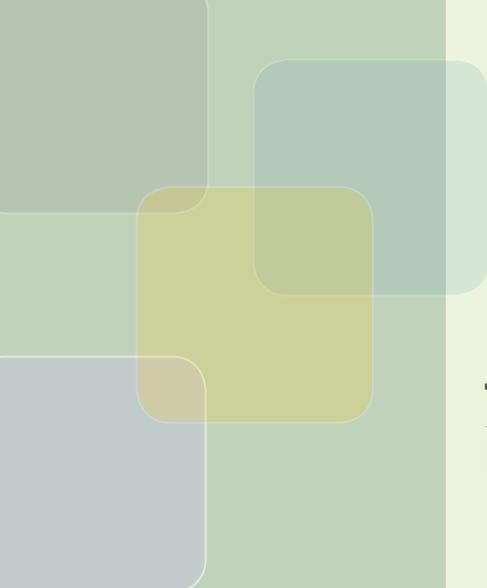


Appendix F: Transportation Impact Study



TRANSPORTATION IMPACT STUDY
ELK GROVE SPHERE OF INFLUENCE AMENDMENT

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1. INTRODUCTION

This study addresses existing conditions, impacts, and mitigation measures associated with amending the City of Elk Grove Sphere of Influence (SOI) to include 7,869 acres south of the City's existing SOI boundary. The project site is located in the unincorporated area of Sacramento County, California. The project area is generally located south-southwest of the existing City of Elk Grove boundaries close to the community of Franklin-Laguna. More specifically, the area to be included in the City's Sphere of Influence (SOI) is described as the areas south of Bilby Road, Kammerer Road, and Grant Line Road, extending south to Eschinger Road and Cosumnes River; east towards Cosumnes River and just past Freeman Road; and west towards Interstate 5 (I-5) and the Union Pacific Railroad tracks. Figure 1 shows the SOI amendment area. The proposed boundary does not reach the Cosumnes River east of State Route 99 (SR 99) but follows the 100-year FEMA floodplain.

The purpose of this analysis is to describe anticipated transportation conditions assuming the proposed Elk Grove SOI is built out. Impacts are identified to disclose the general effect that would result from project approval and subsequent development of the SOI area. Due to the general nature of the land use development assumptions for buildout of the proposed project, the transportation analysis, is not, and cannot be as detailed as subsequent future project specific annexation and development proposals that will ultimately be required.

This study analyzes the on and off-site traffic impacts of the proposed project on roadway and freeway facilities in the study area under existing and cumulative conditions without and with the proposed SOI amendment.

STUDY AREA

The following 24 roadway and 7 freeway segments were selected for analysis based on their proximity to the project sites, their expected usage by project traffic, and the project's expected travel characteristics. Figure 1 shows the proposed SOI amendment area and the study area.

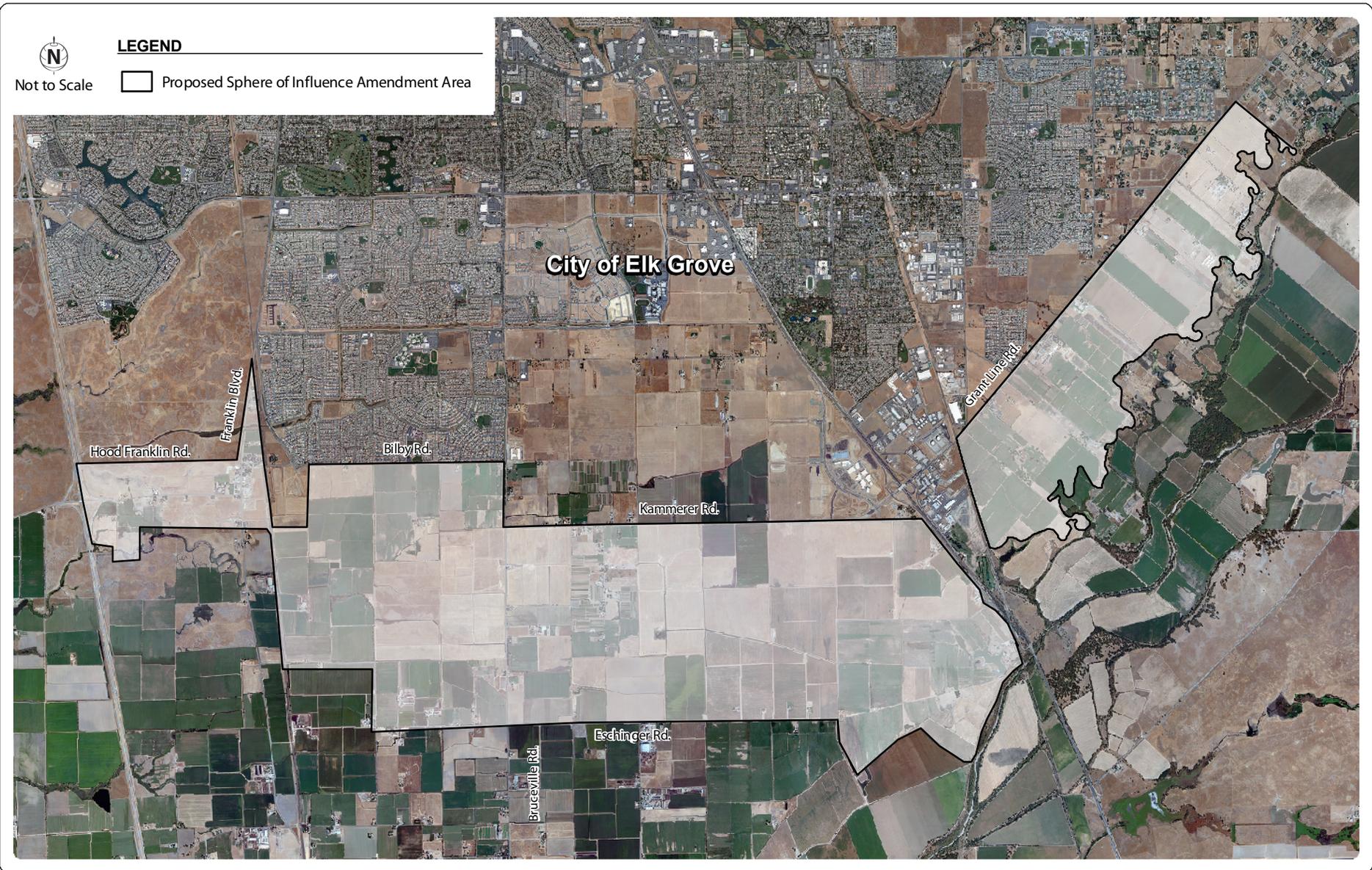
Roadway Segments

1. Elk Grove Boulevard – I-5 to Franklin Boulevard
2. Elk Grove Boulevard – Franklin Boulevard to Bruceville Road
3. Elk Grove Boulevard – Bruceville Road to SR 99
4. Elk Grove Boulevard – SR 99 to Elk Grove-Florin Road
5. Elk Grove Boulevard – Elk Grove-Florin Road to Bradshaw Road
6. Grant Line Road – SR 99 to Bradshaw Road
7. Grant Line Road – Bradshaw Road to Elk Grove Boulevard
8. Grant Line Road – Elk Grove Boulevard to Wilton Road
9. Grant Line Road – Wilton Road to Calvine Road
10. Hood-Franklin Road – I-5 to Franklin Boulevard
11. Bilby Road – Franklin Boulevard to Bruceville Road
12. Kammerer Road – Bruceville Road to West Stockton Boulevard

