to match (i.e., equal to or greater than) trip generation based on the ITE's *Trip Generation*. Year 2035 levels of development are assumed outside the City of Elk Grove. All forecasts are adjusted using a growth increment method (i.e., the difference method) that adds the growth in forecast travel demand to existing traffic counts. The 2035 transportation network includes funded roadway projects and is consistent with programmed improvements listed in the Final MTP/SCS Project List.

#### Improvement Assumptions

The analysis assumes transportation improvements within the Project area and the following transportation improvements identified with reasonably foreseeable funding consistent with the region's Final MTP/SCS Project List. The following are key transportation projects from the MTP/SCS in the Project area.

- Bruceville Road – Widen from two to four lanes between Whitelock Parkway and Kammerer Road.
- Grant Line Road (SouthEast Connector Segment) – Widen from two to four lanes between East Stockton Boulevard and Calvine Road.
- Kammerer Road Extension (SouthEast Connector Segment) – Construct new four-lane Kammerer Road from Bruceville Road to I-5 at Hood Franklin Road.
- Kammerer Road (SouthEast Connector Segment) – Widen from two to four then four to six lanes from west of SR 99 (unimproved portion) to Bruceville Road.
- Willard Parkway – Extend Willard Parkway from current terminus to the new Kammerer Road extension as a four-lane roadway with a follow on project to complete widening of Willard Parkway to six lanes.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

**Cumulative Intersection Operations (Standards of Significance 1 and 2)**

**Impact 5.13.5** Implementation of the proposed Project, in combination with other planned, approved, and reasonably foreseeable projects, would result in a decline of service at eight intersections in the study area. This impact would be **cumulatively considerable**.

**Table 5.13-10** summarizes the peak-hour intersection operations at the study intersections under cumulative conditions. As shown, most study intersections would operate acceptably at LOS D or better during both peak hours. However, several intersections would operate unacceptably at LOS E or F.

- Elk Grove Boulevard/Bruceville Road – LOS E during PM peak hour
- Elk Grove Boulevard/Big Horn Boulevard – LOS E during the AM peak hour and LOS F during the PM peak hour
- Elk Grove Boulevard/Laguna Springs Drive – LOS F during the AM peak hour and LOS E during the PM peak hour
- Elk Grove Boulevard/SR 99 Southbound Ramps – LOS E during the AM and PM peak hours
- Elk Grove Boulevard/East Stockton Boulevard – LOS E during the PM peak hour
- Hood Franklin Road/Franklin Boulevard – LOS E during the AM peak hour
- Kammerer Road/Promenade Parkway – LOS F during the PM peak hour
- Grant Line Road/East Stockton Boulevard – LOS F during the AM and PM peak hours

As noted previously, during field observations, significant vehicle queuing was observed during the PM peak hour near the SR 99/Elk Grove Boulevard intersection. The Synchro intersection operations documented in **Table 5.13-10** are based on the number of vehicles that are served during the PM peak hour, plus traffic added due to the addition of the proposed Project. The analysis does not account for the operational effects of the closely spaced intersections. Therefore, conditions experienced by motorists may be worse than reported at the intersections on Elk Grove Boulevard between Laguna Springs Drive and East Stockton Boulevard during the AM and PM peak hours. This is a potentially significant impact.

**TABLE 5.13-10  
PEAK-HOUR INTERSECTION LEVEL OF SERVICE – 2035 CUMULATIVE PLUS PROJECT CONDITIONS**

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Elk Grove Blvd/Franklin Blvd	Signal	48	D	48	D
2. Elk Grove Blvd/Bruceville Rd	Signal	54	D	59	E
3. Elk Grove Blvd/Big Horn Blvd	Signal	80	E	81	F
4. Elk Grove Blvd/Laguna Springs Dr	Signal	107	F	61	E

