

# **Economic Development Element Draft Transportation Impact Analysis**

Prepared for:  
The City of Salinas

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WC16-3296

FEHR  PEERS



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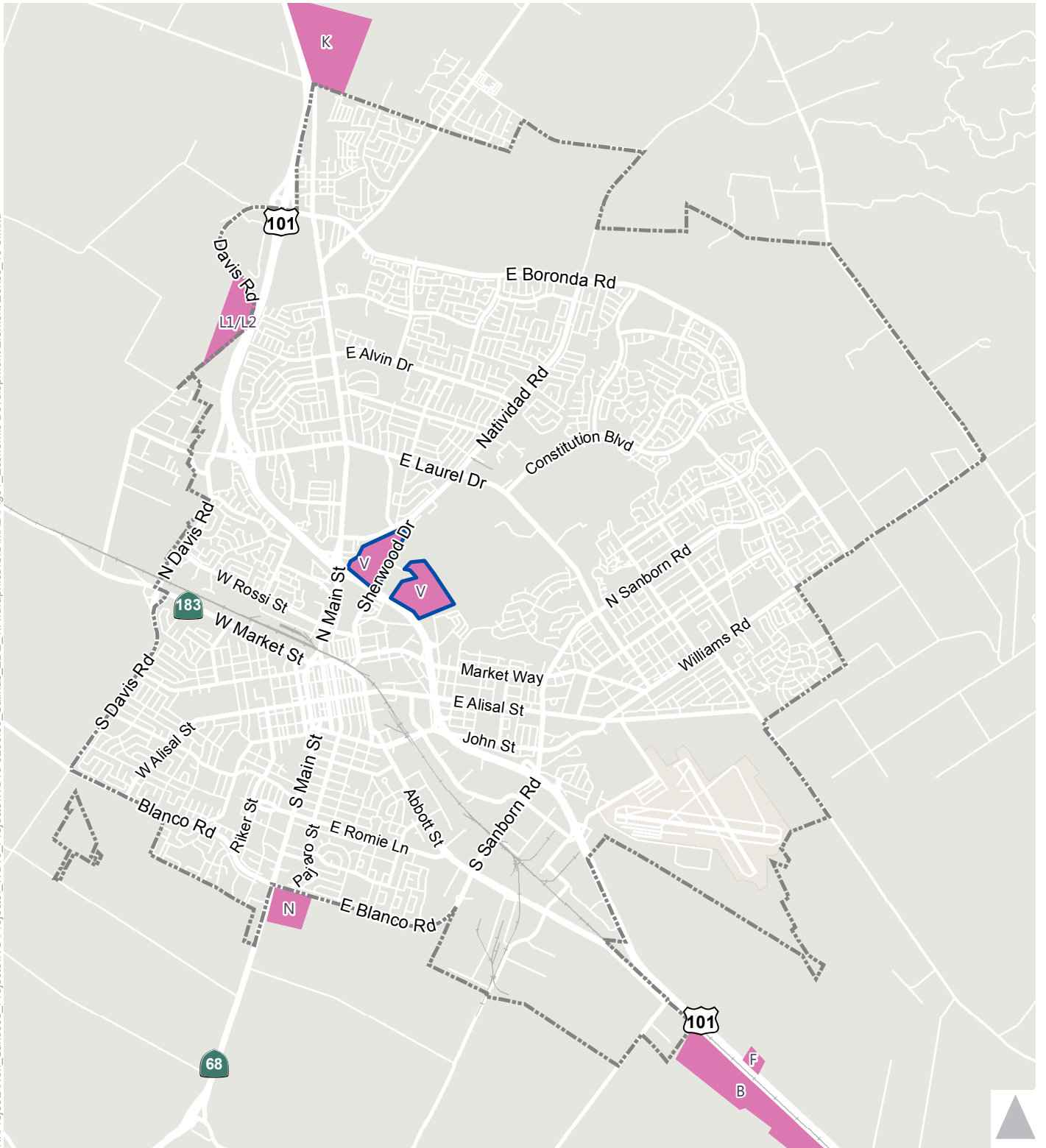
## INTRODUCTION

The City of Salinas (hereafter, “the City”) 2002 General Plan establishes policies that structure development in the City. Recently, officials have proposed a more comprehensive economic development policy framework in the form of an Economic Development Element (EDE, or hereafter “proposed project”) amendment to the General Plan. The purpose of the EDE is to leverage and encourage potential development at strategic locations in and around Salinas located within specific Economic Opportunity Areas (EOAs). After an extensive public outreach campaign, six “Target EOAs” (or “Target Areas”) were identified where future commercial, industrial, and retail developments are proposed. These Target Areas are shown in the context of Salinas city limits are shown below in **Figure 1**.

The proposed project includes a number of land use changes. As such, the purpose of this Transportation Impact Analysis (TIA) is to identify benefits and potentially significant impacts of the proposed project on the surrounding transportation system and to recommend mitigation measures if necessary. The impacts will be evaluated following guidelines established by the City of Salinas.

In order to assess whether and to what extent the proposed project would have significant impacts on the affected transportation network, the existing conditions of the transportation network – including roadway segment volumes, transit service, and bicycle/pedestrian facilities – were documented. The 2016 Salinas Travel Demand Model was utilized to forecast traffic patterns given the expected land uses of the proposed project. Using guidelines set forth by the City, impacts to the transportation network are then identified based on forecasted volumes and mitigations are proposed for facilities where significant impacts are found. Overall, the analysis finds that several roadways operate below City thresholds in the cumulative plus project scenario; however, only a few of those are due to project-related traffic. Additional recommended mitigations are proposed for improved transit and bicycle connections to the EDE Target Areas.








-  EDE Target Areas Outside the Sphere of Influence
-  EDE Target Areas Inside the Sphere of Influence
-  City Limits



Figure 1  
Economic Development Element Target Areas

## EXISTING CONDITIONS

This chapter describes the transportation network around the study area as it exists today. It also documents the local ordinances that govern acceptable roadway performance and the findings of an existing operational analysis.

## RELEVANT PLANS AND POLICIES

Local governments may set minimum Level of Service (LOS) standards for roads based on their classification, importance in the regional network, or other factors. This section lists the relevant local ordinances that govern the acceptable performance for roads in the study areas.

### THE CITY OF SALINAS

Standard Level of Service scores for City roads are defined in the 2002 General Plan Circulation Element. Specifically, Policy C-1.2 states that the City shall “strive to maintain traffic Level of Service (LOS) D or better for all intersections and roadways.” Furthermore, Policy C-1.3 states that these standards must be maintained with the addition of new development. The standards and goals reflected in these policies will be accounted for in the existing and future operations analysis of this report.

For the purposes of this TIA, impacts to bicycle, pedestrian, or transit service would occur if the implementation of the proposed project results in inadequate service and access for people using these modes, or if it would conflict with adopted policies, plans, or programs that support such modes.

### MONTEREY COUNTY

Some roadway segments in this report fall within the unincorporated areas of Monterey County. As such, the applicable level of service standards from the Monterey County General Plan Circulation Element will be applied. In this case, Policy C-1.1 states that “the acceptable level of service for County roads and intersections shall be Level of Service (LOS) D.”

LOS of D is also the minimum level of service defined for highways in the 2005 Monterey County Congestion Management Program (CMP).



## CALTRANS FACILITIES

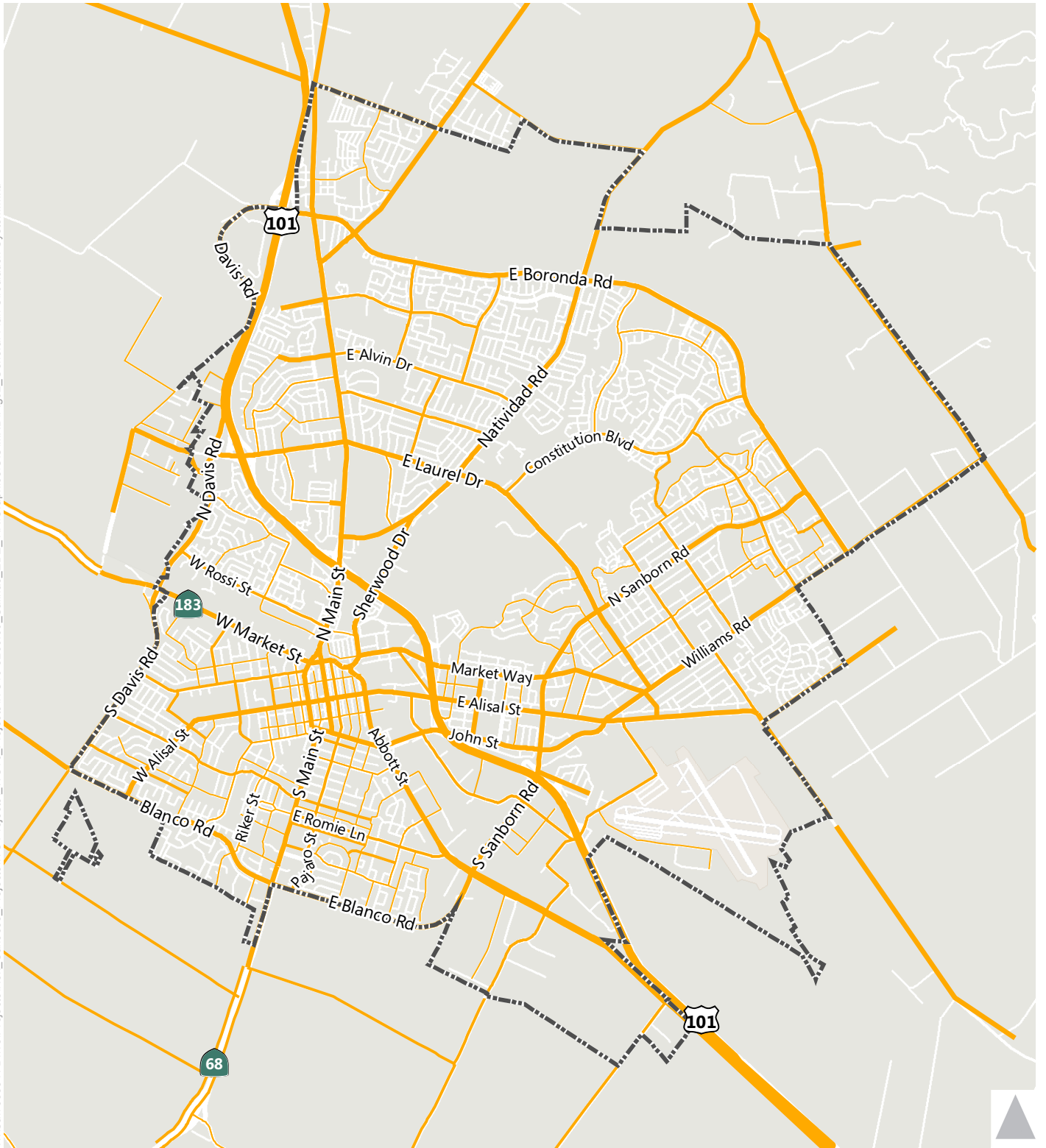
Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway facilities (*Guide for the Preparation of Traffic Studies*, Caltrans, December 2002); however, Caltrans recognizes that achieving LOS C/D may not always be feasible. For the purposes of this TIA, Caltrans facilities are considered to be impacted if the addition of project-related trips reduces LOS from C or better to LOS D or worse. Also, a facility that already operates at LOS D or worse is considered to be impacted by the addition of any amount of new project-related trips.

## EXISTING ROADWAY NETWORK

Because the Economic Development Element has a near city-wide scope, access is provided by most primary and local roads in Salinas. This section describes these existing roadway facilities, which are shown in **Figure 2** below.







Source: City of Salinas

### Circulation System

- Freeway/New Interchange
- Major Arterial
- Collector
- City Limits
- At-Grade Rural Highway
- Minor Arterial



Figure 2  
General Plan Circulation System

## NORTH/SOUTH ROADWAYS

**U.S. Route 101 (US-101)** is a north-south, four-lane freeway extending through the City of Salinas. The highway becomes a six-lane freeway between Boronda Road and Russell Road, through the north City limits of Salinas. The intersection of US-101 and major roadways in Salinas are either an interchange or grade separated overpass.

**San Juan Grade Road** is a four-lane roadway south of Boronda Road that intersects at North Main Street, and continues as two-lane roadway north of Boronda Road. The posted speed limit is 45 mph. Major intersections are controlled by traffic signals and minor intersections are controlled by side street stop control, with San Juan Grade Road as a free flow roadway.

**McKinnon Street** is two-lane collector with bicycle lanes that connects with Boronda Road and Alvin Drive. The posted speed limit is 35 mph.

**El Dorado Drive** is a two-lane collector with bicycle lanes that connects with Boronda Road and Alvin Drive, with a center turn lane between Harden Parkway and Alvin Drive. The posted speed limit is 25 mph.

**Natividad Road** is a six-lane divided major arterial from East Laurel to East Boronda Road. A portion of Natividad Road, between East Boronda Road and Los Coches Avenue, has sound walls on each side of the roadway with a posted speed limit of 45 mph. Natividad Road is a two-lane rural roadway north of East Boronda Road. South of East Bernal Drive, this road is known as Sherwood Drive, a 4-lane arterial.

**North Main Street** is a six-lane divided major arterial between US-101 in the south and East Boronda Road in the north with a posted speed limit of 35 miles per hour in this section. South of US-101 to East Market Street, North Main is a four-lane undivided arterial with a center turning lane. Near it's terminus at East Market Street, North Main Street transitions into a couplet with Salinas Street continuing southbound, while Monterey Street provides northbound access.

**Harris Road** is a rural roadway that provides access from Abbott Street in the north to the community of Spreckles in the south. It is a two-lane road for a majority of the route, with a painted center median in the southern section. The road provides access to mainly agricultural and light industrial uses.

**North Davis Road** is a four-lane divided arterial that starts at the end of Boronda Road and continues south to Market Street. South of West Market Street / California State Route 183 (SR 183), it continues as South Davis Road and it shifts to a two-lane divided road with a painted median and left turn pockets. North Davis Road includes bicycle lanes up to Laurel Drive. Bicycle lanes resume after Post Drive and continue through



South Davis Road up to Blanco Road. South of Blanco Road, Davis Road becomes a two-lane rural highway that serves agricultural uses up to its southerly terminus at Reservation Road.