13. Eschinger Road – Bruceville Road to SR 99
14. Dillard Road – State Route 99 (SR 99) to Wilton Road
15. Lambert Road – Interstate 5 (I-5) to Bruceville Road
16. Franklin Boulevard – Elk Grove Boulevard to Whitelock Parkway
17. Franklin Boulevard – Lambert Road to Hood-Franklin Road
18. Bruceville Road – Elk Grove Boulevard to Whitelock Parkway
19. Bruceville Road – Whitelock Parkway to Kammerer Road
20. Bruceville Road – Kammerer Road to Eschinger Road
21. Bruceville Road – Eschinger Road to Lambert Road
22. Elk Grove-Florin Road – East Stockton Boulevard to Elk Grove Boulevard
23. Waterman Road – Elk Grove Boulevard to Grant Line Road
24. Bradshaw Road – Elk Grove Boulevard to Grant Line Road

Freeway Segments

1. Interstate 5 – North of Laguna Boulevard
2. Interstate 5 – Laguna Boulevard to Elk Grove Boulevard
3. Interstate 5 – Elk Grove Boulevard to Hood-Franklin Road
4. Interstate 5 – Hood-Franklin Road to Twin Cities Road
5. State Route 99 – Twin Cities Road to Dillard Road
6. State Route 99 – Dillard Road to Grant Line Road
7. State Route 99 – Grant Line Road to Elk Grove Boulevard



ANALYSIS METHODOLOGY

Level of service (LOS) is a qualitative measure describing the operating condition of intersections and roadways. LOS ranges from A through F, which represents driving conditions from best to worst, respectively. In general, LOS A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions.

Roadway and Freeway Segments

Roadway and freeway segments were analyzed by comparing average daily traffic volumes to the capacity thresholds presented in Table 1. The capacity thresholds for arterials and rural facilities are from the Sacramento County, *Traffic Impact Analysis Guidelines*, July 2004. The capacity thresholds for freeways are from the City of Elk Grove, *Traffic Impact Analysis Guidelines*, July 2000. These thresholds are used to identify the need for new or upgraded facilities.

In most cases, the results are representative of observed conditions. However, analysis results may not be representative of peak travel conditions where the presence of closely spaced intersections on arterial roadways or bottlenecks on freeway segments result in vehicle queuing and reduced travel speeds. As appropriate, these conditions are noted and discussed.

**TABLE 1
LEVEL OF SERVICE DEFINITIONS FOR STUDY ROADWAYS¹**

Facility Type	Number of Lanes	Maximum Daily Volume				
		LOS A	LOS B	LOS C	LOS D	LOS E
Arterial, Low Access Control ²	2	9,000	10,500	12,000	13,500	15,000
	4	18,000	21,000	24,000	27,000	30,000
	6	27,000	31,500	36,000	40,500	45,000
Arterial, Moderate Access Control ³	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
Arterial, High Access Control ⁴	2	12,000	14,000	16,000	18,000	20,000
	4	24,000	28,000	32,000	36,000	40,000
	6	36,000	42,000	48,000	54,000	60,000
Rural, 2-Lane Highway	2	2,400	4,800	7,900	13,500	22,900
Rural 2-lane Road, 24'-36' of pavement, paved shoulders	2	2,200	4,300	7,100	12,200	20,000
Rural 2-lane Road, 24'-36' of pavement, no shoulders	2	1,800	3,600	5,900	10,100	17,000
Freeway ⁵	4	28,000	43,200	61,600	74,400	80,000
	6	42,000	64,800	92,400	111,600	120,000
	8	56,000	86,400	123,200	148,800	160,000

Notes:

¹ Both number of lanes and daily volume thresholds are two-way totals.

- 2 Low access control roads generally have frequent driveways and speeds of 25 to 35 mph.
- 3 Medium access control roads generally have limited driveways and speeds of 30 to 35 mph.
- 4 High access control roads generally have no driveways and speeds of 35 to 50 mph.
- 5 Freeway capacities from City of Elk Grove Traffic Impact Analysis Guidelines.

Source:

Sacramento County Traffic Impact Analysis Guidelines, 2004

City of Elk Grove Traffic Impact Analysis Guidelines, 2000

Fehr & Peers, 2011

Analysis Evaluation Criteria

The transportation impact analysis identifies impacts to the roadway, transit, and bicycle/pedestrian systems. For the purposes of this transportation impact analysis, the criteria listed below was developed to determine the significance of identified impacts.

Roadway System (Sacramento County)

Consistent with the County of Sacramento *Traffic Impact Analysis Guidelines*, a project is considered to have a significant effect if it would result in a roadway operating at an acceptable LOS (LOS D for rural areas and LOS E for urban areas to deteriorate to an unacceptable LOS. For roadways already operating at an unacceptable LOS, a project is considered to have a significant effect if it increases the volume-to-capacity ratio by more than 0.05.

The County defines the minimum acceptable operation level for its roadways to be LOS D for rural areas and LOS E for urban areas. The urban areas are those areas within the Urban Service Boundary as shown in the Land Use Element of the Sacramento County General Plan. The areas outside the Urban Service Boundary are considered rural.

Roadway System (City of Elk Grove)

Consistent with the City of Elk Grove *Traffic Impact Analysis Guidelines*, a project is considered to have a significant effect if it causes a roadway to change from LOS D or better to LOS E or F. For roadways that operate at unacceptable levels of service without the project, an impact is considered significant if the project increase the volume-to-capacity ratio by 0.05 or more.

Freeway Facilities

A Transportation Concept Report (TCR) assesses a highway's current and future operating conditions and uses that and other information to establish a 20-year route concept for each segment of the route. A route concept is comprised of a Concept LOS and a description of the concept facility. The TCR then determines the nature and extent of improvements to attain the route concept. The Concept LOS applies to State highway intersections, interchange ramp terminal intersections, freeway segments, and freeway ramp junctions or weaving sections.

The *Caltrans State Route 99 Transportation Corridor Concept Report (2010)* and the *Transportation Corridor Concept Report Interstate 5 (2010)* identify the 20-year concept LOS for SR 99 and I-5 at LOS F in the study area.

Caltrans District 3 generally established minimum concept LOS standards for the twenty-year horizon at LOS D for rural segments and LOS E for urban segments. Consistent with these minimum concept

standards, the project was considered to have a significant effect if it would result in LOS F operations or add traffic to a freeway segment already operating at an unacceptable LOS F.

Bicycle and Pedestrian Facilities

Consistent with the County of Sacramento *Traffic Impact Analysis Guidelines*, a project is considered to have a significant effect if it would:

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

Transit System

A project is considered to have a significant effect if it would disrupt or interfere with existing or planned transit operations or facilities.

REPORT ORGANIZATION

The remainder of this report consists of the following chapters:

- Chapter 2 – Existing Conditions
- Chapter 3 – Traffic Volume Forecasts
- Chapter 4 – Existing Plus Project Conditions
- Chapter 5 – Cumulative Conditions

2. EXISTING CONDITIONS

This chapter describes the existing transportation system and traffic operations near the project site. In general, the existing physical and operating characteristics of the roadway system, transit system, and bicycle/pedestrian system are described in this section to provide a context for understanding the severity of impacts caused by the proposed project.

ROADWAY SYSTEM

Implementation of the proposed project will most directly affect roadways in the County of Sacramento and the City of Elk Grove. SR 99 and I-5 will also serve the project.

State Route 99 (SR 99) is a north-south freeway within the study area with interchanges at Laguna Boulevard, Elk Grove Boulevard, Grant Line Road, and Dillard Road. It consists of two lanes in each direction from south of Grant Line Road to just south of Elk Grove Boulevard, where a High Occupancy Vehicle (HOV) lane is added in each direction. The full access SR 99/Grant Line Road interchange at the partial SR 99/Eschinger Road interchange (SB access only) would provide direct freeway access to the SOI amendment area.