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Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
5. Elk Grove Blvd/Auto Center Dr	Signal	21	C	32	C
6. Elk Grove Blvd/SR 99 Southbound	Signal	<b>65</b>	<b>E</b>	<b>70</b>	<b>E</b>
7. Elk Grove Blvd/SR 99 Northbound	Signal	–	–	–	–
8. Elk Grove Blvd/East Stockton Blvd	Signal	37	D	<b>69</b>	<b>E</b>
9. East Stockton Blvd/SR 99 Northbound Off-Ramp	Side-Street Stop	51	D	48	D
10. Bruceville Rd/Whitelock Pkwy	Signal	28	C	31	C
11. Big Horn Blvd/Whitelock Pkwy	Signal	32	C	30	C
12. Whitelock Pkwy/West Stockton Blvd	Side-Street Stop	–	–	–	–
13. Bruceville Rd/Bilby Rd	Signal	24	C	23	C
14. Hood Franklin Rd/I-5 SB Ramps	Side-Street Stop	20	B	21	C
15. Hood Franklin Rd/I-5 NB Ramps	Side-Street Stop	18	B	23	C
16. Hood Franklin Rd/Franklin Blvd	All-Way Stop	<b>40</b>	<b>E</b>	13	B
17. Bilby Rd/Franklin Blvd	All-Way Stop	14	B	8	A
18. Willard Pkwy/Bilby Rd (North)	Signal	36	D	33	C
19. Willard Pkwy/Bilby Rd (South)	Signal	43	D	33	C
20. Kammerer Rd/Bruceville Rd	Side-Street Stop	45	D	35	C
21. Kammerer Rd/Promenade Pkwy	Signal	44	D	<b>98</b>	<b>F</b>
22. Kammerer Rd/SR 99 Southbound Ramps	Signal	32	C	29	C
23. Grant Line Rd/SR 99 Northbound Ramps	Signal	23	C	20	C
24. Grant Line Rd/East Stockton Blvd	Signal	<b>113</b>	<b>F</b>	<b>226</b>	<b>F</b>
25. Grant Line Rd/Waterman Rd	Signal	30	C	43	D
26. Kammerer Rd/Hood Franklin Rd	Signal	1 (19)	A (C)	1 (22)	A (C)
27. Kammerer Rd/Franklin Blvd	Signal	23	C	24	C
28. Kammerer Rd/Willard Pkwy	Signal	20	C	29	C
29. Kammerer Rd/Collector 2	Signal	11	B	14	B
30. Kammerer Rd/Big Horn Blvd	Signal	18	B	33	C
31. Kammerer Rd/Collector 1	Signal	14	B	27	C
32. Kammerer Rd/Lotz Pkwy	Signal	18	B	34	C
33. Kammerer Rd/Sterling Meadows Ct	Signal	14	B	15	B

Source: Fehr & Peers 2014, pp. 61–64

**Bold** indicates unacceptable operations

Implementation of the following improvements would improve peak-hour intersection operations at the locations identified above.

Mitigation Measures

**MM 5.13.5** The City shall require that the following roadway improvements are completed either (1) as the need for the improvement is triggered by subsequent development projects or (2) as City CIP projects funded on a fair share basis by subsequent development projects.

A) SR 99/Elk Grove Boulevard interchange Northbound Loop On-Ramp, as previously described.

B) SR 99/Whitelock Parkway interchange, as previously described.

C) Install a traffic signal at the Hood Franklin Road/Franklin Boulevard intersection and widen the southbound and eastbound approaches to the intersection to provide the following lane configuration:

- Separate left- and right-turn lanes on the northbound approach
- Separate through and right-turn lanes on the southbound approach
- Separate left- and right-turn lanes on the eastbound approach

D) Widen the Grant Line Road/East Stockton Boulevard intersection to provide the following improvements:

- Widen westbound Grant Line Road to provide four through lanes through the intersection that would transition to the SR 99 northbound slip on-ramp.
- Widen northbound Survey Road to provide two left-turn lanes and a shared through/right-turn lane.
- Restripe the southbound East Stockton Boulevard approach to provide a separate left-turn lane, a shared through/right-turn lane, and a separate right-turn lane.

*Timing/Implementation: Prior to approval of subsequent development projects*

*Enforcement/Monitoring: City of Elk Grove Public Works Department*

With implementation of the planned improvements described above and mitigation measure **MM 5.13.5**, operations at the Elk Grove Boulevard/SR 99 Southbound Ramps, Elk Grove Boulevard/East Stockton Boulevard, Hood Franklin/Franklin Boulevard, and Grant Line Road/East Stockton Boulevard intersections would be acceptable and the impact would be reduced to less than significant. However, as discussed further below, operations at the Elk Grove Boulevard/Bruceville Road, Elk Grove Boulevard/Big Horn Boulevard, Elk Grove Boulevard/Laguna Springs Drive, and Kammerer Road/Promenade Parkway intersections would remain unacceptable, and the impact would be **cumulatively considerable** and **significant and unavoidable**.