## EAST/WEST ROADWAYS

**Russell Road** begins at the Espinosa Road/Russell Road interchange with US-101 and proceeds east to Van Buren Street as a two-lane roadway with a center turning lane. Thereafter Russell Road continues east as a two-lane street. The posted speed limit ranges from 35 to 45 mph.

**Espinosa Road** is a two-lane rural highway that serves primarily agriculture use. It continues into Russell Road east of the US-101 interchange.

**Boronda Road** begins at the Boronda Road interchange with US-101 as a six-lane major arterial to North Main Street. East of North Main Street, Boronda Road transitions to two lanes eastbound and three lanes westbound to San Juan Grade Road. East Boronda Road then narrows to a two-lane arterial east of San Juan Grade Road until it terminates at Williams Road. Traffic signals control the intersections of Boronda Road and all major arterials. Boronda Road is designated on the City's General Plan as a six-lane roadway and truck route along its entire length.

**Rogge Road** is a two-lane collector road connecting San Juan Grade Road and Natividad Road. The speed limit is 35 mph with a school zone of 25 mph.

**Alisal Road** is a two-lane rural road with a posted speed limit of 55 miles per hour. It runs from Spence Road in the east to East Alisal Street/Bardin Road at the Salinas City Limit. Alisal Road borders the Salinas Municipal Airport to the north but does not provide direct access to it.

**Old Stage Road** is a largely rural road that provides access to several agricultural areas north of the City limits. For most of its length, it is a two-lane rural road. Near Natividad Road, the posted speed limit is 45 miles per hour.

**Blanco Road** is a four-lane divided arterial with a physical median and left turn lanes. In Salinas, it runs from South Davis Road in the west to Abbott Street, where it continues north as South Sanborn Road. Segments of Blanco Road are in County jurisdiction. The posted speed limit is between 45 and 55 miles per hour. The road parallels the southern extent of the City limits, as such it serves a mix of residential and agricultural uses.

**Williams Road** is a four-lane divided arterial with left-turn lanes between Del Monte Avenue and Freedom Parkway. Between Del Monte Avenue and East Alisal Street, Williams Road is a four-lane arterial with a





center turn lane and left turn lanes. There is a painted bicycle lane between Freedom Parkway and Bardin Way.



## TRUCK ROUTES

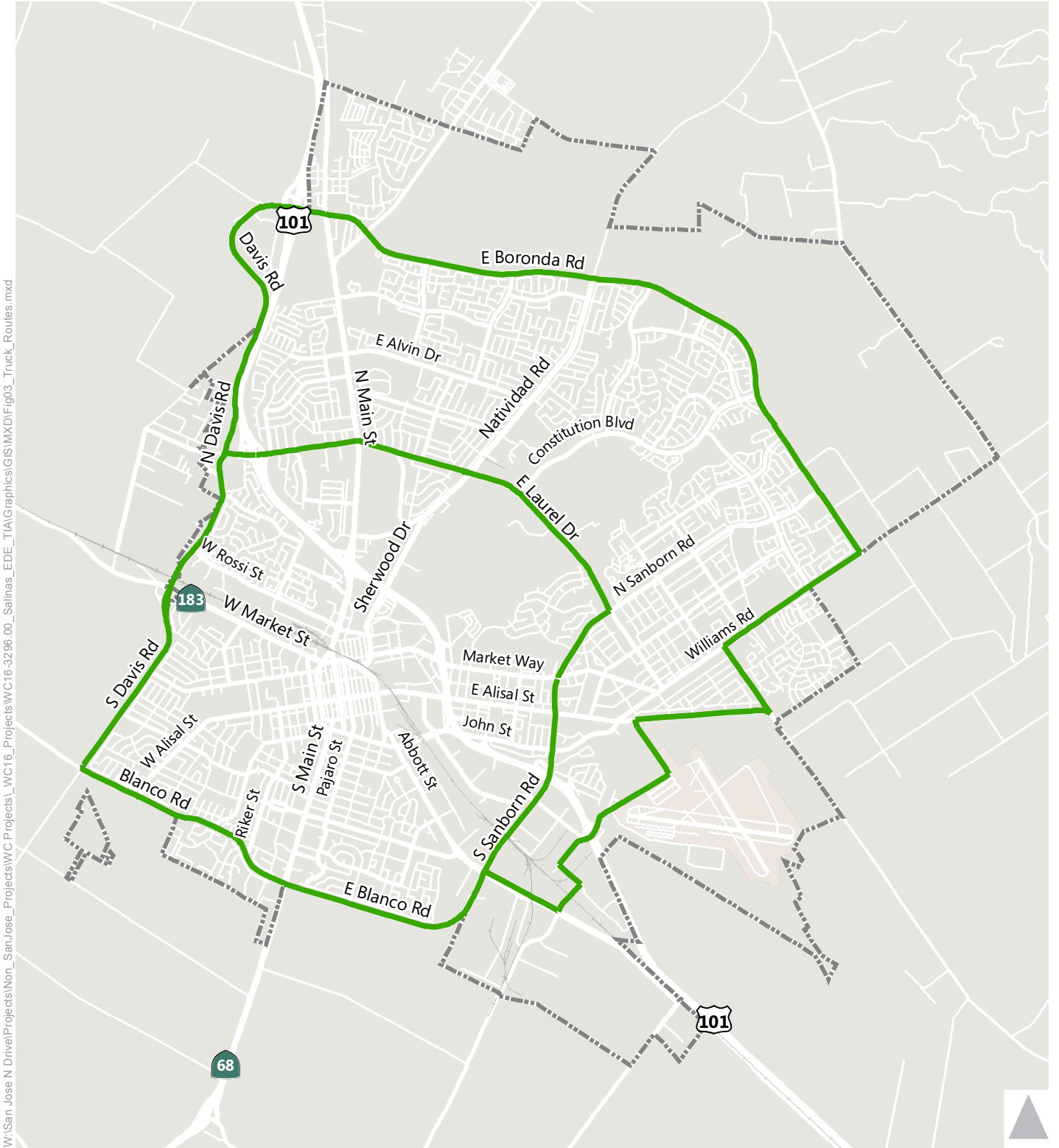
US-101 and city-designated truck routes serve the primary industrial areas of the community. These roads are intended to move goods efficiently within the City, between outlying agricultural uses, and packing/distribution centers. Additionally, they serve to separate truck traffic from local streets where the larger vehicles may conflict with other uses.

Aside from US-101, the following roads in part or in whole serve as truck routes on City streets:

- Blanco Road
- Davis Road
- Boronda Road
- Williams Road
- Alisal Street
- Skyway Boulevard
- Airport Boulevard
- Sanborn Road
- Laurel Drive

As shown in **Figure 3**, these roads combine to form concentric rings that provide access to existing industrial uses and shipping centers throughout the City.





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Source: City of Salinas

### Truck Routes

— Existing Truck Routes
   City Limits



Figure 3  
City of Salinas Truck Routes

## EXISTING PEDESTRIAN FACILITIES

Pedestrian facilities consist of sidewalks, curb ramps, crosswalks, and off-street paths, among other things. These facilities should provide safe and convenient routes for people walking to traverse the City. Pedestrian facilities are typically identified in the jurisdiction's General Plan as part of the transportation or circulation element, along with any proposed improvements or extensions to the existing pedestrian network. Policies and programs relating to walking in Salinas are defined in the City of Salinas Circulation Element Goal C-5 and the 2004 Salinas Pedestrian plan.

Pedestrian facilities exist in Salinas to varying degrees of comprehensiveness. Improved pedestrian facilities typically correspond to recent development, while roads adjacent to agricultural uses or undeveloped lots typically do not provide pedestrian facilities, which is common in urbanizing communities.

Existing pedestrian facilities may have barriers in the form of signposts, utility poles, or overgrown vegetation. Such barriers can also provide challenges to the access requirements for those with disabilities, as mandated in Americans with Disabilities Act (ADA). As parcels are developed and required to install sidewalks, there can also be gaps in the sidewalk system when adjacent parcels are not redeveloped or vacant. The City is updating its ADA transition plan which will help identify these barriers and develop strategies to eliminate gaps in the pedestrian path of travel.

## EXISTING BICYCLE FACILITIES

Bicycle facilities consist of paths (Class I), lanes (Class II), and routes (Class III). Bicycle paths are paved trails that are separate from roadways. Bicycle lanes are separate areas on roadways designated for bicycle use by striping, pavement legends, and signs. Bicycle routes are roadways designated for bicycle use by signs only, but may not include substantial width for bicycle travel. Like pedestrian facilities, bicycle networks are typically included in the General Plan, along with any proposed improvements or extensions. The list of existing bicycle facilities is summarized below and shown on **Figure 4** based on the 2002 Salinas Bicycle Plan and cross-checked against field observations.



## CLASS I SHARED-USE PATHS

- Rossi Rico Parkway
- Natividad Creek Park Trail
- Gabilan Creek Bike Path
- Front-Sherwood Underpass

## CLASS II BICYCLE LANES

The following roadways include Class II Bicycle Lanes:

- Williams Road
- Freedom Parkway
- North Sanborn Road between Del Monte Ave and East Boronda Road
- Constitution Boulevard
- Independence Boulevard
- East Boronda Road between Williams Road and North Davis Road
- North Davis Road between Boronda Road and SR 183
- South Davis Road between SR 183 to Blanco Road
- Nantucket Boulevard
- Rider Avenue
- Hemingway Drive
- El Dorado Drive
- Harden Parkway
- McKinnon Street
- East Alvin Drive between Kip Drive and North Main Street
- North Main Street between East Alvin Drive and San Juan Grade Road
- San Juan Grade Road between East Boronda Road and North Main Street
- Harden Parkway
- East and West Rossi Street
- Pajaro Street Between East Market Street and East San Joaquin Street
- South Main Street between East San Joaquin Street and Stephanie Drive
- East Alisal Street between Front Street and North Madeira Avenue
- Work Street between East Alisal Street and John Street
- Abbott Street between John Street and Harkins Road
- Front Street between East Alisal Street and John Street
- Laurel Drive between Constitution Boulevard and Saint Edwards





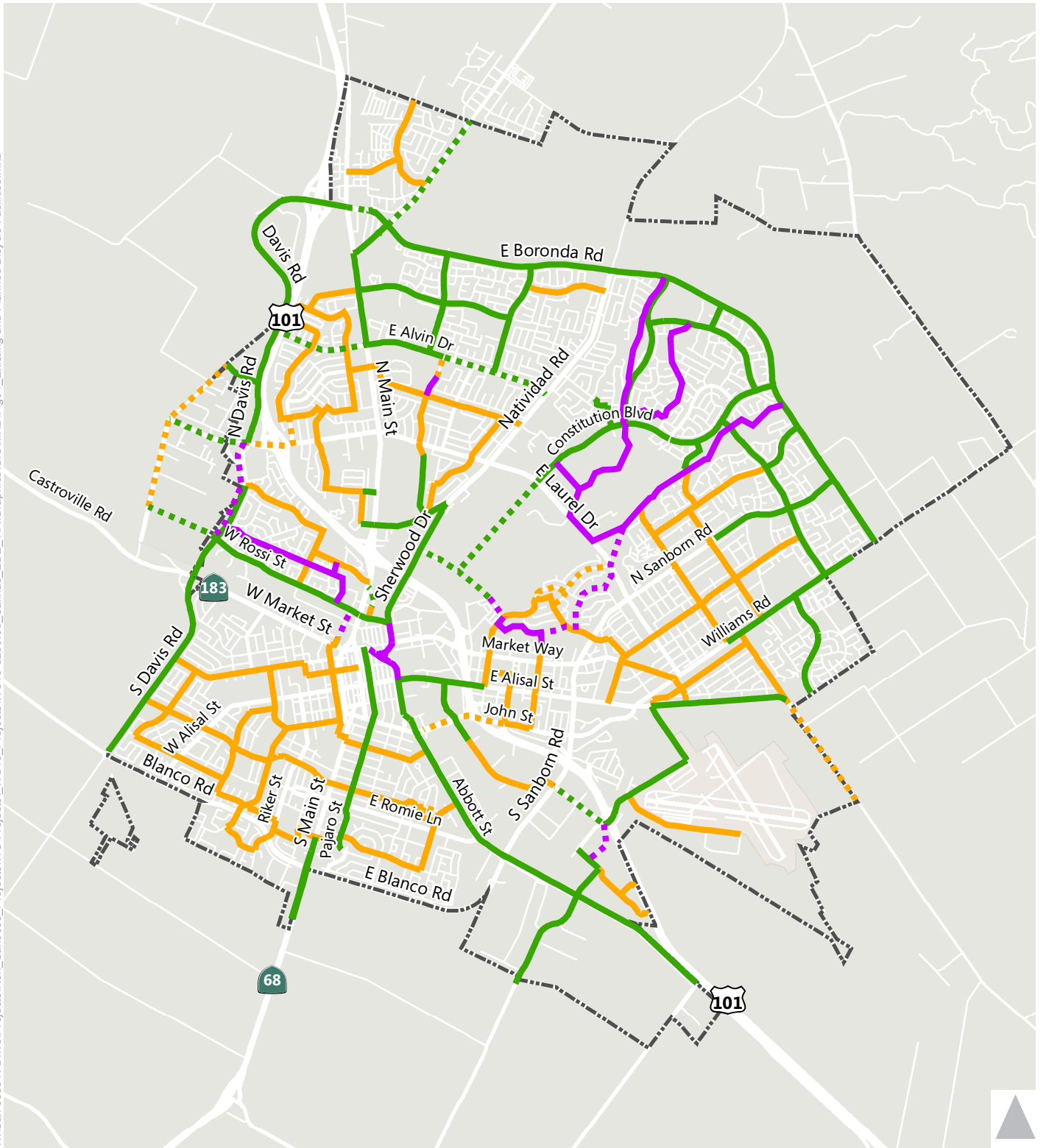


- Sherwood Drive

### CLASS III ROUTES

These facilities are ubiquitous throughout Salinas neighborhoods and are typically located on low-volume local streets.