Interstate 5 (I-5) is a north-south freeway within the study area with interchanges at Hood-Franklin Road, Elk Grove Boulevard, and Laguna Boulevard. It consists of two lanes in each direction south of Laguna Boulevard and three lanes in each direction north of Laguna Boulevard. The full access I-5/Hood-Franklin Road interchange would provide direct freeway access to the SOI amendment area.

Elk Grove Boulevard is a major east-west roadway that extends from Interstate 5 (I-5) to Grant Line Road. Through the study area, Elk Grove Boulevard is generally a six-lane roadway from I-5 to SR 99, a four-lane roadway from SR 99 to Elk Grove-Florin Road. East of Elk-Grove Florin Road, Elk Grove Boulevard narrows to two-lanes.

Grant Line Road is a major north-south arterial that extends from SR 99 to White Rock Road in unincorporated Sacramento County. Grant Line Road has a Type L-9 partial cloverleaf interchange at SR 99 with a six-lane overcrossing that can accommodate eight through lanes. Grant Line Road transitions to two-lanes east of SR 99.

Hood-Franklin Road is an east-west two-lane rural roadway that extends from Franklin Boulevard/River Road in the West. It provides access from the project area to Interstate 5. Hood-Franklin Road is located outside the County's Urban Services Boundary. Hood-Franklin Road has a Type L-9 partial cloverleaf interchange at I-5 with a two-lane overcrossing.

Bilby Road is an east-west two-lane collector roadway that extends from Franklin Boulevard to Bruceville Road in the East.

Kammerer Road is an east-west roadway that extends from SR 99 to Bruceville Road. Kammerer Road has six lanes between SR 99 and Lent Ranch Parkway and narrows to a two-lane facility to the west.

Eschinger Road is an east-west two-lane roadway between SR 99 and Bruceville Road. Eschinger is located outside the County's Urban Services Boundary.

Dillard Road is an east-west two-lane rural roadway that extends from SR 99 in the West to Jackson Road in the East. Dillard road is located outside the County's Urban Services Boundary.

Lambert Road is an east-west two-lane rural roadway that extends from Bruceville Road west to River Road. Lambert Road is located outside the County's Urban Services Boundary.

Franklin Boulevard is a north-south roadway that extends from Twin Cities Road (south of the project) to the City of Sacramento in the North. It is a two-lane rural road between Lambert Road and Hood-Franklin Road and is outside the County's Urban Services Boundary. In the City of Elk Grove, Franklin Boulevard is two lanes to Whitelock Parkway and a four lane between Whitelock Parkway and Elk Grove Boulevard.

Bruceville Road is a north-south roadway that extends from Desmond Road in southern Sacramento County north to Valley Hi Drive. From Lambert Road to Kammerer Road, Bruceville Road is a two-lane rural roadway and is outside the County's Urban Services Boundary. In the city of Elk Grove, Bruceville Road is two lanes between Kammerer Road and Whitelock Parkway it is a two-lane arterial. North of Whitelock Parkway, Bruceville Road is four lanes.

Waterman Road is a north-south two-lane roadway between Grant Line Road and Elk Grove Boulevard in the study area.

Bradshaw Road is a north-south two-lane roadway between Grant Line Road and Elk Grove Boulevard in the study area.

TRAFFIC OPERATIONS ANALYSIS

This section describes the traffic conditions on the existing roadway and freeway segments.

Roadway and Freeway Segment Operations

Tables 3 and 4 summarizes study roadway and freeway segment operations under existing conditions, respectively, and include the following information for each study roadway segment:

- Daily roadway capacity
- Daily traffic volume (two-way total)
- Volume-to-capacity ratio
- LOS

TABLE 2 ROADWAY SEGMENT LEVEL OF SERVICE – EXISTING CONDITIONS				
Roadway Segment	Daily Capacity ¹	Existing Conditions		
		Daily Volume ²	V/C Ratio	LOS
1. Elk Grove Boulevard – I-5 to Franklin Boulevard	54,000	24,000	0.44	A
2. Elk Grove Boulevard – Franklin Boulevard to Bruceville Road	54,000	29,600	0.55	A
3. Elk Grove Boulevard – Bruceville Road to SR 99	54,000	31,028	0.57	A

**TABLE 2
ROADWAY SEGMENT LEVEL OF SERVICE – EXISTING CONDITIONS**

Roadway Segment	Daily Capacity ¹	Existing Conditions		
		Daily Volume ²	V/C Ratio	LOS
4. Elk Grove Boulevard – SR 99 to Elk Grove-Florin Road	36,000	37,700	1.05	F
5. Elk Grove Boulevard – Elk Grove-Florin Road to Bradshaw Road	18,000	13,800	0.77	C
6. Grant Line Road – SR 99 to Bradshaw Road	18,000	16,081	0.89	D
7. Grant Line Road – Bradshaw Road to Elk Grove Boulevard	18,000	9,525	0.53	A
8. Grant Line Road – Elk Grove Boulevard to Wilton Road	18,000	14,627	0.81	D
9. Grant Line Road – Wilton Road to Calvine Road	18,000	16,200	0.90	D
10. Hood-Franklin Road – I-5 to Franklin Boulevard	20,000	5,295	0.26	C
11. Bilby Road – Franklin Boulevard to Bruceville Road	18,000	4,771	0.26	A
12. Kammerer Road – Bruceville Road to West Stockton Boulevard	17,000	1,900	0.11	B
13. Eschinger Road – Bruceville Road to SR 99	17,000	1,000	0.06	A
14. Dillard Road – SR 99 to Wilton Road	17,000	4,676	0.28	C
15. Lambert Road – I-5 to Bruceville Road	17,000	898	0.05	A
16. Franklin Boulevard – Elk Grove Boulevard to Whitelock Parkway	36,000	14,000	0.39	C
17. Franklin Boulevard – Hood-Franklin Road to Lambert Road	20,000	1,435	0.07	A
18. Bruceville Road – Elk Grove Boulevard to Whitelock Parkway	36,000	24,700	0.69	A
19. Bruceville Road – Whitelock Parkway to Kammerer Road	18,000	3,700	0.21	A
20. Bruceville Road – Kammerer Road to Eschinger Road	17,000	2,100	0.12	B
21. Bruceville Road – Eschinger Road to Lambert Road	17,000	1,500	0.09	A
22. Elk Grove Florin Road – East Stockton Boulevard to Elk Grove Boulevard	18,000	5,504	0.31	A
23. Waterman Road – Elk Grove Boulevard to Grant Line Road	18,000	5,630	0.31	A
24. Bradshaw Road – Elk Grove Boulevard to Grant Line Road	18,000	5,247	0.29	A

Notes: ¹ The capacity of each roadway is based on the number of lanes and the facility type.

²Daily traffic volumes are mid-week from 2009 and 2010 from City of Elk Grove and County of Sacramento.

Bold text indicates unacceptable LOS.

Source: Fehr & Peers, 2011. City of Elk Grove, 2010. County of Sacramento, 2010.