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### Improvement 7 – Elk Grove Boulevard and Kammerer Road Corridors (Near SR 99/Elk Grove Boulevard Interchange)

#### Intersections 2, 3, 4, 6, 8, and 21

Under cumulative conditions, the intersection operations were conducted assuming modified traffic signal timings, consistent with the City's ongoing traffic signal coordination and maintenance in response to traffic growth.

There is limited right-of-way for physical (i.e., capacity) improvements along the Elk Grove Boulevard corridor. The corridor is largely constructed to its General Plan designation as a six-lane arterial. However, the City is nearing construction of the SR 99/Elk Grove Boulevard interchange northbound loop on-ramp, which is the final phase of the interchange project. In addition, the SR 99/Whitelock Parkway interchange that is planned between Elk Grove Boulevard and Grant Line Road would provide an alternative to Elk Grove Boulevard and Grant Line Road for trips with an origin and destination west of SR 99 in the East Franklin Specific Plan, the Laguna Ridge Specific Plan, and the proposed Project. Implementation of the SR 99/Northbound Loop On-Ramp and the planned SR 99/Whitelock Parkway interchange would reduce delay at study intersections as identified below.

#### Implementation of Northbound Loop On-Ramp and Whitelock Parkway Interchange

Intersection	AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>1</sup>	
	Before	After	Before	After
Elk Grove Boulevard/Laguna Springs Drive	F (107)	E (72)	E (61)	E (57)
Elk Grove Boulevard/Auto Center Drive	C (21)	C (22)	C (32)	C (30)
Elk Grove Boulevard/SR 99 Southbound Ramps	E (65)	D (37)	E (70)	D (46)
Elk Grove Boulevard/East Stockton Boulevard	D (37)	C (35)	E (69)	D (43)
East Stockton Boulevard/Northbound Ramps	D (51)	C (32)	D (48)	D (41)
Kammerer Road/Promenade Parkway	D (44)	C (35)	F (98)	E (65)
Grant Line Road/SR 99 Southbound Ramps	C (32)	B (17)	C (29)	B (17)
Grant Line Road/SR 99 Northbound Ramps	C (23)	C (21)	C (20)	C (21)
Grant Line Road/East Stockton Boulevard	F (113)	C (31)	F (226)	D (51)

Notes:

<sup>1</sup> – Level of Service (Delay)

The effect of these improvements diminishes as one travels west of Elk Grove Boulevard and Kammerer Road. Consequently, operational improvements at the Elk Grove Boulevard/Bruceville Road and Elk Grove Boulevard/Big Horn Boulevard intersections would be negligible. Elk Grove Boulevard between Bruceville Road and East Stockton Boulevard is identified in the General Plan Background Report as operating worse than LOS D during the PM peak hour. Consistent with General Plan Policy CI-14, the City recognizes that LOS D may not be achieved on these roadway segments.

Implementation of the improvements outlined above would reduce delay along the Elk Grove Boulevard and Kammerer Road corridors, including operations near the SR 99/Elk Grove Boulevard interchange, which experiences congested conditions due to closely spaced intersection that are characterized by long vehicle queues. However, implementation of these improvements would not result in acceptable LOS D or better operations. Therefore, this impact would remain **cumulatively considerable** and **significant and unavoidable**.

**Improvement 8 – Hood Franklin Road/Franklin Boulevard**

The Hood Franklin Road/Franklin Boulevard intersection was analyzed with all-way stop-control. Under cumulative conditions, the intersection is forecast to operate unacceptably at LOS E during the AM peak hour. Installation of traffic signal control and widening of the southbound and eastbound approaches to the intersection to provide the following lane configuration would provide acceptable LOS C or better operation during the AM peak hour:

- Separate left- and right-turn lanes on the northbound approach
- Separate through and right-turn lane on the southbound approach
- Separate left- and right-turn lanes on the eastbound approach

With this improvement, this impact would be **less than cumulatively considerable**.

**Implementation of Improvement 8**

Intersection	AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>1</sup>	
	Before	After	Before	After
Hood Franklin/Franklin Boulevard	E (40)	C (33)	B (13)	–

Notes:  
<sup>1</sup> – Level of Service (Delay)

**Improvement 9 – Grant Line Road/East Stockton Boulevard**

Under cumulative conditions, the intersection operations were conducted assuming modified traffic signal timings, consistent with the City’s ongoing traffic signal coordination and maintenance in response to traffic growth. The Grant Line Road/East Stockton Boulevard intersection would operate at LOS F during the AM and PM peak hours.