Source: City of Salinas

### Bike Plan

- Class I: Path (Existing)    Class II: Lane (Existing)    Class III: Route (Existing)    City Limits
- Class I: Path (Proposed)    Class II: Lane (Proposed)    Class III: Route (Proposed)



Figure 4  
Existing and Planned Bicycle Facilities

## EXISTING TRANSIT SERVICE

Monterey-Salinas Transit (MST) provides fixed-route bus service in Monterey County and in the City of Salinas. Most routes in Salinas follow a hub-and-spoke service pattern, originating and returning to the Salinas Transit Center in downtown Salinas. Express and commuter busses are also provided to regional destinations in Monterey and Santa Cruz counties. As of 2014, MST experiences about 14,000 trips on an average weekday. **Figure 5** shows a map of transit bus service in Salinas.

Because the Target Areas are distributed across the City, **Table 1** below summarizes the hours of operation and service frequencies for all MST bus routes serving Salinas.

**TABLE 1: EXISTING TRANSIT SERVICE**

Route #	Route Name/Destination	Weekday	Saturday	Sunday	Commute Headway (peak hour)
20	Monterey	5:00 AM – 10:00 PM	4:45 AM – 11:05 PM	6:15 AM – 9:00 PM	15 minutes
21	Pebble Beach Express	Three AM Trips to Pebble Beach Daily: 4:45, 6:00, 7:06 Three PM Trips to Salinas Daily: 2:35, 4:10, 5:05			
23	King City	4:00 AM – 9:00 PM	6:30 AM – 7:30 PM	6:30 AM – 7:30 PM	15 Minutes
25	CSU Monterey Bay	6:00 AM – 9:30 PM Daily			60 Minutes
28	Watsonville via Castroville	6:30 AM – 9:20 PM	6:45 AM – 9:20 PM	6:45 AM – 6:45 PM	60 Minutes
29	Watsonville via Prunedale	5:45 AM – 7:30 PM Daily			60 Minutes
41	Northridge via East Alisal	5:25 AM – 10:30 PM	5:55 AM -10:14 PM		60 Minutes
42	Westridge - Spreckles	Fridays, Saturdays, Sundays: 8:45 AM – 8:30 PM			60 Minutes
43	South Salinas	6:40 AM – 6:13 PM	No Service	No Service	30 Minutes
44	Northridge Mall via Westridge	Daily 7:45 AM – 6:15 PM			45 Minutes
45	Northridge Mall via East Market	Daily: 7:00 AM – 7:00 PM			45 minutes
46	Natividad	6:55 AM – 6:00 PM	No Service	No Service	30 Minutes

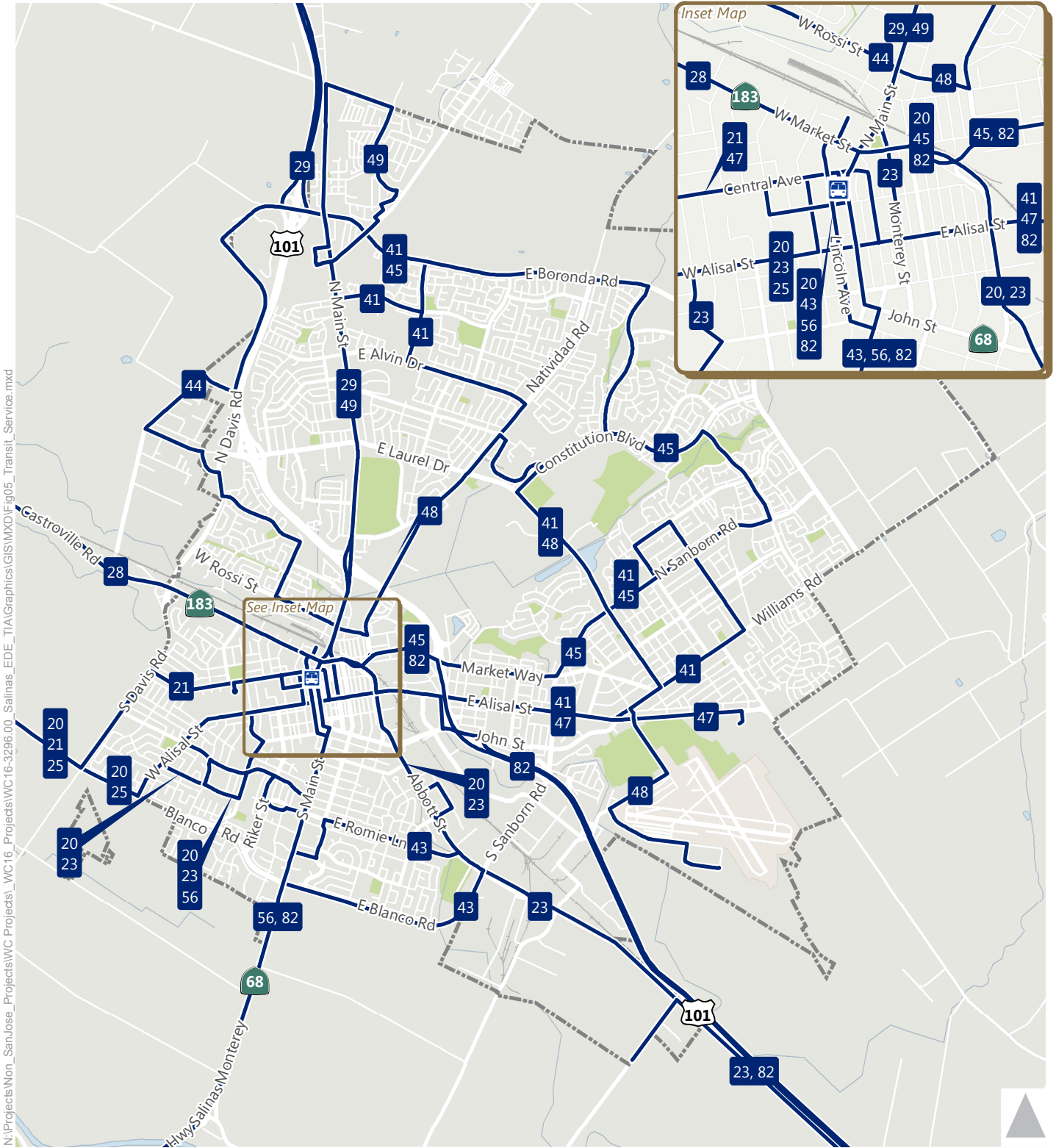


**TABLE 1: EXISTING TRANSIT SERVICE**

Route #	Route Name/Destination	Weekday	Saturday	Sunday	Commute Headway (peak hour)
47	Hartnell – Alisal Campus	7:00 AM – 6:54 PM	No Service	No Service	60 Minutes
48	Salinas Airport Business Center	7:30 AM – 6:23 PM	No Service	No Service	30 Minutes
49	Northridge Mall	Daily: 6:15 AM – 10:00 PM			60 Minutes
56	Presidio Express	7:00 AM – 6:15 PM	No Service	No Service	Once a day
82	Fort Hunter Ligget Express	AM Trips: 5:07, 7:27 PM Trips: 2:37, 3:27, 5:10, 8:25	8:10 AM, 1:25 PM, 3:20 PM, 8:30 PM		Three weekday trips in each direction only.
86	King City – San Jose Airport (Amtrak Thruway Bus)	4:38 AM – 10:15 PM	6:05 AM – 9:50 PM		Two weekday trips in each direction only.
95	Northridge Mall - Mesquite and Tumbleweed	Daily 7:00 AM – 5:20 PM			120 Minutes

Source: Monterey-Salinas Transit, 2017





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Source: Monterey-Salinas Transit

- Existing Transit Service
- City Limits
- Monterey-Salinas Transit (MST)  
Salinas Transit Center



Figure 5  
Existing Transit Service

## EXISTING VOLUMES AND LEVEL OF SERVICE

Consistent with the City's General Plan, the traffic analysis performed for the EDE evaluates conditions on key roadway segments located throughout the City. Because the EDE is programmatic and lacks specific site plans or internal roadway networks, the evaluation of key roadway segment performance was selected as the appropriate unit of analysis for this study. Traffic conditions on roadway segments will capture and accurately describe the potential impacts of the project on the City's transportation network, allowing for appropriate and commensurate mitigation measures to be developed. The evaluation of vehicular delays and levels of service at intersections, typically performed for a project level environmental review, was not identified as appropriate or necessary. At the current programmatic level, the project has not been defined at a level which would make the assessment of intersection levels of service accurate or meaningful.

The operations of key roadway segments were evaluated during 48-hour and 72-hour periods on midweek days in January, February, and April of 2016. Typically, roadway volumes are collected in January and February to capture school-related travel. However, in order to account for possible seasonal variances in traffic volume due the local context of Salinas, a volume adjustment factor for these winter counts was considered. Using prior data collected by the City from the summer of 2015, winter counts were found to be larger than summer counts by about 2 percent. Such a variance is likely due to simple day-to-day fluctuations in travel behavior, and as such an adjustment factor for winter volumes was ultimately not used.

The complete list of data collection locations includes the following roadway segments:

1. San Juan Grade Road between Boronda Road and Van Buren Avenue
2. Russell Road between Van Buren Avenue and San Juan Grade Road
3. Natividad Road between Old Stage Road and Rogge Road
4. Harrison Road north of Russell Road
5. Boronda Road between N. Davis Road and US-101
6. Boronda Road between McKinnon Street and El Dorado Drive
7. Boronda Road between El Dorado Drive and Natividad Road
8. Boronda Road between Constitution Boulevard and North Sanborn Road
9. W. Market Street (SR 183) between N. Davis Road and Clark Street
10. John Street (SR 68) between Abbott Street and US-101
11. John Street (SR 68) between Monterey Street and Abbott Street
12. N. Main Street (SR 183) between US-101 and Rossi Street
13. S. Main Street (SR 68) between San Miguel Avenue and Blanco Road



14. Crazy Horse Canyon Road south of US-101
15. Hebert Road between San Juan Grade Road and Old Stage Road
16. San Juan Grade Road between Hebert Road and Crazy Horse Canyon Road
17. San Juan Grade Road between Rogge Road and Hebert Road
18. Old Stage Road between Crazy Horse Canyon Road and Hebert Road
19. Old Stage Road between Hebert Road and Natividad Road
20. Old Stage Road between Natividad Road and Future Russell Road Extension
21. Old Stage Road between Russell Road Extension and Williams Road
22. Old Stage Road east of Williams Road
23. Rogge Road between San Juan Grade Road and Natividad Road
24. Davis Road between West Market Street and Central Avenue
25. Davis Road south of Blanco Road
26. Espinosa Road west of US-101
27. Blanco Road west of Davis Road
28. US-101 between Sanborn Road and John Street (SR 68)
29. US-101 between John Street (SR 68) and Market Street
30. US-101 between Market Street and Main Street (SR 183)
31. US-101 between Main Street (SR 183) and Laurel Drive
32. US-101 between Laurel Drive and Boronda Road
33. US-101 between Boronda Road and Russell Road
34. US-101 between Russell Road and SR 156
35. US-101 between SR 156 and San Miguel Canyon Road
36. US-101 between San Miguel Canyon Road and Crazy Horse Canyon Road
37. US-101 between Crazy Horse Canyon Road and San Juan Road
38. S. Main Street (SR 68) between Blanco Road and Hunter Lane
39. Russell Road between McKinnon Street and El Dorado Drive (*future roadway*)
40. Russell Road between Natividad Road and Independence Boulevard (*future roadway*)
41. San Miguel Canyon Road between US-101 and Castroville Boulevard
42. San Miguel Canyon Road between Castroville Boulevard and Strawberry Road
43. Boronda Road between US-101 and N. Main Street
44. Boronda Road between N. Main Street and San Juan Grade Road
45. McKinnon Street between Alvin Drive and E. Boronda Road
46. El Dorado Drive between Alvin Drive and E. Boronda Road



47. Natividad Road between Alvin Drive and E. Boronda Road
48. Independence Boulevard between Constitution Boulevard and E. Boronda Road
49. N. Davis Road between W. Market Street and W. Laurel Drive
50. Sherwood Drive between US-101 and Natividad Road
51. N. Sanborn Road between E. Market Street and E. Laurel Drive
52. E. Laurel Drive between Williams Road and N. Sanborn Road
53. Sherwood Drive between E. Market Street and US-101
54. Front Street between Alisal Street and E. Market Street
55. S. Sanborn Road between US-101 and John Street
56. Alisal Street between E. Alisal Street and Hartnell Road
57. Abbott Street between S. Sanborn Road and John Street
58. Airport Boulevard between US-101 and Hansen Street
59. Abbott Street Between S. Sanborn Road and Harkins Road
60. N. Main Street between Alvin Drive and San Juan Grade Road
61. Alvin Drive between McKinnon Street and El Dorado Drive
62. Constitution Boulevard between Independence Boulevard and E. Boronda Road
63. W. Laurel Drive between N. Davis Road and US-101
64. W. Laurel Drive between US-101 and Adams Street
65. W. Laurel Drive between N. Main Street and Natividad Road
66. N. Sanborn Road between E. Laurel Drive and E. Boronda Road
67. E. Laurel Drive between Constitution Boulevard and N. Sanborn Road
68. W. Market Street between N. Davis Road and McFadden Road
69. E. Market Street between Sherwood Drive and US-101
70. E. Market Street between US-101 and Sanborn Road
71. Williams Road between E. Laurel Drive and E. Boronda Road
72. E. Alisal Street between US-101 and Sanborn Road
73. E. Alisal Street between Williams Road/John Street and Bardin Road
74. Alisal Street between Lincoln Avenue and Blanco Road
75. John Street between US-101 and S. Sanborn Road
76. US-101 between John Street and S. Sanborn Road
77. Blanco Road between Alisal Street and Main Street





- |   |   |
|---|---|
| <p>78. E. Blanco Road between SR 68 and Abbott Street</p> <p>79. Airport Boulevard between US-101 and Skyway Boulevard</p> <p>80. Bernal Drive between N. Main Street and Sherwood Drive/Natividad Road</p> <p>81. Sala Road between US-101 and Harrison Road</p> <p>82. Harrison Road between Sala Road and Martines Road</p> <p>83. Harris Road west of Abbott Street</p> <p>84. Abbott Street south of Harris Road</p> <p>85. Abbott Street between Harris Road and Harkins Road</p> | <p>86. Natividad Road between E. Bernal Drive and E. Laurel Drive</p> <p>87. Castroville Road (SR 183) between Boronda Road and San Jon Road</p> <p>88. Castroville Road (SR183) between Espinosa Road and SR 156</p> <p>89. North Davis Road between W. Laurel Drive and Boronda Road</p> <p>90. Main Street between Blanco Road and Lincoln Avenue</p> <p>91. Constitution Boulevard between E. Laurel Drive and Independence Boulevard</p> <p>92. Laurel Drive between Natividad Road and Constitution Boulevard</p> |
|---|---|

To evaluate segment performance, a Level of Service (LOS)<sup>1</sup> score is assessed by comparing the observed volumes to the theoretical maximum capacity that a roadway segment can accommodate. These maximums are defined by roadway facility classification based on guidance from the 2002 Salinas General Plan, shown in **Table 2** below.