**TABLE 3
FREEWAY SEGMENT LEVEL OF SERVICE – EXISTING CONDITIONS**

Roadway Segment	Daily Capacity ¹	Existing Conditions		
		Daily Volume ²	V/C Ratio	LOS
1. I-5 – North of Laguna Boulevard	120,000	98,361	0.82	D
2. I-5 – Laguna Boulevard to Elk Grove Boulevard	80,000	68,724	0.86	D
3. I-5 – Elk Grove Boulevard to Hood-Franklin Road	80,000	55,199	0.69	C
4. I-5 – Hood-Franklin Road to Twin Cities Road	80,000	48,642	0.61	C
5. SR 99 – Twin Cities Road to Dillard Road	80,000	67,570	0.84	D
6. SR 99 – Dillard Road to Grant Line Road	80,000	62,520	0.78	D
7. SR 99 – Grant Line Road to Elk Grove Boulevard	80,000	67,395	0.84	D

Notes: ¹ The capacity of each roadway is based on the number of lanes and the facility type.
² Daily traffic volumes are mid-week from Caltrans for 2011.
Bold text indicates unacceptable LOS.

Source: Fehr & Peers, 2011

As shown in Table 3, most of the study roadway segments operate acceptably, except for Elk Grove Boulevard between SR 99 to Elk Grove-Florin Road, which operates at LOS F. In addition, the segment of Elk Grove Boulevard between SR 99 and Bruceville Road experiences congested conditions during the evening peak hour that are characterized by significant vehicle queuing. The congestion on this segment is due primarily to the closely-spaced ramp-terminal intersection at the SR 99/Elk Grove Boulevard interchange and several closely spaced intersections and driveways.

All of the freeway segments operate acceptably, LOS E or better, based on daily traffic volumes. However, bottlenecks on SR 99 north of Elk Grove Boulevard causes vehicle queue spillback that can impact northbound SR 99 near Elk Grove Boulevard during the morning peak hour.

Bicycle and Pedestrian Facilities

In the study area, the nearest dedicated bicycle and pedestrian facilities are limited to improved frontages in the City of Elk Grove, with the closest facilities near the SR 99/Grant Line Road interchange. These facilities include pedestrian sidewalks, traffic signal controlled crosswalks, Class II on-street bike lanes, and street lighting. Roadways in the SOI area are shared use facilities with no dedicated pedestrian or bicycle facilities, which is consistent with the predominately agricultural land use.

Transit Service

The City of Elk Grove operates e-tran to provide transit service to its residents. E-tran provides the following services:

- Fixed-route local bus service (e-tran) within the City
- Commuter service to Sacramento, Galt, and Lodi

- Connections to Sacramento Regional Transit District light rail transit stations on the SR 99 and U.S. 50 corridors
- Park &ride facilities located throughout the community

The closest routes to the SOI amendment area operate on Bilby Road between Franklin Boulevard and Bruceville Road and on Grant Line Road between Bradshaw Road and Waterman Road. The SOI amendment area is not served by e-tran.

3. TRAFFIC VOLUME FORECASTS

This chapter outlines the development of traffic volume forecasts for the analysis of potential impacts associated with expanding the Elk Grove Sphere of Influence (SOI).

TRAFFIC MODEL ASSUMPTIONS AND FORECASTS

A modified version of SACOG's SACMET Regional Travel Demand Forecasting Model was used to develop daily roadway segment traffic volume forecasts under "Existing Plus Project" and Cumulative conditions without and with the SOI amendment area.

As a regional-scale model, the SACMET Travel Demand Forecasting Model lacked sufficient detail for the local-scale application for the SOI amendment. The modifications included creating a 'sub-area version' of the model that still retains the entire model but is calibrated and validated with the specific project study area of the City of Elk Grove and Southern Sacramento County.

After modifying the model, it was able to accurately replicate base year conditions and respond in the appropriate direction and magnitude when changes were made to input variables. Table 4 summarizes the model validation based on the thresholds contained in the Model Validation and Reasonableness Checking Manual (TMIP/FHWA 1997) and Travel Forecasting Guidelines (Caltrans 1992). The validation included each of the roadway segments listed in Chapter 1.

Validation Item	Criteria for Acceptance	Daily Volumes Model Results
Percent of Links Within Caltrans Deviation Allowance	>75%	81%
Percent Root Mean Squared Error	<40%	20%
Correlation Coefficient	>0.88	0.97
Source: Fehr & Peers, 2011		

As outlined above, the sub-area model was used to forecast traffic volumes for each analysis scenario. The Elk Grove SOI amendment area model incorporates the following:

- 2035 land use forecasts in the SACMET planning area
- Additional traffic analysis zone (TAZ) detail in the SOI amendment area
- Program level concept land use estimates for the SOI amendment area based on estimates developed by the City of Elk Grove in consultation with LAFCo. Table 5 shows the concept land use. These land use inputs were developed to provide a general program level concept for the potential future impacts that may result for future development in the SOI amendment area. For purposes of developing the traffic volume forecasts, the concept land use was allocated to the SOI amendment area using general land use transportation planning principals like locating more intensive land uses (e.g., commercial uses) along major transportation corridors like Kammerer

Road that are more accessible and consistent with planned development in Elk Grove north of Kammerer Road.

- Roadway network consistent with the MTP for 2035 as outlined in Table 6, which shows major programmed improvements in the study area, which includes the western segment of the proposed Capital SouthEast Connector project.

TABLE 5 PROGRAM LEVEL LAND USE ESTIMATES FOR ELK GROVE SOI AMENDMENT AREA	
Land Use Category	Acres Proposed within the SOIA
Rural Residential (0.1 to 0.5 du/acre)	1,625
Estate Residential (0.6 to 4.0 du/acre)	320
Low Density Residential (4.1 to 7.0 du/acre)	2,390
Medium Density Residential (7.1 to 15.0 du/acre)	131
High Density Residential (15.1 to 30.0 du/acre)	76
Total - Residential	4,542
Office/Multi-Family (20.0 du/ac maximum)	146
Commercial/Office	28
Commercial/Office/Multi-Family	32
Commercial	659
Office	46
Public Schools	483
Institution	113
Public/Quasi Public	230
Light Industry	247
Heavy Industry	357
Total – Retail / Non-Retail	2,340
Open Space ¹	987
Total – SOI Area	7,869
1. SOI Area limited to FEMA 100 – year floodplain Source: Sacramento Local Agency Formation Commission Proposed City of Elk Grove Sphere of Influence Amendment (LAFCo # 09-10) Project Description	

**TABLE 6
MTP 2035 ROADWAY PROJECTS**

Roadway	Improvement
Bruceville Road	Widen: 6 lanes from Big Horn Road to Kammerer Road
Elk Grove Boulevard	Widen: 6 lanes from UPRR to Franklin Boulevard
Franklin Boulevard	Widen: 6 lanes from Elk Grove Boulevard to Whitelock Parkway
Grant Line Road	Widen: 4 lanes from Waterman Road to Calvine Road
	Widen: 6 Lanes from East Stockton Boulevard to Waterman Road with UPRR overcrossing
Kammerer Road	Widen: 6 lanes from SR 99 to Bruceville Road
	Extend: 4 Lanes from Bruceville Road to I-5 with UPRR overcrossing
Source: MTP 2035	

SOI Amendment Area Trip Generation and Distribution

Based on the program level land use estimates summarized in Table 6, the SOI amendment area would generate about 327,800 vehicle trips per day. Of these trips, about nine to six percent would stay within the SOI area under existing and cumulative conditions, respectively. This higher trip internalization under existing conditions is due in part to improved accessibility due to the planned MTP roadway improvements summarized in Table 7. The external trip distribution is summarized in Table 7.

**TABLE 7
SOI AMENDMENT AREA PROJECT TRIP DISTRIBUTION**

North	South	East	West
75%	17%	7%	1%
Source: Fehr and Peers, 2011			

Traffic Forecasts

All traffic volume forecasts were adjusted using the difference method, which accounts for the difference between the base year traffic model volumes and existing counts by adding the increment of growth from the traffic model (future model – base year model) to the existing count for each study facility. Figures 3 through 5 present the following information:

- Figure 3 – Existing Plus Project Condition Daily Traffic Volume Forecast.
- Figure 4 – Cumulative Conditions Daily Traffic Volume Forecast.
- Figure 5 – Cumulative Plus Project Conditions Daily Traffic Volume Forecast.