There is limited right-of-way for physical (i.e., capacity) improvements along this segment of Grant Line Road. The General Plan designates this segment of Grant Line Road as an eight-lane arterial. Widening the intersection to provide the following improvements at the intersection would provide acceptable LOS D or better operations:

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- Widen westbound Grant Line Road to provide four through lanes through the intersection that would transition to the SR 99 northbound slip on-ramp.
- Widen northbound Survey Road to provide two left-turn lanes and a shared through/right-turn lane.
- Restripe the southbound East Stockton Boulevard approach to provide a separate left-turn lane, a shared through/right-turn lane, and a separate right-turn lane.

Note that these improvements would require modification to existing bicycle and pedestrian facilities constructed on the improved frontages at the intersections. With this improvement, this impact would be **less than cumulatively considerable**.

### Implementation of Improvement 9

Intersection	AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>1</sup>	
	Before	After	Before	After
Grant Line Road/East Stockton Boulevard	F (113)	C (31)	F (226)	D (49)

Notes:

<sup>1</sup> – Level of Service (Delay)

### Summary

Implementation of the above improvements would reduce traffic impacts of the proposed Project, except operations along the Elk Grove Boulevard corridor and at the Elk Grove Boulevard/Bruceville Road, Elk Grove Boulevard/Big Horn Boulevard, Elk Grove Boulevard/Laguna Springs Drive, and Kammerer Road/Promenade Parkway intersections would remain unacceptable. Therefore, this impact would be **cumulatively considerable** and **significant and unavoidable**.

Physical effects of implementation of these improvements would vary, from no impact for minor improvements like changing lane configurations to potentially significant impacts for construction projects. The physical effects for the construction of improvements are those identified for the Project in the technical sections of this Draft EIR (Sections 5.1 through 5.13). Construction of the SR 99/Whitelock Parkway interchange would have temporary construction impacts to SR 99 and air, noise, and visual impacts, and could result in potential impacts to Elk Grove Regional Park (depending on the final design). This improvement could also result in impacts on sensitive species and habitats, cultural resources, and agricultural resources; however, the extent to which these resources would be affected would also depend on final design. Similarly, construction of the Hood Franklin Road/Franklin Boulevard and Grant Line Road/ East Stockton Boulevard intersection improvements could result in impacts on sensitive species and habitats, cultural resources, agricultural resources, and temporary air, noise, and visual impacts related to construction.

The timing of development of the proposed Project, and therefore the timing of any needed mitigation related to traffic increases, is not known. Some of these improvements could be constructed for other projects prior to being triggered by development in the proposed Project. Impacts from off-site improvements would be similar to those disclosed for the proposed Project and would be subject to environmental review at the time construction of the improvement is proposed.



### Cumulative Freeway Facility Operations (Standards of Significance 1 and 2)

**Impact 5.13.6** Implementation of the proposed Project, in combination with other planned, approved, and reasonably foreseeable projects, would worsen existing unacceptable operations along SR 99. This impact would be **cumulatively considerable**.

**Table 5.13-11** summarizes the cumulative AM and PM peak-hour freeway operations on SR 99 and I-5. As shown, the study freeway facilities would operate acceptably at LOS D or better during both peak hours with the addition of Project traffic.

However, as discussed under existing conditions, peak period operations on SR 99 may be worse than reported due to reoccurring bottlenecks. As documented in the *California Department of Transportation Mobility Performance Report*, several bottleneck locations exist on SR 99 that meter traffic northbound in the morning and southbound in the evening and cause congested conditions (i.e., vehicle speed of 35 miles per hour or less) and vehicle queuing on northbound SR 99 during the AM peak period. Similarly, bottlenecks on southbound SR 99 in the evening meter traffic on SR 99 through Elk Grove. Consequently, the addition of traffic from the proposed Project would exacerbate congested conditions on SR 99 during the AM and PM peak hours.