**TABLE 2: CITY OF SALINAS LOS THRESHOLDS**

Operational Class	Number of Lanes	Daily Volume/LOS Thresholds				
		A	B	C	D	E
Freeway Ramp	1	5,000	7,500	10,500	13,000	15,000
Arterial	2	11,000	12,500	14,500	16,000	18,000
Collector	2	6,000	7,500	9,000	10,500	12,000
Local	2	1,200	1,400	1,600	1,800	2,000

<sup>1</sup> The operations of roadway facilities are typically described with the term level of service (LOS), a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, which reflects free-flow conditions where there is very little interaction between vehicles, to LOS F, where the vehicle demand exceeds the capacity and high levels of vehicle delay result. LOS E represents “at-capacity” operations.



Freeway Ramp	2	10,000	15,000	21,000	26,000	28,000
Collector*	4	12,000	15,000	18,000	21,000	24,000
Freeway	4	26,000	40,000	57,000	69,000	74,000
Expressway	4	18,000	27,000	63,000	45,000	50,000
Divided Arterial	4	22,000	25,000	29,000	32,500	36,000
Undivided Arterial	4	16,000	19,000	22,000	24,000	27,000
Freeway	6	39,000	59,000	85,000	102,000	110,000
Expressway	6	28,000	42,000	56,000	67,000	74,000
Arterial	6	32,000	38,000	43,000	49,000	54,000
Freeway	8	51,000	79,000	112,000	136,000	146,000
Expressway	8	35,000	54,000	75,000	90,000	98,000
Arterial	8	40,000	47,000	54,000	61,000	68,000

Source: City of Salinas General Plan, 2002

\* Thresholds for a 4-Lane collector were derived from a multiplication of the thresholds per lane of a 2-lane collector.

The average daily observed traffic volume for each segment was compared against the defined threshold for the roadway classification type, as assigned in the General Plan. A LOS rating is then assigned based on the lower and upper thresholds that the volume falls between. For example, a volume of 27,000 on East Laurel Drive would yield an LOS score of C, because it is between the thresholds for LOS B and LOS C. The results of this analysis are presented in **Figure 6** and **Table 3** below.





N:\Projects\Non\_SanJose\_Projects\WC Projects\WC16-Projects\WC16-3296.00\_Salinas\_EDE\_TIA\Graphics\GIS\MXD\Fig06\_LOS\_Existing\_103\_2.mxd

Source: City of Salinas

**Existing LOS Conditions**

— E — F — City Limits



Figure 6  
Existing Conditions Level of Service

**TABLE 3: EXISTING STUDY SEGMENT VOLUMES AND LOS**

Name	Functional Class	No. of Lanes	Observed Daily Volume (Average)	Segment LOS	Jurisdiction
Abbott Street between Harris Road and Harkins Road	Collector	4	8,852	A	City
Abbott Street Between S Sanborn Road and Harkins Road	Divided Arterial	4	13,439	A	City
Abbott Street between S Sanborn Road and John Street	Divided Arterial	4	16,182	A	City
Abbott Street south of Harris Road	Collector	2	8,314	C	Partial/Both
Airport Boulevard between US-101 and Hansen Street	Collector	4	11,280	A	City
Airport Boulevard between US-101 and Skyway Boulevard	Collector	4	6,986	A	City
<b>Alisal Street between E Alisal Street and Hartnell Road</b>	<b>Local</b>	<b>2</b>	<b>1,948</b>	<b>E</b>	<b>County</b>
Alisal Street between Lincoln Avenue and Blanco Road	Collector	4	7,364	A	City
Alvin Drive between McKinnon Street and El Dorado Drive	Undivided Arterial	4	13,786	A	City
Bernal Drive between N Main Street and Sherwood Drive/Natividad Road	Arterial	2	15,206	D	City
Blanco Road between Alisal Street and Main Street	Divided Arterial	4	16,850	A	City
<b>Blanco Road west of Davis Road</b>	<b>Arterial</b>	<b>2</b>	<b>23,425</b>	<b>F</b>	<b>County</b>
Boronda Road between Constitution Boulevard and North Sanborn Road	Arterial	2	14,499	C	City
<b>Boronda Road between El Dorado Drive and Natividad Road</b>	<b>Arterial</b>	<b>2</b>	<b>19,900</b>	<b>F</b>	<b>City</b>



**TABLE 3: EXISTING STUDY SEGMENT VOLUMES AND LOS**

Name	Functional Class	No. of Lanes	Observed Daily Volume (Average)	Segment LOS	Jurisdiction
<b>Boronda Road between McKinnon Street and El Dorado Drive</b>	<b>Arterial</b>	<b>2</b>	<b>21,088</b>	<b>F</b>	<b>City</b>
Boronda Road between N Davis Road and US-101	Divided Arterial	4	19,608	A	City
Boronda Road between N Main Street and San Juan Grade Road	Divided Arterial	4	22,896	B	City
Boronda Road between US-101 and N Main Street	Expressway	6	40,996	B	City
Castroville Road (SR 183) between Boronda Road and San Jon Road (Caltrans)	Collector	4	7,869	A	Caltrans
<b>Castroville Road (SR183) between Espinosa Road and SR 156 (Caltrans)</b>	<b>Arterial</b>	<b>2</b>	<b>18,890</b>	<b>F</b>	<b>Caltrans</b>
Constitution Boulevard between E Laurel Drive and Independence Boulevard (use City monitoring counts)	Divided Arterial	4	24,990	B	City
Constitution Boulevard between Independence Boulevard and E Boronda Road	Collector	4	8,601	A	City
Crazy Horse Canyon Road south of US-101	Collector	2	5,184	A	County
<b>Davis Road between West Market Street and Central Avenue</b>	<b>Arterial</b>	<b>2</b>	<b>31,678</b>	<b>F</b>	<b>City</b>
Davis Road south of Blanco Road	Collector	2	6,595	B	County
E Alisal Street between US-101 and Sanborn Road	Divided Arterial	4	15,657	A	City
E Alisal Street between Williams Road/John Street and Bardin Road	Arterial	2	12,693	C	City
E Blanco Road between SR 68 and Abbott Street	Divided Arterial	4	18,756	A	City



**TABLE 3: EXISTING STUDY SEGMENT VOLUMES AND LOS**

Name	Functional Class	No. of Lanes	Observed Daily Volume (Average)	Segment LOS	Jurisdiction
E Laurel Drive between Constitution Boulevard and N Sanborn Road	Divided Arterial	4	20,151	A	City
E Laurel Drive between Williams Road and N Sanborn Road	Collector	2	8,585	C	City
E Market Street between Sherwood Drive and US-101	Collector	4	10,776	A	City
E Market Street between US-101 and Sanborn Road	Undivided Arterial	4	14,947	A	City
El Dorado Drive between Alvin Drive and E Boronda Road	Collector	2	5,888	A	City
Espinosa Road west of US-101	Collector	2	8,930	C	County
Front Street between Alisal Street and E Market Street	Collector	4	11,429	A	City
Harris Road west of Abbott Street	Collector	2	5,692	A	Partial/Both
Harrison Road between Russell and Sala	Collector	2	6,956	B	County
Harrison Road between Sala Road and Martines Road	Collector	2	2,836	A	County
Hebert Road between San Juan Grade Road and Old Stage Road	Collector	2	3,929	A	County
Independence Boulevard between Constitution Boulevard and E Boronda Road	Collector	2	9,802	D	City
John Street (SR 68) between Abbott Street and US-101	Undivided Arterial	4	20,303	C	Caltrans
John Street (SR 68) between Monterey Street and Abbott Street	Divided Arterial	4	15,095	A	Caltrans



**TABLE 3: EXISTING STUDY SEGMENT VOLUMES AND LOS**

Name	Functional Class	No. of Lanes	Observed Daily Volume (Average)	Segment LOS	Jurisdiction
John Street between US-101 and S Sanborn Road	Collector	4	10,797	A	City
Laurel Drive between Natividad Road and Constitution Boulevard (use City monitoring counts)	Expressway	4	38,406	C	City
Main Street between Blanco Road and Lincoln Avenue (use City monitoring counts)	Divided Arterial	4	20,397	A	City
McKinnon Street between Alvin Drive and E Boronda Road	Collector	2	7,780	C	City
N Davis Road between W Market Street and W Laurel Drive	Divided Arterial	4	26,954	C	City
<b>N Main Street (SR 183) between US-101 and Rossi Street</b>	<b>Divided Arterial</b>	<b>4</b>	<b>32,742</b>	<b>E</b>	<b>Caltrans</b>
N Main Street between Alvin Drive and San Juan Grade Road	Arterial	6	29,894	A	City
N Sanborn Road between E Laurel Drive and E Boronda Road	Arterial	2	12,789	C	City
N Sanborn Road between E Market Street and E Laurel Drive	Divided Arterial	4	20,332	A	City
Natividad Road between Alvin Drive and E Boronda Road	Arterial	6	12,286	A	City
Natividad Road between E Bernal Drive and E Laurel Drive	Divided Arterial	4	32,402	D	City
Natividad Road between Old Stage Road and Rogge Road	Collector	2	3,568	A	County
North Davis Road between W Laurel Drive and Boronda Road	Divided Arterial	4	24,621	B	City
Old Stage Road between Crazy Horse Canyon Road and Hebert Road	Local	2	347	A	County



**TABLE 3: EXISTING STUDY SEGMENT VOLUMES AND LOS**

Name	Functional Class	No. of Lanes	Observed Daily Volume (Average)	Segment LOS	Jurisdiction
Old Stage Road between Hebert Road and Natividad Road	Collector	2	4,761	A	County
Old Stage Road between Natividad Road and Future Russell Road Extension	Local	2	1,126	A	County
Old Stage Road between Russell Road Extension and Williams Road	Collector	2	2,280	A	County
Old Stage Road east of Williams Road	Local	2	1,486	C	County
Rogge Road between San Juan Grade Road and Natividad Road	Collector	2	3,992	A	County
Russell Road between Van Buren Avenue and San Juan Grade Road	Collector	2	7,202	B	City
S Main Street (SR 68) between Blanco Road and Hunter Lane	Divided Arterial	4	29,512	D	Caltrans
S Main Street (SR 68) between San Miguel Avenue and Blanco Road	Divided Arterial	4	22,913	B	Caltrans
S Sanborn Road between US-101 and John Street	Divided Arterial	4	23,144	B	City
Sala Road between US-101 and Harrison Road	Collector	4	6,693	A	City
San Juan Grade Road between Boronda Road and Van Buren Avenue	Arterial	2	13,754	C	City
San Juan Grade Road between Hebert Road and Crazy Horse Canyon Road	Arterial	2	12,265	B	County
San Juan Grade Road between Rogge Road and Hebert Road	Collector	2	4,134	A	County
<b>San Miguel Canyon Road between Castroville Boulevard and Strawberry Road</b>	<b>Arterial</b>	<b>2</b>	<b>21,808</b>	<b>F</b>	<b>County</b>





**TABLE 3: EXISTING STUDY SEGMENT VOLUMES AND LOS**

Name	Functional Class	No. of Lanes	Observed Daily Volume (Average)	Segment LOS	Jurisdiction
<b>San Miguel Canyon Road between US-101 and Castroville Boulevard</b>	<b>Arterial</b>	<b>2</b>	<b>16,629</b>	<b>E</b>	<b>County</b>
Sherwood Drive between E Market Street and US-101	Divided Arterial	4	16,883	A	City
Sherwood Drive between US-101 and Natividad Road	Divided Arterial	4	24,690	B	City
W Laurel Drive between N Davis Road and US-101	Arterial	6	26,813	A	City
W Laurel Drive between N Main Street and Natividad Road	Undivided Arterial	4	21,199	C	City
<b>W Laurel Drive between US-101 and Adams Street</b>	<b>Undivided Arterial</b>	<b>4</b>	<b>34,248</b>	<b>F</b>	<b>City</b>
W Market Street (SR 183) between N Davis Road and Clark Street	Undivided Arterial	4	13,353	A	Caltrans
<b>W Market Street between N Davis Road and McFadden Road</b>	<b>Collector</b>	<b>2</b>	<b>11,782</b>	<b>E</b>	<b>County</b>
Williams Road between E Laurel Drive and E Boronda Road	Divided Arterial	4	12,362	A	City

Source: Fehr & Peers 2017



Most segments perform well, scoring between A and B, and do not fall below the minimum LOS threshold defined by the relevant policy documents.

Four roadways currently operate at LOS E:

- North Main Street (SR 183) between US-101 and Rossi Street
- San Miguel Canyon Road between US-101 and Castroville Boulevard
- Alisal Street between East Alisal Street and Hartnell Road
- West Market Street between North Davis Road and McFadden Road

Seven roadway segments currently operate at LOS F:

- Boronda Road between McKinnon Street and El Dorado Drive
- Boronda Road between El Dorado Drive and Natividad Road
- Davis Road between West Market Street and Central Avenue
- Blanco Road west of Davis Road
- San Miguel Canyon Road between Castroville Boulevard and Strawberry Road
- West Laurel Drive between US-101 and Adams Street
- Castroville Road (SR183) between Espinosa Road and SR 156 (Caltrans)

Boronda Road is planned for a capacity expansion to coincide with development outlined in the West Area Specific Plan and the Central Area Specific Plan. Current conceptual designs call for a phased expansion of the road to five lanes and ultimately six lanes at full General Plan Buildout. The City is also considering roundabouts at the intersections where they would provide added capacity.