4. EXISTING PLUS PROJECT CONDITIONS

This chapter evaluates the potential impacts associated with expanding the Elk Grove Sphere of Influence (SOI) area to the south and southwest of the existing Elk Grove city limits as described in Chapter 1.

TRAFFIC OPERATIONS ANALYSIS

For existing plus project conditions, the SOI amendment area was assumed to be completely developed under 2010 conditions. The traffic volume forecasts shown on Figure 3 were analyzed using the analysis methodology presented in Chapter 1.

Roadway and Freeway Segment Operations

Tables 9 and 10 summarize study roadway and freeway segment operations under existing plus project conditions, respectively, and include the following information for each study roadway segment:

- Daily roadway capacity
- Daily traffic volume (two-way total)
- Volume-to-capacity ratio
- LOS

The LOS results indicate that implementation of the proposed project would cause impacts on 10 roadway segments and one freeway segment. Specific impact statements and mitigation are presented below.

Roadway Segment	Daily Capacity ₁	Existing Conditions			Existing Plus Project		
		Daily Volume	V/C Ratio	LOS ²	Daily Volume	V/C Ratio	LOS ²
1. Elk Grove Boulevard – I-5 to Franklin Boulevard	54,000	24,000	0.44	A	26,000	0.48	A
2. Elk Grove Boulevard – Franklin Boulevard to Bruceville Road	54,000	29,600	0.55	A	32,400	0.60	A
3. Elk Grove Boulevard – Bruceville Road to SR 99	54,000	31,028	0.57	A	43,300	0.80	D
4. Elk Grove Boulevard – SR 99 to Elk Grove-Florin Road	36,000	37,700	1.05	F	43,700	1.21	F
5. Elk Grove Boulevard – Elk Grove-Florin Road to Bradshaw Road	18,000	13,800	0.77	C	18,600	1.03	F
6. Grant Line Road – SR 99 to Bradshaw Road	18,000	16,081	0.89	D	26,600	1.48	F

**TABLE 8
ROADWAY SEGMENT LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS**

Roadway Segment	Daily Capacity ₁	Existing Conditions			Existing Plus Project		
		Daily Volume	V/C Ratio	LOS ²	Daily Volume	V/C Ratio	LOS ²
7. Grant Line Road – Bradshaw Road to Elk Grove Boulevard	18,000	9,525	0.53	A	12,900	0.72	C
8. Grant Line Road – Elk Grove Boulevard to Wilton Road	18,000	14,627	0.81	D	23,800	1.32	F
9. Grant Line Road – Wilton Road to Calvine Road	18,000	16,200	0.90	D	18,600	1.03	F
10. Hood-Franklin Road – I-5 to Franklin Boulevard	20,000	5,295	0.26	C	12,100	0.61	D
11. Bilby Road – Franklin Boulevard to Bruceville Road	18,000	4,771	0.26	A	9,900	0.55	A
12. Kammerer Road – Bruceville Road to West Stockton Boulevard	17,000	1,900	0.11	B	17,100	1.01	F
13. Eschinger Road – Bruceville Road to SR 99	17,000	1,000	0.06	A	29,300	1.72	F
14. Dillard Road – SR 99 and Wilton Road	17,000	4,676	0.28	C	6,400	0.38	D
15. Lambert Road – Bruceville Road (West) and Bruceville Road (East)	17,000	898	0.05	A	4,800	0.28	C
16. Franklin Boulevard – Elk Grove Boulevard to Whitelock Parkway	36,000	14,000	0.39	C	25,300	0.70	C
17. Franklin Boulevard – Hood-Franklin Road to Lambert Road	20,000	1,435	0.07	A	27,600	1.38	F
18. Bruceville Road – Elk Grove Boulevard to Whitelock Parkway	36,000	24,700	0.69	A	27,500	0.76	C
19. Bruceville Road – Whitelock Parkway to Kammerer Road	18,000	3,700	0.21	A	22,600	1.26	F
20. Bruceville Road – Kammerer Road to Eschinger Road	17,000	2,100	0.12	B	29,300	1.72	F
21. Bruceville Road – Eschinger Road to Lambert Road	17,000	1,500	0.09	A	5,400	0.32	C
22. Elk Grove-Florin Road – East Stockton Boulevard to Elk Grove Boulevard	18,000	5,504	0.31	A	10,400	0.58	A
23. Waterman Road – Elk Grove Boulevard to Grant Line Road	18,000	5,630	0.31	A	10,500	0.58	A
24. Bradshaw Road – Elk Grove Boulevard to Grant Line Road	18,000	5,247	0.29	A	11,700	0.65	B

**TABLE 8
ROADWAY SEGMENT LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS**

Roadway Segment	Daily Capacity ₁	Existing Conditions			Existing Plus Project		
		Daily Volume	V/C Ratio	LOS ²	Daily Volume	V/C Ratio	LOS ²
Notes: ¹ The capacity of each roadway is based on the number of lanes and the facility type. ² Level of Service (LOS) based on <i>Traffic Impact Analysis Guidelines</i> , City of Elk Grove, July 2000. Bold text indicates unacceptable LOS. Shading indicates project impact. Source: Fehr & Peers, 2011. City of Elk Grove, 2010. County of Sacramento, 2010.							

**TABLE 9
FREEWAY SEGMENT LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS**

Roadway Segment	Daily Capacity ₁	Existing Conditions			Existing Plus Project		
		Daily Volume	V/C Ratio	LOS ²	Daily Volume	V/C Ratio	LOS ²
1. I-5 – North of Laguna Boulevard	120,000	98,361	0.82	D	103,400	0.86	D
2. I-5 – Laguna Boulevard to Elk Grove Boulevard	80,000	68,724	0.86	D	77,800	0.97	E
3. I-5 – Elk Grove Boulevard to Hood-Franklin Road	80,000	55,199	0.69	C	66,500	0.83	D
4. I-5 – Hood-Franklin Road to Twin Cities Road	80,000	48,642	0.61	C	48,700	0.61	C
5. SR 99 – Twin Cities Road to Dillard Road	80,000	67,570	0.84	D	69,500	0.87	D
6. SR 99 – Dillard Road to Grant Line Road	80,000	62,520	0.78	D	67,600	0.85	D
7. SR 99 – Grant Line Road to Elk Grove Boulevard	80,000	67,395	0.84	D	92,800	1.16	F
Notes: ¹ The capacity of each roadway is based on the number of lanes and the facility type. ² Level of Service (LOS) based on <i>Traffic Impact Analysis Guidelines</i> , City of Elk Grove, July 2000. Bold text indicates unacceptable LOS. Shading indicates project impact. Source: Fehr & Peers, 2010. City of Elk Grove, 2010. County of Sacramento, 2010.							