**TABLE 5.13-11**  
**FREEWAY ANALYSIS – CUMULATIVE PLUS PROJECT CONDITIONS**

Freeway Facility	Type	AM Peak Hour		PM Peak Hour	
		Density	LOS	Density	LOS
1. NB SR 99 South of Grant Line Road	Basic Segment	20.4	C	19.7	C
2. NB SR 99 Grant Line Road Off-Ramp	Diverge	24.7	C	23.7	C
3. NB SR 88 Grant Line Road Loop On-Ramp	Basic Segment	13.3	B	15.7	B
4. NB SR 99 Grant Line Road Slip On-Ramp	Merge	17.9	B	21.2	C
5. NB SR 99 South of Elk Grove Boulevard	Basic Segment	23.1	C	29.9	D
6. NB SR 99 Elk Grove Boulevard Off-Ramp	Diverge	20.8	C	24.7	C
7. NB SR 99 Elk Grove Boulevard Loop On-Ramp	Merge	29.1	D	34.1	D
8. NB SR 99 Elk Grove Boulevard Slip On-Ramp	Merge	22.9	C	27.6	C
9. NB SR 99 North of Elk Grove Boulevard	Basic Segment	23.2	C	29.5	D
10. SB SR 99 North of Elk Grove Boulevard	Basic Segment	27.6	D	23.9	C
11. SB SR 99 Elk Grove Boulevard Off-Ramp	Diverge	26.7	D	24.2	C
12. SB SR 99 Elk Grove Boulevard Slip On-Ramp	Merge	30.2	D	26.5	C
13. SB SR 99 South of Elk Grove Boulevard	Basic Segment	27.8	D	22.1	C
14. SB SR 99 Grant Line Road Off-Ramp	Diverge	21.1	C	17.0	B
15. SB SR 99 Grant Line Road Loop On-Ramp	Basic Segment	13.5	B	12.6	B
16. SB SR 99 Grant Line Road Slip On-Ramp	Merge	20.5	C	20.3	C
17. SB SR 99 South of Grant Line Road	Basic Segment	16.9	B	15.9	B
18. NB I-5 South of Hood Franklin Road	Basic Segment	21.1	C	22.8	C

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Freeway Facility	Type	AM Peak Hour		PM Peak Hour	
		Density	LOS	Density	LOS
19. NB I-5 Hood Franklin Road Off-Ramp	Diverge	26.6	C	28.2	D
20. NB I-5 Hood Franklin Road Loop On-Ramp	Merge	18.1	B	18.4	B
21. NB I-5 Hood Franklin Road Slip On-Ramp	Merge	24.8	C	25.4	C
22. NB I-5 North of Hood Franklin Road	Basic Segment	21.6	C	22.3	C
23. SB I-5 North of Hood Franklin Road	Basic Segment	20.0	C	25.4	C
24. SB I-5 Hood Franklin Road Off-Ramp	Diverge	26.8	C	32.7	D
25. SB I-5 Hood Franklin Road Loop On-Ramp	Merge	24.0	C	28.3	D
26. SB I-5 Hood Franklin Road Slip On-Ramp	Merge	24.8	C	29.1	D
27. SB I-5 South of Hood Franklin Road	Basic Segment	20.5	C	25.0	C

Source: Fehr & Peers 2014, pp. 69–71

General Plan Policy CI-2 relates to coordination and participation with the City of Sacramento, Sacramento County, and Caltrans on roadway improvements that are shared by the jurisdictions in order to improve operations, including joint transportation planning efforts, roadway construction, and funding. Consistent with Policy CI-2, the City should continue to work with Caltrans and other affected agencies to address operational conditions on SR 99, which may include the extension of HOV lanes from their current terminus just south of Elk Grove Boulevard to south of Grant Line Road, which would ensure additional capacity on SR 99 through the City. However, this improvement would not address the impact of existing bottleneck locations that cause reoccurring congestion on SR 99. This commitment to improving operation on SR 99 in the City is also demonstrated with General Plan Policy CI-11, related to implementing improvements to I-5 and SR 99, and Policy CI-12, related to the Capital SouthEast Connector project. However, since SR 99 is under the jurisdiction of Caltrans, these facilities are outside the City's jurisdiction to implement improvements that would mitigate these impacts. Therefore, these impacts would be **cumulatively considerable** and **significant and unavoidable**.

### Mitigation Measures

None available.

### REFERENCES

Caltrans (California Department of Transportation). 2004. District 3, Office of Advance and System Planning. 2004. *State Route 99 Transportation Concept Report*.

City of Elk Grove. 2003. *City of Elk Grove General Plan*.

Fehr & Peers. 2014. *Draft Transportation Impact Analysis, Southeast Policy Area*.

SACOG (Sacramento Area Council of Governments). 2014. "Metropolitan Transportation Plan." [www.sacog.org/mtp/index.cfm](http://www.sacog.org/mtp/index.cfm).

## **5.13 TRANSPORTATION**

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