Observations were recorded at nine locations along US-101. Comparing the observed volumes to the LOS thresholds outlined in by Caltrans yield an LOS score ranging from C to E for all freeway segments as shown on **Table 4** below.

**TABLE 4: EXISTING FREEWAY MAINLINE VOLUMES LEVELS OF SERVICE**

Segment Name	Functional Class	Lanes	ADT	LOS
US 101 between Boronda Road and Russell Road	Freeway	4	58,107	C
US 101 between Crazy Horse Canyon Road and San Juan Road	Freeway	4	56,126	C
<b>US 101 between Laurel Drive and Boronda Road</b>	<b>Freeway</b>	<b>4</b>	<b>65,240</b>	<b>D</b>
<b>US 101 between Main Street (SR 183) and Laurel Drive</b>	<b>Freeway</b>	<b>4</b>	<b>64,333</b>	<b>D</b>



**TABLE 4: EXISTING FREEWAY MAINLINE VOLUMES LEVELS OF SERVICE**

Segment Name	Functional Class	Lanes	ADT	LOS
<b>US 101 between Market Street and Main Street (SR 183)</b>	<b>Freeway</b>	<b>4</b>	<b>66,286</b>	<b>D</b>
US 101 between Russell Road and SR 156	Freeway	4	51,490	C
US 101 between San Miguel Canyon Road and Crazy Horse Canyon Road	Freeway	4	55,727	C
US 101 between Sanborn Road and John Street (SR 68)	Freeway	4	43,860	C
<b>US 101 between SR 156 and San Miguel Canyon Road</b>	<b>Freeway</b>	<b>4</b>	<b>72,999</b>	<b>E</b>

Source: Fehr & Peers, 2017

Most highway segments operate at the local minimum level of service standards for all roadways, which is set at C or better. US 101 between Laurel Drive and Boronda Road; US 101 between Main Street (SR 183) and Laurel Drive; and US 101 between Market Street and Main Street (SR 183) currently operate at LOS D. US 101 between SR 156 and San Miguel Canyon Road currently operates at E.



## FUTURE VOLUMES AND LEVEL OF SERVICE

This section documents the methodology and results of the analysis to forecast future changes in travel behavior in Salinas with the addition of the proposed project. It also describes the methodology and assumptions used in the Salinas Travel Demand model.

### FORECASTING METHODOLOGY

The Salinas Travel Demand model (the model) includes all of Monterey County, California, including the City of Salinas. It is a four-step model, using trip generation, trip distribution, mode choice and trip assignment in order to create estimates for travel behavior and patterns.

The model was used to forecast travel to and from a specific area, or zone, based on the land use information for that zone. Land use information includes the number and size of households and the number and type of jobs. The proposed employment associated with the EDE was added to the zones which encompass the project area.

#### **Cumulative Horizon Year Forecast**

Using information from the City's travel demand model, year 2045 horizon year forecasts were developed for use in this study. The model reflects all of the land use changes and transportation network improvements included in the General Plan. The projections include the land use growth anticipated to occur by the horizon year of 2045.

#### **Adjusting Model Outputs**

Travel demand models such as the one used in this report provide volume outputs that need to be adjusted in order to develop volume forecasts for the scenario being tested. In principle, raw volume outputs from a travel demand model should rarely be applied directly in analysis, only being used after adjustments are made. Adjustments to forecasted volumes are usually based on the difference between or ratio of volumes observed in the field and the model's own prediction of existing volumes.

The rationale for adjusting raw model volume outputs is that observed travel behavior is the result of a highly complex mixture of variables, only some of which are included in any given travel demand model, and so an adjustment is needed to account for variables not captured by the model itself. The adjustment takes the form of changing the model outputs to correct for discrepancies between the base year field counts and the base year model volumes identified during the local calibration process, as it is assumed



that the discrepancy will likely affect all scenarios in the same order of magnitude. This can be done several ways, as defined in the *National Cooperative Highway Research Program Report 255: Highway Traffic Data for Urbanized Area Project Planning and Design*, Transportation Research Board, December 1982<sup>2</sup>. The three most common industry-standard procedures for adjusting model traffic forecasts for both link and turning movement volumes are described below.

### **Difference Method**

The difference between the base year field count and the base year model volume is added to the output model volume to develop the forecasted volume for the scenario being tested. For example, if the base year model volume for a roadway segment was 650 ADT while the field count was 700 ADT, then the difference method would suggest the output model volume on that roadway segment should be increased by 50 ADT to develop the forecasted volume for the scenario being tested. The difference method adjustment is summarized in the formula below.

$$\text{Scenario Forecast} = \text{Output Model Volume} + (\text{Field Count} - \text{Base Year Model Volume})$$

### **Ratio Method**

The ratio method is similar, except that it uses the ratio of the base year field count and the base year model volume to make the adjustment. For example, if the base year model volume for a roadway segment was 650 ADT while the field count was 700 ADT, then the ratio method would suggest the output model volume should be increased by 7.7% ( $700 / 650 = 1.077$ ) to develop the forecasted volume for the scenario being tested. The ratio method adjustment is summarized in the formula below.

$$\text{Scenario Forecast} = \text{Output Model Volume} * (\text{Field Count} / \text{Base Year Model Volume})$$

### **Blended Method**

The blended method takes the average of the ratio method and the difference method scenario forecasts. The blended method adjustment is summarized in the formula below.

$$\text{Scenario Forecast} = (\text{Difference Method Scenario Forecast} + \text{Ratio Method Scenario Forecast}) / 2$$

The most appropriate adjustment method is left to the judgment of the engineer for each project. However, there are guidelines that the Transportation Research Board<sup>3</sup> has published based on the difference between base year field counts and base year model volumes: use the ratio method if the difference is less

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<sup>2</sup> <http://teachamerica.com/tih/PDF/nchrp255.pdf>

<sup>3</sup> *National Cooperative Highway Research Program Report 255, Highway Traffic Data for Urban Area Project Planning and Design*, Transportation Research Board, N.J. Pederson and D.R. Samdahl



than 50%, use the difference method if the difference is greater than 150%, otherwise use the blended method. No matter which method is selected, the reasonableness of the scenario forecast should always be checked based on knowledge of the area, comparisons to forecasts at adjacent locations, off-model calculations of the trip generation, distribution, and assignment of adjacent land use, or other methodologies, as deemed appropriate.

## PROPOSED PROJECT DESCRIPTION

Twenty-five EOAs are identified in the EDE as locations for potential enhanced economic development through redevelopment, new infill development, and/or new greenfield development. After additional analysis, six specific Target Areas, each located within one of the EOAs were proposed as locations for future targeted economic development. The traffic and circulation impacts of development within these Target Areas are evaluated in this TIA. As shown earlier in **Figure 1**, these Target Areas comprise portions of EOAs B, F, K, L1/L2, N and V – Carr Lake, all of which (except V) are outside the Salinas Sphere of Influence. To identify the magnitude of development needed to achieve long-term employment growth commensurate with buildout of the General Plan and to improve the City's jobs to housing balance, three economic development technical analyses were performed in 2013:

1. *Salinas Retail Analysis* prepared by Applied Development Economics (ADE);
2. *Salinas Economic Development Element Target Industry Analysis* prepared by ADE; and
3. *Site Opportunities and Constraints Analysis* prepared by Economic and Planning Systems (EPS).

The findings of these analyses identified, among other things, the types of employment generating development that could best meet the projected demand for employment. Overall, the studies helped to identify the development types and building capacities needed for this purpose. Improving the jobs to housing balance may reduce the volume of inter-city commute trips, and could reduce the distance workers would need to commute each day.

Below, **Table 5** summarizes the size and building capacities within the five target areas located outside the City's Sphere of Influence (SOI).



**TABLE 5: EDE TARGET DEVELOPMENT AREAS OUTSIDE OF SOI**

Target Area	Land Use	% of Land Use Designation	Land Demand (gross acres)	Land Demand (net acres)	Building Capacity <sup>1</sup> (square feet)
B	Industrial	100%	147	115	1,502,820
F	Industrial	0	0	0	0
Subtotal Industrial			147	115	1,502,820
B	Retail	-	10	8	87,120
F	Retail	-	10	8	87,120
K	Retail	-	30	23	250,470
L1/L1	Retail	-	74	57	620,730
N	Retail	-	40	31	337,590
Retail Subtotal			164	127	1,383,030
K	Business Park	100%			1,570,338
N	Business Park	0	0		0
Business Park Subtotal			132	103	1,570,338
Total			443		4,445,511

Source: ADE, 2015; EMC Planning Group 2015

1. Building capacity is based on General Plan FAR of .30 for Industrial, .25 for Retail, and .35 for business park.

**Table 6** summarizes the size and development capacities of all six target areas, including Area V – Carr Lake, which is located within the City's SOI.



**TABLE 6: DEVELOPMENT AREA SUMMARY – SIX TARGET AREAS**

Location	New Land Supply (gross acres)	New Building Capacity (square feet)
Target Areas Outside the SOI	443	4,445,511
Target Area V - Carr Lake	115	810,448
Total	558	5,255,959

Source: ADE, 2015; EMC Planning Group 2015

## TRIP GENERATION

The model estimates traffic volume in cumulative plus project scenario based on the land use as well as employment that is expected as part of the proposed project. In **Table 7** below, the EDE Target Areas are shown with their equivalent Transportation Analysis Zone (a geographic area that contains land use and socio-economic demographic information) and the project-related employment. It is important to note that new housing is not proposed within any of the Target Areas.

**TABLE 7: ECONOMIC TARGET AREAS AND ADDED EMPLOYMENT**

Target Area	TAZ	Land Use	Building Square Feet	Square Feet /Employee	Employees
B	1265	Industrial	1,502,820	1,000	1,503
B	1265	Retail	87,120	550	158
F	1318	Retail	87,120	550	158
K	1166	Retail	250,470	550	455
L1/L2	1097	Retail	620,732	550	1,129
N	1169	Retail	337,590	550	614
K	1193	Business Park	1,570,338	450	3,490
V – Carr Lake	1250 & 1230	Retail	810,488	550	1,474

Source: Salinas Economic Development Element Notice of Preparation, 2015





Based on this information as well as the land use information above the model estimates the number of daily trips generated per employee as a result of the proposed project. The trip rate and total trips generated at each EDE Target Area is shown below in **Table 8**.

**TABLE 8: EDE TARGET AREA TRIP GENERATION**

Target Area	TAZ	New Trips	New Employees	Daily Trips per Employee
B	1265	4,644	1,661	3
F	1318	2,347	158	15
K	1166	6,759	455	15
L1/L2	1097	16,772	1,129	15
N	1169	9,121	614	15
K	1193	21,382	3,490	6
V - Carr Lake	1250 & 1230	21,897	1,474	15

Source: Fehr & Peers, 2017

The Target Areas with retail development (F, L1/L2, N, V, and part of B) have higher trip rates than the industrial part of Target Area B and the business park in Target Area K. This is because retail land uses will generate more trips overall due to having more employees working in shifts as well as from visiting customers. By contrast, industrial locations and business parks will generate less overall trips as employees may not be working in shifts and there are not many non-employee visitors.

## TRIP DISTRIBUTION AND ASSIGNMENT

After forecasting project-related traffic, the model distributes the trips across the roadway network. In this way the impact of the project can be evaluated at the roadway segment level. In general, residential land use produces trips, and non-residential land uses attract them.

To do this, the model first assumes that each trip being generated will choose a destination zone. Destination zones are selected on the basis of land use and network characteristics, as well as the destination's relevance to the origin zone. For example, schools will generate more trips from residential areas with high student populations. Once the model has determined the origin and destination zone for every forecasted trip, a viable route is selected based on characteristics of the network such as speed, capacity, and distance. When multiple zones have the necessary attraction attributes, the model will select the "best" route as a function of time and cost.



## ROADWAY NETWORK CHANGES

The Salinas Travel Demand Model includes all roadway network changes from the City's General Plan, including both the eastside and westside bypass facilities.

## FORECAST SCENARIOS

Using the assumptions detailed above, two forecast scenarios were analyzed using the Salinas Travel Demand Model:

1. *Cumulative Conditions*: Projected traffic volumes and planned transportation infrastructure projects for 2045 including traffic generated by pending developments.
2. *Cumulative with Project Conditions*: Volumes generated under the *Cumulative Conditions* scenario, plus net traffic generated by implementation of the proposed project.

Both future scenarios include land use assumptions detailed in the *Salinas West Area Specific Plan (WASP)* and *Central Area Specific Plan (CASP)*.

## FORECAST RESULTS

This section presents the results of the traffic forecasts for the Cumulative and Cumulative with Project Conditions forecast analysis. It also presents the standards of significance used when determining whether or not the proposed project will impose a significant impact on the transportation network.

## STANDARDS OF SIGNIFICANCE

The determination of significance for project impacts is based on applicable policies, regulations, goals, and guidelines defined by the City of Salinas, and Caltrans. The City of Salinas General Plan does not include a policy regarding the analysis of roadways that are already operating below standard. However, in recent traffic impact studies prepared for the City, the threshold used states that the addition of any new trips to a facility already exceeding the operating standard is considered a significant impact. A similar criterion is applied to County and Caltrans facilities that are already below operating standards. The impacts of the project were evaluated by comparing the results of the level of service calculations under Cumulative Conditions to the results under Cumulative with Project Conditions. The detailed impact criteria for this study are presented below.



## **City of Salinas**

### *Roadways*

The LOS standard for the City of Salinas roadways is LOS D. Traffic impacts on City facilities are defined to occur when:

- Added project traffic causes roadway segment operations to deteriorate from an acceptable level (LOS D or better) to an unacceptable level (LOS E or worse); or
- Project traffic is added to a roadway segment operating at an unacceptable (LOS E or worse) level.