Impact 1 – Increased Average Daily Traffic Volumes on Local Roadways under Existing Plus Project Conditions

Implementation of the proposed project would result in an increase in average daily traffic volumes on roadways in the County of Sacramento and City of Elk Grove under existing plus project conditions. The increase in traffic volume would cause deterioration in the daily LOS resulting in a significant impact for the following existing roadways:

- Elk Grove Boulevard –SR 99 to Elk Grove-Florin Road
- Elk Grove Boulevard – Elk Grove-Florin Road to Bradshaw Road
- Grant Line Road – SR 99 to Bradshaw Road
- Grant Line Road – Elk Grove Boulevard to Wilton Road
- Grant Line Road – Wilton Road to Calvine Road
- Kammerer Road – Bruceville Road to West Stockton Boulevard
- Eschinger Road – Bruceville Road to SR 99
- Franklin Boulevard – Hood-Franklin Road to Lambert Road
- Bruceville Road – Whitelock Parkway to Kammerer Road
- Bruceville Road – Kammerer Road to Eschinger Road

The impact results because adequate roadways have not yet been identified to support the potential land use changes that would occur under implementation of the proposed project. Over 218,000 vehicle trips per day were added to the existing roadway network without adding new roadways or assuming that existing roadways would be widened. Under these circumstances, many of the study roadways would operate at levels worse than the stated significance criteria resulting in a significant impact.

Mitigation Measure 1

To accommodate the addition of project trips to the existing network, substantial roadway improvements will have to be constructed. Future development within the project area will be responsible for constructing on- and off-site roadway infrastructure including new north-south roadway connections to planned development in the City of Elk Grove (north of Kammerer Road) and east-west connections for access to I-5 and SR 99. Depending on the specific location and intensity of development within the project area, these improvements could include the following:

- Widening Grant Line Road to four lanes from SR 99 to Calvine Road
- Constructing a grade-separated crossing of the Union Pacific Railroad (UPRR) east of SR 99 on Grant Line Road
- Widening Kammerer Road to four lanes from Bruceville Road and West Stockton Boulevard
- Widening or upgrading Franklin Boulevard from Hood-Franklin road to Lambert Road
- Widening Bruceville Road from Whitelock Parkway to Eschinger Road
- Constructing elements of the SouthEast Connector project like the extension of Kammerer Road from Bruceville Road to Franklin Boulevard, a grade-separated crossing of the Union Pacific Railroad (UPRR), and upgrade of the I-5/Hood-Franklin Road
- Upgrading the SR 99/Eschinger Road interchanges.

The impacted segment of Elk Grove Boulevard from SR 99 to Elk Grove-Florin Road is identified as a four-lane arterial on the City's General Plan Circulation Element. The segment is already four-lanes. Therefore, widening this segment of Elk Grove Boulevard to reduce the significance of the impact would be inconstant with the City's General Plan. The specific number of lanes and scope of specific roadway mitigation improvements will be established by subsequent traffic studies that will be required for all future development proposals. Sufficient travel lanes to provide acceptable LOS D operations on roadway within the project area and in the City of Elk Grove shall be determined in these studies.

Some of the roadways affected by this mitigation measure may not be subject to control by the City of Elk Grove if the project area were annexed by the City and developed. Examples include segments of Franklin Boulevard and Bruceville Road. Improvements to these roadways would require coordination and adherence to regulatory standards of the County of Sacramento County. Therefore, the City of Elk Grove shall cooperate with the County of Sacramento to establish mitigation improvements that will provide level of service consistent with the County's General Plan.

Significance After Mitigation

Implementation of this mitigation measure would require that future development construct roadway improvements necessary to accommodate level thresholds adopted by General Plans in the City of Elk Grove and County of Sacramento. However, it is not certain that identified mitigation would reduce identified impacts to a less than significant level and that some of the identified impacts are outside the jurisdictions of the City of Elk Grove. It is conservatively assumed that the impact will be **significant and unavoidable**.

Impact 2 – Increased Average Daily Traffic Volumes on I-5 and SR 99 under Existing Plus Project Conditions

Implementation of the proposed project would result in an increase in average daily traffic volumes on I-5 and SR 99 through the study area under existing plus project conditions. The increase in traffic volume would cause deterioration in daily LOS from LOS D to LOS F on the segment of SR 99 from Grant Line Road to Elk Grove Boulevard resulting in a significant impact.

As discussed in Chapter 2, bottlenecks on SR 99 north of Elk Grove Boulevard causes vehicle queue spillback that can impact northbound SR 99 near Elk Grove Boulevard during the morning peak hour. The State Route 99 Transportation Corridor Concept Report does not show any improvements for this segment of SR 99 for the 20-year concept facility. The “Ultimate” facility for this segment is a six-lane freeway with two high-occupancy vehicle lanes.

This impact occurs because adequate capacity does not exist on SR 99 to accommodate buildout of the project area.

Mitigation Measure 2

The City of Elk Grove in cooperation with Caltrans, the County of Sacramento, City of Sacramento, and the Sacramento Area Council of Governments shall identify a funding strategy to construct additional mainline capacity and operational improvement on SR 99. The funding strategy could include fair-share contribution from future development in the project area. The specific improvements should be based on Caltrans’ concept for SR 99 and may include operational improvement downstream of the impact segment.

Significance After Mitigation

Implementation of this mitigation measure would improve operations, but SR 99 is forecast to continue to operate at LOS F based on The State Route 99 Transportation Corridor Concept Report. Therefore, this impact will be **significant and unavoidable**.

Impact 3 – Increased Demand for Bicycle and Pedestrian Facilities Under Existing Plus Project Conditions

Implementation of the proposed project and subsequent development of the project area will substantially increase demand for bicycle and pedestrian facilities under existing plus project conditions. The project area has only limited dedicated bicycle or pedestrian facilities. Most bicycle and pedestrian travel is limited to existing roadways that must be shared with autos. This is a significant impact.

Policy CI-5 (CI-5-Action 5) of the *Elk Grove General Plan* states that the City shall develop and implement Pedestrian and Bikeway Master Plans to provide safe and convenient pedestrian and on- and off-street bicycle facilities throughout the City. The City's current Bicycle and Pedestrian Master Plan include proposed facilities on Kammerer Road, Grant Line Road, and potential extension on Bruceville Road into the SOI amendment area and along the planned alignment of the Kammerer Road extension to Franklin Road. However, the City has not planned for comprehensive bicycle and pedestrian facilities in the SOI amendment area.

Development of the project area would create a substantial demand for new bicycle and pedestrian facilities in the project area. This would include new off-street bike paths, on-street bike lanes or bike routes, and sidewalks. Since the City has not prepared comprehensive bicycle and pedestrian facilities for the SOI amendment area, this is a significant impact.

Mitigation Measure 3

Prior to development occurring in the project area, the City of Elk Grove shall update the Bicycle and Pedestrian Master Plan to delineate bicycle and pedestrian facilities in the project area consistent with the goals and policies of the City's General Plan. The update will identify on-street and off-street bikeways and pedestrian routes as well as support facilities. Development in the SOI amendment area shall be responsible for implementing the master plan recommendation as development occurs in the project area.

Significance After Mitigation

Implementation of this mitigation measure would require future development and the City of Elk Grove to implement the bicycle and pedestrian facilities necessary to support the increased demand in the project area. Therefore, this impact will be **less than significant** after mitigation.

Impact 4 – Increased Demand for Transit Service Under Existing Plus Project Conditions

Implementation of the proposed project and subsequent development of the project area will substantially increase demand for public transit service under existing plus project conditions. The project area is not served by existing public transit and future service is not planned to extend to the project area. This is a significant impact.

Policy CI-5 of the *Elk Grove General Plan* states that the City shall require that transit service is provided in all areas of Elk Grove, including rural areas, so that transit dependant residents of those areas are not cut off from community services, events, and activities. Policy CI-7 states that the City shall encourage an approach to public transit service in Elk Grove which will provide the opportunity for workers living in other areas of Sacramento County to use all forms of public transit, including bus rapid transit and light rail, to travel to jobs in Elk Grove, as well as for Elk Grove workers to use public transit to commute to jobs outside the city.

The size and scale of the proposed project would create a substantial demand for new transit service to the project area. This could include bus or fixed rail transit. Since the City has not prepared plans to extend transit to the area, this impact is significant.

Mitigation Measure 4

Prior to development occurring in the project area, the City of Elk Grove shall complete a transit master plan for the project area consistent with policies of the City's General Plan. This plan will identify the

roadways to be used by bus transit routes, locations for bus turnouts and pedestrian shelters, locations for bus transfer stations, alignment for fixed route rail service, and the location of rail service stations. Future development in the project area and the City of Elk Grove shall be responsible for implementing the master plan recommendations as development occurs in the project area.

Significance After Mitigation

Implementation of this mitigation measure would require future development and the City of Elk Grove to implement the transit facilities necessary to support the expansion of bus and fixed rail transit service to the project area. Therefore, this impact will be **less than significant** after mitigation.

5. CUMULATIVE CONDITIONS

This chapter evaluates the potential impacts associated with expanding the Elk Grove Sphere of Influence (SOI) on cumulative year traffic conditions.

TRAFFIC OPERATIONS ANALYSIS

The purpose of the cumulative (2035) transportation impact analysis is to determine if implementation of the proposed project in addition to planned cumulative growth will adversely affect the planned transportation system. The MTP for 2035 identifies roadway and transit improvement that are proposed to accommodate future travel demand and are included in Table 6 for major study area facilities.

The SOI amendment area is located just south of the western segment of the proposed Capital SouthEast Connector project, which is a 35-mile roadway that will link communities in El Dorado County and Sacramento County and the cities of Folsom, Rancho Cordova, and Elk Grove. It will connect between U.S. 50 in El Dorado Hills to I-5 at Hood-Franklin Road southwest of Elk Grove. Many of the roadway improvements shown in Table 6 are located along potential alignments of the SouthEast Connector project, including improvements on Grant Line Road, Kammerer Road, and Hood-Franklin Road. There are not planned roadway improvements in the SOI amendment area.

Roadway and Freeway Segment Operations

Tables 10 and 11 summarize study roadway and freeway segment operations under cumulative conditions, respectively, and include the following information for each study roadway segment:

- Daily roadway capacity
- Daily traffic volume (two-way total)
- Volume-to-capacity ratio
- LOS

The LOS results indicate that implementation of the proposed project would cause impacts on 5 roadway segments and six freeway segments. Specific impact statements and mitigation are presented below.

**TABLE 10
ROADWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS**

Roadway Segment	Daily Capacity ₁	Cumulative Conditions			Cumulative Plus Project		
		Daily Volume	V/C Ratio	LOS ²	Daily Volume	V/C Ratio	LOS ²
1. Elk Grove Boulevard – I-5 to Franklin Boulevard	54,000	24,000	0.44	A	26,000	0.48	A
2. Elk Grove Boulevard – Franklin Boulevard to Bruceville Road	54,000	31,500	0.58	A	32,500	0.60	B
3. Elk Grove Boulevard – Bruceville Road to SR 99	54,000	42,500	0.79	C	45,700	0.85	D
4. Elk Grove Boulevard – State Route 99 to Elk Grove-Florin Road	36,000	46,100	1.28	F	48,700	1.35	F
5. Elk Grove Boulevard – Elk Grove-Florin Road to Bradshaw Road	36,000	25,900	0.72	C	30,300	0.84	D
6. Grant Line Road – SR 99 to Bradshaw Road	54,000	25,400	0.47	A	41,600	0.77	C
7. Grant Line Road – Bradshaw Road to Elk Grove Boulevard	36,000	20,900	0.58	A	23,400	0.65	B
8. Grant Line Road – Elk Grove Boulevard to Wilton Road	36,000	28,700	0.80	C	33,300	0.93	E
9. Grant Line Road – Wilton Road to Calvine Road	36,000	28,200	0.78	C	32,500	0.90	E
10. Hood-Franklin Road – I-5 to Franklin Boulevard	36,000	12,100	0.34	A	26,300	0.73	C
11. Bilby Road – Franklin Boulevard to Bruceville Road	36,000	8,400	0.23	A	11,600	0.32	A
12. Kammerer Road – Bruceville Road to West Stockton Boulevard	54,000	7,700	0.14	A	25,800	0.48	A
13. Eschinger Road – Bruceville Road to SR 99	17,000	1,100	0.06	A	31,800	1.87	F
14. Dillard Road – SR 99 To Wilton Road	17,000	4,700	0.28	C	4,700	0.28	C
15. Lambert Road – I-5 to Bruceville Road	17,000	900	0.05	A	5,300	0.31	C
16. Franklin Boulevard – Elk Grove Boulevard to Whitelock Parkway	36,000	10,600	0.29	A	22,400	0.62	B
17. Franklin Boulevard – Hood-Franklin Road to Lambert Road	20,000	1,400	0.07	A	3,700	0.19	B
18. Bruceville Road – Elk Grove Boulevard to Whitelock Parkway	54,000	24,700	0.46	A	30,700	0.57	A
19. Bruceville Road – Whitelock Parkway to Kammerer Road	54,000	3,700	0.07	A	17,700	0.33	A

**TABLE 10
ROADWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS**

Roadway Segment	Daily Capacity ¹	Cumulative Conditions			Cumulative Plus Project		
		Daily Volume	V/C Ratio	LOS ²	Daily Volume	V/C Ratio	LOS ²
20. Bruceville Road – Kammerer Road to Eschinger Road	17,000	2,100	0.12	B	19,300	1.14	F
21. Bruceville Road – Eschinger Road to Lambert Road	17,000	1,500	0.09	A	5,900	0.35	C
22. Elk Grove Florin Road – East Stockton Boulevard to Elk Grove Boulevard	18,000	5,700	0.32	A	9,000	0.50	D
23. Waterman Road – Elk Grove Boulevard to Grant Line Road	36,000	9,300	0.26	A	15,700	0.44	A
24. Bradshaw Road – Elk Grove Boulevard to Grant Line Road	54,000	7,900	0.15	A	17,000	0.31	A

Notes: ¹ The capacity of each roadway is based on the number of lanes and the facility type.
² Level of Service (LOS) based on *Traffic Impact Analysis Guidelines*, City of Elk Grove, July 2000.
 Bold text indicates unacceptable LOS.
 Shading indicates project impact.
 Source: Fehr & Peers, 2011. City of Elk Grove, 2010. County of Sacramento, 2010.

**TABLE 11
FREEWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS**

Roadway Segment	Daily Capacity ¹	Cumulative Conditions			Cumulative Plus Project		
		Daily Volume	V/C Ratio	LOS ²	Daily Volume	V/C Ratio	LOS ²
1. I-5 – North of Laguna Boulevard	120,000	111,700	0.93	E	123,300	1.03	F
2. I-5 – Laguna Boulevard to Elk Grove Boulevard	80,000	80,400	1.00	F	93,200	1.17	F
3. I-5 – Elk Grove Boulevard to Hood-Franklin Road	80,000	66,300	0.83	D	80,000	1.00	F
4. I-5 – Hood-Franklin Road to Twin Cities Road	80,000	64,100	0.80	D	61,700	0.77	D
5. SR 99 – Twin Cities Road to Dillard Road	80,000	82,800	1.03	F	85,800	1.07	F
6. SR 99 – Dillard Road to Grant Line Road	80,000	78,000	0.97	E	83,700	1.05	F
7. SR 99 – Grant Line Road to Elk Grove Boulevard	80,000	82,500	1.03	F	99,100	1.24	F

**TABLE 11
FREEWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS**

Roadway Segment	Daily Capacity ¹	Cumulative Conditions			Cumulative Plus Project		
		Daily Volume	V/C Ratio	LOS ²	Daily Volume	V/C Ratio	LOS ²
Notes: ¹ The capacity of each roadway is based on the number of lanes and the facility type. ² Level of Service (LOS) based on <i>Traffic Impact Analysis Guidelines</i> , City of Elk Grove, July 2000. Bold text indicates unacceptable LOS. Shading indicates project impact. Source: Fehr & Peers, 2010. City of Elk Grove, 2010. County of Sacramento, 2010.							