### *Pedestrian and Bicycle Facilities*

Significant impacts to pedestrian and bicycle facilities are defined to occur when:

- The project conflicts with existing or planned pedestrian or bicycle facilities; or
- The project creates pedestrian and bicycle demand without providing adequate facilities.

### *Transit Facilities*

Significant impacts to transit facilities are defined to occur when:

- The project conflicts with existing or planned transit facilities; or
- The project generates potential transit trips without providing adequate facilities for pedestrians and bicyclists to access transit routes and stops.

## **Monterey County**

Some roadway segments in this report fall within the unincorporated areas of Monterey County. As such, the applicable level of service standards from the Monterey County General Plan Circulation Element will be applied. In this case, Policy C-1.1 states that "the acceptable level of service for County roads and intersections shall be Level of Service (LOS) D."

LOS of D is also the minimum level of service defined for highways in the 2005 Monterey County Congestion Management Program (CMP).

### **Caltrans Facilities**

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway facilities (*Guide for the Preparation of Traffic Studies*, Caltrans, December 2002); however, Caltrans recognizes that achieving LOS C/LOS D may not always be feasible. For the purposes of this TIA, Caltrans facilities are considered to be impacted if the addition of project-related trips reduces LOS from C or better to LOS D or



worse. Also, a facility that already operates at LOS D or worse is considered to be impacted by the addition of any amount of new project-related trips.

## CUMULATIVE CONDITIONS

This section presents the cumulative conditions forecast analysis for segment volumes and level of service. Study segments that were found to have an LOS score of E or worse are in bold. The results of the LOS analysis are also presented visually in **Figure 7**.

With the addition of future non-project trips, LOS scores deteriorate to below local thresholds on a number of study segments and US-101 mainline segments (as shown in **Table 9** and **Table 10**, below).





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Source: City of Salinas

**Future LOS without Project**

— E 
 — F 
   City Limits



Figure 7  
Future without Project Level of Service

### Cumulative Conditions Study Segments

Assuming a horizon year of 2045, this scenario incorporates increased travel volumes related to the anticipated growth in population as well as other land use factors detailed in the 2002 Salinas General Plan, the West Area Specific Plan, and the Central Area Specific Plan. Several roadway segments operate below the minimum threshold established by the City and Monterey county, where applicable (LOS D or better). Roadway segments that operate below this threshold are bolded in **Table 9**, below.

**TABLE 9: CUMULATIVE CONDITIONS STUDY SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative Conditions Daily Volume	LOS	Jurisdiction
Abbott Street between Harris Road and Harkins Road	13,940	B	City
Abbott Street Between S Sanborn Road and Harkins Road	17,950	A	City
Abbott Street between S Sanborn Road and John Street	19,380	A	City
Abbott Street south of Harris Road	10,250	D	Partial/Both
Airport Boulevard between US-101 and Hansen Street	12,180	B	City
Airport Boulevard between US-101 and Skyway Boulevard	8,290	A	City
<b>Alisal Street between E Alisal Street and Hartnell Road</b>	<b>3,270</b>	<b>F</b>	<b>County</b>
Alisal Street between Lincoln Avenue and Blanco Road	10,040	A	City
Alvin Drive between McKinnon Street and El Dorado Drive	16,990	B	City
<b>Bernal Drive between N Main Street and Sherwood Drive/Natividad Road</b>	<b>16,620</b>	<b>E</b>	<b>City</b>
Blanco Road between Alisal Street and Main Street	21,470	A	City
<b>Blanco Road west of Davis Road</b>	<b>25,730</b>	<b>F</b>	<b>County</b>
Boronda Road between Constitution Boulevard and North Sanborn Road	22,860	A	City
Boronda Road between El Dorado Drive and Natividad Road	38,080	C	City
Boronda Road between McKinnon Street and El Dorado Drive	27,730	A	City
Boronda Road between N Davis Road and US-101	27,970	A	City



**TABLE 9: CUMULATIVE CONDITIONS STUDY SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative Conditions Daily Volume	LOS	Jurisdiction
Boronda Road between N Main Street and San Juan Grade Road	29,160	D	City
Boronda Road between US-101 and N Main Street	47,160	C	City
Castroville Road (SR 183) between Boronda Road and San Jon Road (Caltrans)	15,470	D	Caltrans
<b>Castroville Road (SR183) between Espinosa Road and SR 156 (Caltrans)</b>	<b>19,840</b>	<b>F</b>	<b>Caltrans</b>
Constitution Boulevard between E Laurel Drive and Independence Boulevard	26,570	C	City
Constitution Boulevard between Independence Boulevard and E Boronda Road	10,790	A	City
<b>Crazy Horse Canyon Road south of US-101</b>	<b>11,390</b>	<b>E</b>	<b>County</b>
<b>Davis Road between West Market Street and Central Avenue</b>	<b>33,770</b>	<b>F</b>	<b>City</b>
<b>Davis Road south of Blanco Road</b>	<b>12,740</b>	<b>F</b>	<b>County</b>
E Alisal Street between US-101 and Sanborn Road	21,210	A	City
<b>E Alisal Street between Williams Road/John Street and Bardin Road</b>	<b>23,390</b>	<b>F</b>	<b>City</b>
E Blanco Road between SR 68 and Abbott Street	23,120	B	City
E Laurel Drive between Constitution Boulevard and N Sanborn Road	23,880	B	City
<b>E Laurel Drive between Williams Road and N Sanborn Road</b>	<b>10,740</b>	<b>E</b>	<b>City</b>
E Market Street between Sherwood Drive and US-101	20,270	D	City
E Market Street between US-101 and Sanborn Road	18,430	B	City
El Dorado Drive between Alvin Drive and E Boronda Road	6,480	B	City
Espinosa Road west of US-101	10,080	D	County
<b>Front Street between Alisal Street and E Market Street</b>	<b>21,440</b>	<b>E</b>	<b>City</b>



**TABLE 9: CUMULATIVE CONDITIONS STUDY SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative Conditions Daily Volume	LOS	Jurisdiction
<b>Harris Road west of Abbott Street</b>	<b>14,760</b>	<b>F</b>	<b>Partial/Both</b>
<b>Harrison Road between Russell and Sala</b>	<b>14,440</b>	<b>F</b>	<b>County</b>
Harrison Road between Sala Road and Martines Road	3,490	A	County
Hebert Road between San Juan Grade Road and Old Stage Road	6,360	B	County
<b>Independence Boulevard between Constitution Boulevard and E Boronda Road</b>	<b>10,900</b>	<b>E</b>	<b>City</b>
<b>John Street (SR 68) between Abbott Street and US-101</b>	<b>26,010</b>	<b>E</b>	<b>Caltrans</b>
John Street (SR 68) between Monterey Street and Abbott Street	20,530	A	Caltrans
John Street between US-101 and S Sanborn Road	13,650	B	City
Laurel Drive between Natividad Road and Constitution Boulevard	44,800	C	City
Main Street between Blanco Road and Lincoln Avenue	23,610	B	City
<b>McKinnon Street between Alvin Drive and E Boronda Road</b>	<b>12,540</b>	<b>F</b>	<b>City</b>
N Davis Road between W Market Street and W Laurel Drive	29,960	D	City
<b>N Main Street (SR 183) between US-101 and Rossi Street</b>	<b>39,730</b>	<b>F</b>	<b>Caltrans</b>
N Main Street between Alvin Drive and San Juan Grade Road	34,410	B	City
N Sanborn Road between E Laurel Drive and E Boronda Road	14,000	C	City
N Sanborn Road between E Market Street and E Laurel Drive	23,680	B	City
Natividad Road between Alvin Drive and E Boronda Road	25,150	A	City
<b>Natividad Road between E Bernal Drive and E Laurel Drive</b>	<b>46,850</b>	<b>F</b>	<b>City</b>
Natividad Road between Old Stage Road and Rogge Road	7,760	C	County





**TABLE 9: CUMULATIVE CONDITIONS STUDY SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative Conditions Daily Volume	LOS	Jurisdiction
North Davis Road between W Laurel Drive and Boronda Road	27,390	C	City
Old Stage Road between Crazy Horse Canyon Road and Hebert Road	6,800	B	County
Old Stage Road between Hebert Road and Natividad Road	10,470	D	County
Old Stage Road between Natividad Road and Future Russell Road Extension	3,260	A	County
Old Stage Road between Russell Road Extension and Williams Road	6,910	B	County
Old Stage Road east of Williams Road	2,680	A	County
Rogge Road between San Juan Grade Road and Natividad Road	4,580	A	County
Russell Road between McKinnon Street and El Dorado Drive (future roadway)	2,960	A	City
Russell Road between Natividad Road and Independence Boulevard (future roadway)	4,330	A	City
<b>Russell Road between Van Buren Avenue and San Juan Grade Road</b>	<b>11,770</b>	<b>E</b>	<b>City</b>
<b>S Main Street (SR 68) between Blanco Road and Hunter Lane</b>	<b>33,790</b>	<b>E</b>	<b>Caltrans</b>
S Main Street (SR 68) between San Miguel Avenue and Blanco Road	26,350	C	Caltrans
S Sanborn Road between US-101 and John Street	29,820	D	City
Sala Road between US-101 and Harrison Road	8,250	A	City
<b>San Juan Grade Road between Boronda Road and Van Buren Avenue</b>	<b>16,950</b>	<b>E</b>	<b>City</b>
San Juan Grade Road between Hebert Road and Crazy Horse Canyon Road	15,050	D	County
San Juan Grade Road between Rogge Road and Hebert Road	5,280	A	County
<b>San Miguel Canyon Road between Castroville Boulevard and Strawberry Road</b>	<b>24,270</b>	<b>F</b>	<b>County</b>



**TABLE 9: CUMULATIVE CONDITIONS STUDY SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative Conditions Daily Volume	LOS	Jurisdiction
<b>San Miguel Canyon Road between US-101 and Castroville Boulevard</b>	<b>27,030</b>	<b>F</b>	<b>County</b>
Sherwood Drive between E Market Street and US-101	32,430	D	City
<b>Sherwood Drive between US-101 and Natividad Road</b>	<b>33,210</b>	<b>E</b>	<b>City</b>
W Laurel Drive between N Davis Road and US-101	42,920	C	City
W Laurel Drive between N Main Street and Natividad Road	22,810	D	City
<b>W Laurel Drive between US-101 and Adams Street</b>	<b>36,570</b>	<b>F</b>	<b>City</b>
W Market Street (SR 183) between N Davis Road and Clark Street	15,270	A	Caltrans
<b>W Market Street between N Davis Road and McFadden Road</b>	<b>13,100</b>	<b>F</b>	<b>County</b>
Williams Road between E Laurel Drive and E Boronda Road	18,110	A	City

Source: Fehr & Peers, 2017

### Cumulative Conditions Freeway Operations

Under the cumulative conditions scenario, the performance of US-101 through Salinas will deteriorate, with almost all of the study segments operating below LOS D, as shown in **Table 10**.

**TABLE 10: CUMULATIVE CONDITIONS FREEWAY SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative Conditions Daily Volume	LOS
<b>US 101 between Boronda Road and Russell Road</b>	<b>67,790</b>	<b>D</b>
<b>US 101 between Crazy Horse Canyon Road and San Juan Road</b>	<b>79,360</b>	<b>E</b>
<b>US 101 between John Street (SR 68) and Market Street</b>	<b>76,970</b>	<b>E</b>
<b>US 101 between Laurel Drive and Boronda Road</b>	<b>77,900</b>	<b>E</b>
<b>US 101 between Main Street (SR 183) and Laurel Drive</b>	<b>78,140</b>	<b>E</b>



**TABLE 10: CUMULATIVE CONDITIONS FREEWAY SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative Conditions Daily Volume	LOS
<b>US 101 between Market Street and Main Street (SR 183)</b>	<b>76,650</b>	<b>E</b>
<b>US 101 between Russell Road and SR 156</b>	<b>61,540</b>	<b>D</b>
<b>US 101 between San Miguel Canyon Road and Crazy Horse Canyon Road</b>	<b>70,590</b>	<b>D</b>
US 101 between Sanborn Road and John Street (SR 68)	51,610	C
<b>US 101 between SR 156 and San Miguel Canyon Road</b>	<b>89,130</b>	<b>F</b>

Source: Fehr & Peers, 2017



## CUMULATIVE WITH PROJECT CONDITIONS

Assuming a project horizon year of 2045, the cumulative with project conditions scenario includes the projected growth over time assumed in the cumulative scenario and also incorporates traffic that is expected to result from the full buildout of the proposed project.