Impact 5 – Increased Average Daily Traffic Volumes on Local Roadways under Cumulative Plus Project Conditions

Implementation of the proposed project would result in an increase in average daily traffic volumes on roadways in the County of Sacramento and City of Elk Grove under cumulative plus project conditions. The increase in traffic volume would cause deterioration in the daily LOS resulting in a significant impact for the following roadways:

- Elk Grove Boulevard –SR 99 to Elk Grove-Florin Road
- Grant Line Road – Elk Grove Boulevard to Wilton Road
- Grant Line Road – Wilton Road to Calvine Road
- Eschinger Road – Bruceville Road to SR 99
- Bruceville Road – Kammerer Road to Lambert Road

The impact results because adequate roadways have not yet been identified to support the potential land use changes that would occur under implementation of the proposed project. Under these circumstances, many of the study roadways would operate at levels worse than the stated significance criteria resulting in a significant impact.

Mitigation Measure 5

To accommodate the addition of project trips to the future roadway network, substantial roadway improvements will have to be constructed. Future development within the project area will be responsible for constructing on- and off-site roadway infrastructure including new north-south roadway connections to planned development in the City of Elk Grove (north of Kammerer Road) and east-west connections for access to I-5 and SR 99. Depending on the specific location and intensity of development within the project area, these improvements could include the following:

- Widening Grant Line Road from Elk Grove Boulevard to Calvine Road
- Widening Kammerer Road to four lanes from Bruceville Road and West Stockton Boulevard

- Widening Bruceville Road from Kammerer Road to Lambert Road
- Upgrading the SR 99/Eschinger Road interchanges.

The impacted segment of Elk Grove Boulevard from SR 99 to Elk Grove-Florin Road is identified as a four-lane arterial on the City's General Plan Circulation Element. The segment is already four-lanes. Therefore, widening this segment of Elk Grove Boulevard to reduce the significance of the impact would be inconsistent with the City's General Plan. The specific number of lanes and scope of specific roadway mitigation improvements will be established by subsequent traffic studies that will be required for all future development proposals. Sufficient travel lanes to provide acceptable LOS D operations on roadways within the project area and in the City of Elk Grove shall be determined in these studies.

Some of the roadways affected by this mitigation measure would not be in the jurisdiction of the City of Elk Grove if the project area were annexed by the City and developed. Examples include segments of Bruceville Road. Improvements to these roadways would require coordination and adherence to regulatory standards of the County of Sacramento County. Therefore, the City of Elk Grove should cooperate with the County of Sacramento to establish mitigation improvements that will provide level of service consistent with the County's General Plan.

Significance After Mitigation

Implementation of this mitigation measure would require that future development construct roadway improvements necessary to accommodate level thresholds adopted by General Plans in the City of Elk Grove and County of Sacramento. However, it is not certain that identified mitigation would reduce identified impacts to a less than significant level and that some of the identified impacts are outside the jurisdictions of the City of Elk Grove, it is conservatively assumed that the impact will be **significant and unavoidable**.

Impact 6 – Increased Average Daily Traffic Volumes on I-5 and SR 99 under Cumulative Plus Project Conditions

Implementation of the proposed project would result in an increase in average daily traffic volumes on I-5 and SR 99 through the study area under existing plus project conditions. The increase in traffic volume would impact all of the study freeway segments except for the segment I-5 from Elk Grove Boulevard to Twin Cities Road.

As discussed in Chapter 2, bottlenecks on SR 99 north of Elk Grove Boulevard causes vehicle queue spillback that can impact northbound SR 99 near Elk Grove Boulevard during the morning peak hour. The State Route 99 Transportation Corridor Concept Report does not show any improvements for the impacted segment of SR 99 for the 20-year concept facility. Transportation Corridor Concept Report Interstate 5 shows the addition of high-occupancy (HOV) lane on I-5 north of Hood-Franklin Road. However, Caltrans identifies the 20-year concept level of service for I-5 and SR 99 as LOS F for the study segments.

This impact occurs because adequate capacity is not planned on I-5 or SR 99 to accommodate cumulative traffic volumes with buildout of the proposed project area

Mitigation Measure 6

Implement Mitigation Measure 2.

Significance After Mitigation

Implementation of this mitigation measure would improve operations, but I-5 and SR 99 are forecast to continue to operate at LOS F. Therefore, this impact will be **significant and unavoidable**.

Impact 7 – Increased Demand for Bicycle and Pedestrian Facilities Under Cumulative Plus Project Conditions

Implementation of the proposed project and subsequent development of the project area will substantially increase demand for bicycle and pedestrian facilities under existing plus project conditions. The project area has only limited dedicated bicycle or pedestrian facilities. Most bicycle and pedestrian travel is limited to existing roadways that must be shared with autos. This is a significant impact.

Policy CI-5 (CI-5-Action 5) of the *Elk Grove General Plan* states that the City shall develop and implement Pedestrian and Bikeway Master Plans to provide safe and convenient pedestrian and on- and off-street bicycle facilities throughout the City. The City's current Bicycle and Pedestrian Master Plan include proposed facilities on Kammerer Road, Grant Line Road, and potential extension on Bruceville Road into the SOI amendment area and along the planned alignment of the Kammerer Road extension to Franklin Boulevard. However, the City has not planned for comprehensive bicycle and pedestrian facilities in the SOI amendment area.

Development of the project area would create a substantial demand for new bicycle and pedestrian facilities in the project area. This would include new off-street bike paths, on-street bike lanes or bike routes, and sidewalks. Since the City has not prepared comprehensive bicycle and pedestrian facilities for the SOI amendment area, this is a significant impact.

Mitigation Measure 7

Implement Mitigation Measure 3.

Significance After Mitigation

Implementation of this mitigation measure would require future development and the City of Elk Grove to implement the bicycle and pedestrian facilities necessary to support the increased demand in the project area. Therefore, this impact will be **less than significant** after mitigation.

Impact 8 – Increased Demand for Transit Service Under Cumulative Plus Project Conditions

Implementation of the proposed project and subsequent development of the project area will substantially increase demand for public transit service under existing plus project conditions. The project area is not served by existing public transit and future service is not planned to extend to the project area. This is a significant impact.

Policy CI-5 of the *Elk Grove General Plan* states that the City shall require that transit service is provided in all areas of Elk Grove, including rural areas, so that transit dependant residents of those areas are not cut off from community services, events, and activities. Policy CI-7 states that the City shall encourage an approach to public transit service in Elk Grove which will provide the opportunity for workers living in other areas of Sacramento County to use all forms of public transit, including bus rapid transit and light

rail, to travel to jobs in Elk Grove, as well as for Elk Grove workers to use public transit to commute to jobs outside the city.

The size and scale of the proposed project would create a substantial demand for new transit service to the project area. This could include bus or fixed rail transit. Since the City has not prepared plans to extend transit to the area, this impact is significant.

Mitigation Measure 8

Implement Mitigation Measure 4.

Significance After Mitigation

Implementation of this mitigation measure would require future development and the City of Elk Grove to implement the transit facilities necessary to support the expansion of bus and fixed rail transit service to the project area. Therefore, this impact will be **less than significant** after mitigation.