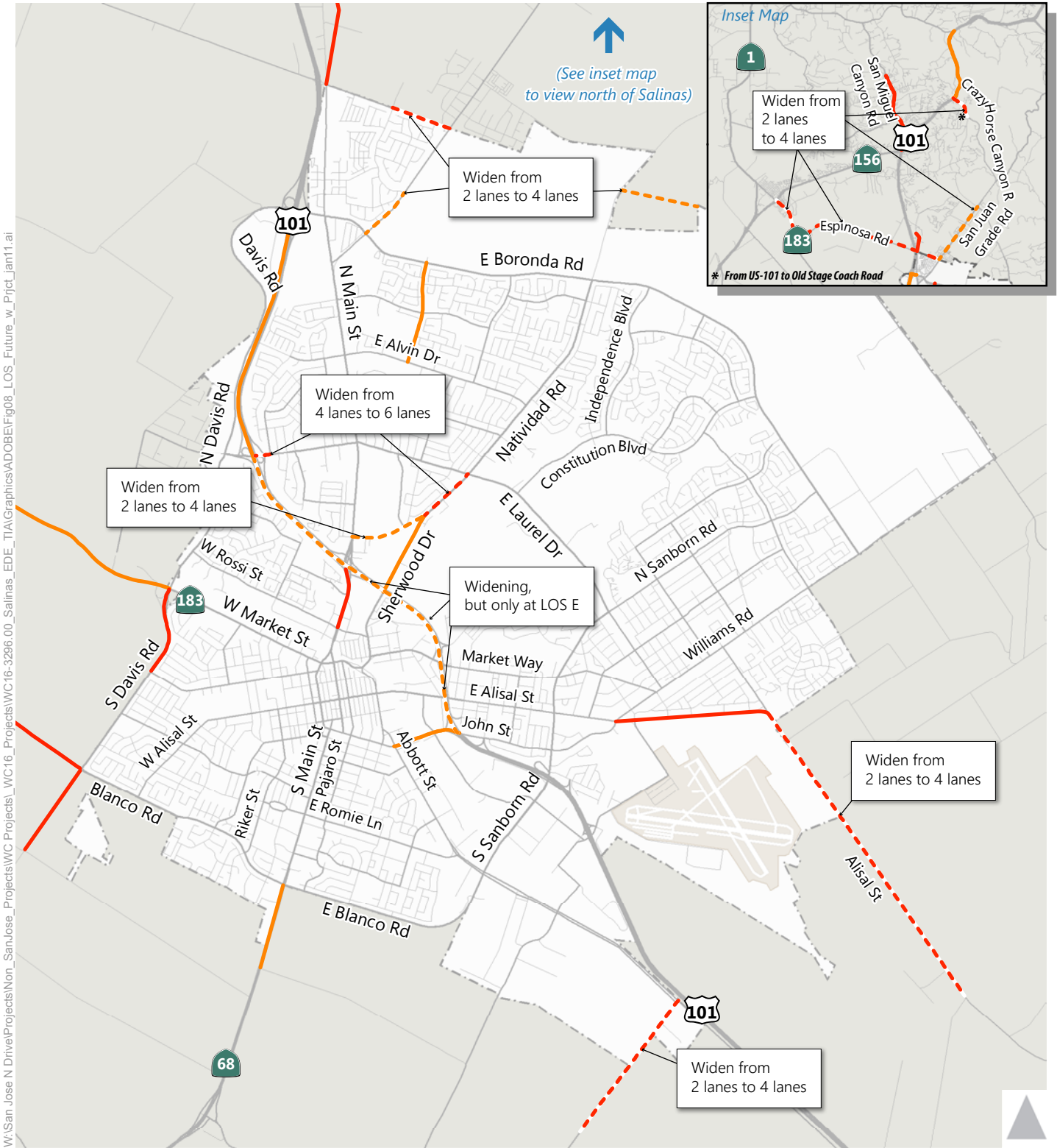
This section presents the results of the cumulative with project conditions scenario for study segments and the US-101 mainline through Salinas. The results of this analysis are also displayed visually in **Figure 8**. Roadway segments where the addition of project trips results in an impact are in bold. **Figure 8** also includes potential mitigations for roadway segments adversely impacted by the project. These mitigations are discussed in more detail in the following section.

### **Cumulative with Project Conditions Study Segment Volumes and Level of Service**

Including project-related trips with the expected growth in traffic presented in the previous section, many segment LOS scores deteriorate to below local thresholds on a number of roadway segments and US-101 mainline segments (as shown in **Table 11** and **Table 12**, below).

Many roadway segments were found to operate below local thresholds in the cumulative with project conditions scenario, however, the Standards of Significance define a transportation impact as the result of trips from a new proposed project causing deterioration of LOS below the threshold. As such, significant impacts only occur if roadway segment LOS deteriorates to E or F as a result of project-related trips. For Caltrans facilities, significant impacts occur if LOS is reduced from C or above to D or worse. Significant impacts also occur if project-related trips are added to a facility already operating at LOS D or worse.





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Source: City of Salinas

**Future LOS with Project**

- LOS [E] no project impact      - - - LOS [E] with Mitigation      □ City Limits
- LOS [F] no project impact      - - - LOS [F] with Mitigation



Figure 8  
Future LOS with Project

**TABLE 11: CUMULATIVE WITH PROJECT CONDITIONS SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative with Project Daily Volume	LOS	Project Trip Impact	Jurisdiction
Abbott Street between Harris Road and Harkins Road	15,180	C	No Impact	City
Abbott Street Between S Sanborn Road and Harkins Road	17,950	A	No Impact	City
Abbott Street between S Sanborn Road and John Street	18,880	A	No Impact	City
Abbott Street south of Harris Road	8,360	C	No Impact	Partial/Both
Airport Boulevard between US-101 and Hansen Street	11,440	A	No Impact	City
Airport Boulevard between US-101 and Skyway Boulevard	7,550	A	No Impact	City
<b>Alisal Street between E Alisal Street and Hartnell Road</b>	<b>4,540</b>	<b>F</b>	<b>Impact</b>	<b>County</b>
Alisal Street between Lincoln Avenue and Blanco Road	10,390	A	No Impact	City
Alvin Drive between McKinnon Street and El Dorado Drive	13,300	A	No Impact	City
<b>Bernal Drive between N Main Street and Sherwood Drive/Natividad Road</b>	<b>17,360</b>	<b>E</b>	<b>Impact</b>	<b>City</b>
Blanco Road between Alisal Street and Main Street	21,470	A	No Impact	City
Blanco Road west of Davis Road	18,840	F	No Impact	County
Boronda Road between Constitution Boulevard and North Sanborn Road	20,810	A	No Impact	City
Boronda Road between El Dorado Drive and Natividad Road	36,960	B	No Impact	City
Boronda Road between McKinnon Street and El Dorado Drive	28,750	A	No Impact	City
Boronda Road between N Davis Road and US-101	28,810	A	No Impact	City



**TABLE 11: CUMULATIVE WITH PROJECT CONDITIONS SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative with Project Daily Volume	LOS	Project Trip Impact	Jurisdiction
Boronda Road between N Main Street and San Juan Grade Road	30,960	D	No Impact	City
Boronda Road between US-101 and N Main Street	50,010	C	No Impact	City
Castroville Road (SR 183) between Boronda Road and San Jon Road (Caltrans)	13,320	C	No Impact	Caltrans
<b>Castroville Road (SR183) between Espinosa Road and SR 156 (Caltrans)</b>	<b>20,760</b>	<b>F</b>	<b>Impact</b>	<b>Caltrans</b>
Constitution Boulevard between E Laurel Drive and Independence Boulevard	28,490	C	No Impact	City
Constitution Boulevard between Independence Boulevard and E Boronda Road	14,240	B	No Impact	City
<b>Crazy Horse Canyon Road south of US-101</b>	<b>12,610</b>	<b>F</b>	<b>Impact</b>	<b>County</b>
Davis Road between West Market Street and Central Avenue	29,960	F	No Impact	City
Davis Road south of Blanco Road	12,740	F	No Impact	County
E Alisal Street between US-101 and Sanborn Road	19,790	A	No Impact	City
E Alisal Street between Williams Road/John Street and Bardin Road	20,680	F	No Impact	City
E Blanco Road between SR 68 and Abbott Street	23,550	B	No Impact	City
E Laurel Drive between Constitution Boulevard and N Sanborn Road	22,840	B	No Impact	City
E Laurel Drive between Williams Road and N Sanborn Road	10,150	D	No Impact	City
E Market Street between Sherwood Drive and US-101	18,730	D	No Impact	City



**TABLE 11: CUMULATIVE WITH PROJECT CONDITIONS SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative with Project Daily Volume	LOS	Project Trip Impact	Jurisdiction
E Market Street between US-101 and Sanborn Road	18,110	B	No Impact	City
El Dorado Drive between Alvin Drive and E Boronda Road	6,480	B	No Impact	City
<b>Espinosa Road west of US-101</b>	<b>13,730</b>	<b>F</b>	<b>Impact</b>	<b>County</b>
Front Street between Alisal Street and E Market Street	19,920	D	No Impact	City
<b>Harris Road west of Abbott Street</b>	<b>15,480</b>	<b>F</b>	<b>Impact</b>	<b>Partial/Both</b>
Harrison Road between Russell and Sala	12,940	F	No Impact	County
Harrison Road between Sala Road and Martines Road	6,490	B	No Impact	County
Hebert Road between San Juan Grade Road and Old Stage Road	5,250	A	No Impact	County
Independence Boulevard between Constitution Boulevard and E Boronda Road	10,370	D	No Impact	City
John Street (SR 68) between Abbott Street and US-101	25,670	E	No Impact	Caltrans
John Street (SR 68) between Monterey Street and Abbott Street	20,150	A	No Impact	Caltrans
John Street between US-101 and S Sanborn Road	14,160	B	No Impact	City
Laurel Drive between Natividad Road and Constitution Boulevard	45,720	C	No Impact	City
Main Street between Blanco Road and Lincoln Avenue	23,090	B	No Impact	City
McKinnon Street between Alvin Drive and E Boronda Road	11,280	E	No Impact	City
N Davis Road between W Market Street and W Laurel Drive	26,590	C	No Impact	City





**TABLE 11: CUMULATIVE WITH PROJECT CONDITIONS SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative with Project Daily Volume	LOS	Project Trip Impact	Jurisdiction
N Main Street (SR 183) between US-101 and Rossi Street	38,810	F	No Impact	Caltrans
N Main Street between Alvin Drive and San Juan Grade Road	33,200	B	No Impact	City
N Sanborn Road between E Laurel Drive and E Boronda Road	14,620	A	No Impact	City
N Sanborn Road between E Market Street and E Laurel Drive	22,600	B	No Impact	City
Natividad Road between Alvin Drive and E Boronda Road	23,850	A	No Impact	City
<b>Natividad Road between E Bernal Drive and E Laurel Drive</b>	<b>48,790</b>	<b>F</b>	<b>Impact</b>	<b>City</b>
Natividad Road between Old Stage Road and Rogge Road	3,780	A	No Impact	County
North Davis Road between W Laurel Drive and Boronda Road	25,900	C	No Impact	City
Old Stage Road between Crazy Horse Canyon Road and Hebert Road	7,430	B	No Impact	County
Old Stage Road between Hebert Road and Natividad Road	9,640	D	No Impact	County
<b>Old Stage Road between Natividad Road and Future Russell Road Extension</b>	<b>11,550</b>	<b>E</b>	<b>Impact</b>	<b>City</b>
Old Stage Road between Russell Road Extension and Williams Road	4,690	A	No Impact	County
Old Stage Road east of Williams Road	1,900	A	No Impact	County
Rogge Road between San Juan Grade Road and Natividad Road	8,360	C	No Impact	County
Russell Road between McKinnon Street and El Dorado Drive (future roadway)	3,150	A	No Impact	City



**TABLE 11: CUMULATIVE WITH PROJECT CONDITIONS SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative with Project Daily Volume	LOS	Project Trip Impact	Jurisdiction
Russell Road between Natividad Road and Independence Boulevard (future roadway)	60	A	No Impact	City
<b>Russell Road between Van Buren Avenue and San Juan Grade Road</b>	<b>20,000</b>	<b>F</b>	<b>Impact</b>	<b>City</b>
S Main Street (SR 68) between Blanco Road and Hunter Lane	33,220	E	No Impact	Caltrans
S Main Street (SR 68) between San Miguel Avenue and Blanco Road	26,040	C	No Impact	Caltrans
S Sanborn Road between US-101 and John Street	26,770	C	No Impact	City
Sala Road between US-101 and Harrison Road	12,870	B	No Impact	City
<b>San Juan Grade Road between Boronda Road and Van Buren Avenue</b>	<b>17,470</b>	<b>E</b>	<b>Impact</b>	<b>City</b>
<b>San Juan Grade Road between Hebert Road and Crazy Horse Canyon Road</b>	<b>16,540</b>	<b>E</b>	<b>Impact</b>	<b>County</b>
San Juan Grade Road between Rogge Road and Hebert Road	8,200	C	No Impact	County
San Miguel Canyon Road between Castroville Boulevard and Strawberry Road	24,270	F	No Impact	County
San Miguel Canyon Road between US-101 and Castroville Boulevard	27,030	F	No Impact	County
Sherwood Drive between E Market Street and US-101	32,430	D	No Impact	City
Sherwood Drive between US-101 and Natividad Road	33,210	E	No Impact	City
W Laurel Drive between N Davis Road and US-101	44,780	D	No Impact	City
W Laurel Drive between N Main Street and Natividad Road	23,450	D	No Impact	City



**TABLE 11: CUMULATIVE WITH PROJECT CONDITIONS SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative with Project Daily Volume	LOS	Project Trip Impact	Jurisdiction
<b>W Laurel Drive between US-101 and Adams Street</b>	<b>38,430</b>	<b>F</b>	<b>Impact</b>	<b>City</b>
W Market Street (SR 183) between N Davis Road and Clark Street	14,340	A	No Impact	Caltrans
W Market Street between N Davis Road and McFadden Road	11,780	E	No Impact	County
Williams Road between E Laurel Drive and E Boronda Road	14,660	A	No Impact	City

Source: Fehr & Peers, 2017

### Cumulative with Project Conditions US-101 Freeway Operations

Almost all of US-101 through Salinas operates at or below LOS D in the cumulative with project scenario. Four segments were found to be impacted as a result of project-related traffic, as shown below on **Table 12**.

**TABLE 12: CUMULATIVE WITH PROJECT FREEWAY SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative with Project Daily Volume	LOS	Project Trip Impact
US 101 between Boronda Road and Russell Road	66,760	D	No Impact
US 101 between Crazy Horse Canyon Road and San Juan Road	79,360	E	No Impact
<b>US 101 between John Street (SR 68) and Market Street</b>	<b>80,220</b>	<b>E</b>	<b>Impact</b>
<b>US 101 between Laurel Drive and Boronda Road</b>	<b>78,520</b>	<b>E</b>	<b>Impact</b>
<b>US 101 between Main Street (SR 183) and Laurel Drive</b>	<b>82,030</b>	<b>F</b>	<b>Impact</b>
<b>US 101 between Market Street and Main Street (SR 183)</b>	<b>79,690</b>	<b>E</b>	<b>Impact</b>
US 101 between Russell Road and SR 156	61,540	D	No Impact



**TABLE 12: CUMULATIVE WITH PROJECT FREEWAY SEGMENT VOLUMES AND LOS**

Segment Name	Cumulative with Project Daily Volume	LOS	Project Trip Impact
US 101 between San Miguel Canyon Road and Crazy Horse Canyon Road	69,970	D	No Impact
US 101 between Sanborn Road and John Street (SR 68)	54,170	C	No Impact
US 101 between SR 156 and San Miguel Canyon Road	88,520	F	No Impact

Source: Fehr & Peers, 2017



## VEHICLE MILES TRAVELLED

The consumption of roadway network capacity is measured in vehicle-miles travelled (VMT). Overall, VMT represents how often and how far people drive. Increases in VMT are often tied to new trips from new land development projects and/or changes in land use that result in increased development intensity and related increases in vehicle trips. In this analysis, the Salinas Travel Demand Model is used to evaluate VMT in the following scenarios:

1. Existing Conditions;
2. Cumulative without Project; and
3. Cumulative with Project Conditions.

The application of the methodologies described above for volumes and vehicle-miles travelled are presented in the following sections for existing and future scenarios, with and without the project.

**Table 13** below summarizes the change in VMT in Salinas as a whole, in different scenarios, as well as in absolute numbers and a per-capita basis. Although the proposed project adds many additional trips at the site locations due to the large amount of new jobs, the net overall net growth of VMT in Salinas as a result of the project is approximately 4.5 percent in the Cumulative with Project scenario. This is due in part to the model predicting that adding many jobs in housing-rich Salinas will result in shorter trips as people begin to live and work in Salinas. Another explanation is that people will be less willing to travel greater distances as congestion in the City increases.

**TABLE 13: FUTURE AND EXISTING VMT IN SALINAS**

	Total		Per Capita	
	Daily	Annual	Daily/Capita	Annual/Capita
Existing Conditions	1,554,334	481,843,640	11	3,335
Cumulative Conditions	2,203,187	682,987,854	15	4,564
Cumulative with Project	2,307,145	715,214,999	15	4,779
Difference	103,959	32,227,145	0	215

Source: Fehr & Peers, 2017



## IMPACTS AND MITIGATIONS

### VEHICLE LEVEL-OF-SERVICE IMPACTS

Based on the model results and guiding policies from the City, several roadway segments were found to suffer from deteriorating LOS scores as a result of traffic generated by the proposed project under the cumulative with project conditions scenario. Impacts are considered to be significant if the addition of project-related traffic reduces LOS scores to E or worse, or if the project adds additional traffic to a segment already performing at E or worse. Many roads are forecasted to perform below the minimum threshold defined by the applicable local regulations independent of project-related traffic; therefore, not every roadway segment that performs at E or worse in the Cumulative with Project Conditions scenario is considered a significant impact. The mitigations are shown visually on **Figure 8** (previous section).

Only portions of entire roadways were analyzed due to the location of where traffic counts were collected, despite the fact that an entire roadway would benefit from improved capacity. As such, some mitigations are expanded to the entire road as opposed to just the segment that was analyzed.

Significant impacts, along with proposed mitigations, are documented below.

#### **Impact 1:** Alisal Street between East Alisal Street and Hartnell Road

*Mitigation 1:* Widen from 2 to 4 lanes. This would require the acquisition of land from adjacent agricultural uses.

This improvement is included in the City's Traffic Impact Fee Program as Project #40.<sup>4</sup> Development of EDE Target Areas would mitigate their contribution to this impact through local development fee contributions.

*LOS After Mitigation:* B

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<sup>4</sup> **The City of Salinas Traffic Improvement Program** (2010), Department of Public Works, Traffic & Transportation Engineering Division.



**Impact 2:** Bernal Drive between North Main Street and Sherwood Drive/Natividad Road

*Mitigation 2:* Expand from 2 to 4 lanes. This would require the acquisition of land from an adjacent fitness club, gardening center and residential uses that are along the road. This improvement is included in the City's Traffic Impact Fee Program (Project 33B).<sup>5</sup>

Development of EDE Target Areas would mitigate their contribution to this impact through local development fee contributions.

*LOS After Mitigation:* B

**Impact 3:** Castroville Road (SR 183) between Espinosa Road and SR 156 (Caltrans)

*Mitigation 3:* Widen the road from 2 to 4 lanes. This would require the acquisition of land from adjacent agricultural uses.

*LOS After Mitigation:* C

**Impact 4:** Crazy Horse Canyon Road south of US-101 (County Road)

*Mitigation 4:* Widen the road from four to six lanes. Land acquisition will be required for this, however most of the surrounding area is not currently developed.

*LOS After Mitigation:* A

**Impact 5:** Espinoza Road west of US-101 (County Road)

*Mitigation 5:* Widen the road from two to four lanes. This would require the acquisition of land from adjacent agricultural uses. This project is included in the draft County impact fee program. If the program is approved, this impact would be mitigated through payment of the fee.

*LOS After Mitigation:* C

**Impact 6:** Harris Road west of Abbott Street

*Mitigation 6:* Widen the road from 2 to 4 lanes. This mitigation will require the acquisition of adjacent farmland and light industrial uses. The City will add these improvements to the City Traffic Impact Fee Program. The Traffic Impact Fee Program will be updated for this purpose before approval of any individual project proposed within any of the Target Areas. Development

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<sup>5</sup> Ibid.



of EDE Target Areas would mitigate their contribution to this impact through local development fee contributions. This project is also included in the draft County impact fee program (for the portion of the roadway in the County). If the program is approved, this impact would be mitigated through payment of the fee.

*LOS After Mitigation: D*

**Impact 7:** Natividad Road between East Bernal Drive and East Laurel Drive

*Mitigation 7:* Widen the road from 4 to 6 lanes. The City will add these improvements to the City Traffic Impact Fee Program. The Traffic Impact Fee Program will be updated for this purpose before approval of any individual project proposed within any of the Target Areas. Development of EDE Target Areas would mitigate their contribution to this impact through local development fee contributions.

*LOS After Mitigation: D*

**Impact 8:** Old Stage Road between Natividad Road and Future Russell Road Extension

*Mitigation 8:* Widen the road from 2 to 4 lanes. This improvement is included in the City's Traffic Impact Fee Program (TFO Project #8)<sup>6</sup>.

Development of EDE Target Areas would mitigate their contribution to this impact through local development fee contributions.

*LOS After Mitigation: A*

**Impact 9:** Russell Road between Van Buren Avenue and San Juan Grade Road

*Mitigation 9:* Widen from 2 lanes to 4 lanes. Roadway expansion would be accommodated by purchasing land from residential property owners on the south side of the road and commercial/agricultural property owners on the north side. This is a planned roadway improvement in the current Salinas General Plan.





This improvement is included in the City's Traffic Impact Fee Program as Project #12.<sup>6</sup> Development of EDE Target Areas would mitigate their contribution to this impact through local development fee contributions.

*LOS After Mitigation: C*

**Impact 10:** San Juan Grade Road between Boronda Road and Van Buren Avenue

*Mitigation 10:* Widen the road from 2 to 4 lanes. This improvement is included in the City's Traffic Impact Fee Program (TFO Project #13)<sup>6</sup>.

Development of EDE Target Areas would mitigate their contribution to this impact through local development fee contributions.

*LOS After Mitigation: B*

**Impact 11:** San Juan Grade Road between Hebert Road and Crazy Horse Canyon Road (County Road)

*Mitigation 11:* Widen the road from two to four lanes. Land acquisition will be required for this improvement, however most of the surrounding area is not currently developed. This project is included in the draft County impact fee program. If the program is approved, this impact would be mitigated through payment of the fee.

*LOS After Mitigation: A*

**Impact 12:** West Laurel Drive between US-101 and Adams Street

*Mitigation 12:* Widen road from four to six lanes in total. Will require the acquisition of nearby residential and commercial uses. The City will add these improvements to the City Traffic Impact Fee Program. The Traffic Impact Fee Program will be updated for this purpose before approval of any individual project proposed within any of the Target Areas. Development of EDE Target Areas would mitigate their contribution to this impact through local development fee contributions.

*LOS After Mitigation: C*

**Impact 13:** US-101 from SR 68 to Boronda Road

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<sup>6</sup> **The City of Salinas Traffic Improvement Program** (2010), Department of Public Works, Traffic & Transportation Engineering Division.



*Mitigation 13:* If LOS continues to deteriorate to LOS E, consider working with Caltrans to widen this segment from 4 to 6 lanes. Expansion of the freeway will require the acquisition of property, as well as the reconstruction of ramps at Boronda Road, West Laurel Drive, North Main Street, and Kern Street to accommodate the new lanes. The Sherwood Drive overpass would also need to be retrofitted to ensure that it is long enough to span the new lanes.

Development of EDE Target Areas would mitigate their contribution to this impact through local (Project #32A) and regional development fee contributions.<sup>7,8</sup>

*LOS After Mitigation:* B

### Travel Demand Management

The mitigations to significant impacts described above are roadway capacity expansions. However, the City may also wish to consider implementing a transportation demand management (TDM) program for future development in the EDE Target Areas, or the City as a whole. In conjunction with roadway capacity expansions, a TDM program could potentially mitigate the traffic impacts of continued population and employment growth over time by encouraging and/or incentivizing employees to take transit, ride bicycles, walk, vanpool, or carpool to work. Typically, the goal of a TDM program is to reduce the number of people driving alone who work at a location in the plan's scope.

Transportation Demand Management programs can take many forms and are typically comprised of individual measures which employ different strategies for reducing commute trips. Most applicable to the EDE would be a TDM plan that encompasses any or all of the following measures that are referred to as Commute Trip Reduction (CTR) measures. These are enumerated at length in the 2010 report prepared by the California Air Pollution Control Officers' Association (CAPCOA), *Quantifying Greenhouse Gas Mitigation Measures*. Potential TDM strategies from the CAPCOA document that could be implemented within the EDE Target Areas include the following:

- *Transit fare subsidy:* Employers provide employees with a subsidized (in part or in full) transit fare and/or transfer. In some cases, the Internal Revenue Service (IRS) may consider this cost as a pre-tax deduction for the employer.

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<sup>7</sup> **Regional Development Impact Fee Program** (2013). Transportation Agency of Monterey County (TAMC).

<sup>8</sup> **The City of Salinas Traffic Improvement Program** (2010), Department of Public Works, Traffic & Transportation Engineering Division.



- *Employee parking cash-out:* Employees who are provided a free parking space at the employer's expense may instead elect for a cash payment from the employer equivalent to the cost of the parking space in exchange for foregoing it.
- *Workplace parking pricing:* Instead of providing a free parking space at the employer's expense, employees are required to instead pay for a parking space on their own.
- *Alternative work schedules and telecommute programs:* When feasible, employers allow their employees to work remotely from home, or hold flex hours which allow for commute travel outside of typical commute hours.
- *Commute trip reduction marketing program:* Employers distribute educational literature to their employees about alternative transportation options, usually in conjunction with other CTR measures.
- *Employer-sponsored Vanpool/Shuttle:* When feasible, employers may provide or charter private shuttles or van-pools for their employees.
- *Ride-share program:* A variety of strategies may be undertaken by the employer to encourage employees to carpool to work. Typically, these include reserving a certain number of parking spaces for carpools only, designating loading and unloading areas for ride-sharing vehicles, and providing a website or message board for coordinating rides.

There are many options to implement TDM programs. In some cases, a local jurisdiction may require new development to adopt, monitor, and show proof of a TDM plan as a part of the entitlement process. In other instances, TDM elements may be incorporated into a General Plan or other policy document in the form of requirements for new businesses to include safe bicycle parking; Policy C-4.3 of the existing 2002 City of Salinas General Plan encourages existing and requires new businesses to provide bicycle parking. Other cities may formally codify these policies into their municipal ordinance.

It is recommended that the City of Salinas consider developing a formal TDM plan to evaluate, formalize, and standardize commute trip reduction measures to help mitigate future travel demand.



## TRANSIT IMPACTS

According to Policy C-3.1 and Policy C-3.2 of the existing 2002 Salinas General Plan, the City shall support Monterey-Salinas Transit (MST) in developing frequent and effective public transportation service, including to new development areas. The proposed project could be reasonably assumed to result in increased levels of travel to and from the project sites via public transportation.

Currently, many of the EDE Target Areas are served by existing Monterey-Salinas Transit routes. However, most MST routes provide infrequent weekday service (typically 30-60 minute headways with the exception of Route 41) and limited evening and weekend service. Existing transit travel times (including wait times) between EDE Target Areas and many Salinas neighborhoods are substantially higher than driving and typically require a transfer. The Salinas Area Service Analysis (2012) prepared by Nelson/Nygaard identifies a latent demand for more frequent transit service in Salinas; employment growth in the EDE Target Areas is anticipated to further exacerbate this latent demand for transit service.

Therefore, it is recommended that the City work with MST to evaluate possible network and/or service changes with a new Service Analysis in coordination with development of the EDE Target Areas. This work would identify travel markets and provide recommendations for targeted service expansion, enhancement, and/or other route changes.

## BICYCLE FACILITY IMPACTS

Many of the proposed project locations are currently well-served by existing bicycle facilities, particularly those in the urban core of Salinas. However, some EDE Target Areas on the periphery of the City are currently under-served by the existing bicycle network, but will be adequately connected upon full buildout of proposed facilities described in the 2002 Salinas Bicycle Master Plan. These connectivity gaps to outlying EDE Target Areas could be considered a significant bicycle impact due to the anticipated increases in travel to and from these locations. The EDE Target Areas that experience connectivity gaps in the bicycle network along with proposed mitigations are described below:

- **Target Area K** is isolated from northern neighborhoods by a gap in Class II facilities along San Juan Grade Road, and from western neighborhoods by a small gap in Class II facilities near the US-101/Boronda Road interchange.
  - Implement buildout of Class II facility on San Juan Grade Road north of Boronda Road
  - Close gap in Class II facility on Boronda Road between North Main Street and US-101/Boronda Road Interchange
  - Consider bikeway design features that are sensitive to the high-stress context of highway interchanges.



- **Target Area L1/L2** is located near several planned bicycle facilities and roadway extensions. Implementation of planned bicycle facilities in coordination with roadway extensions will ensure that this area is sufficiently integrated with the existing network.
  - Implement planned Class II facility on East Alvin Drive between North Main Street and US-101/East Alvin Drive interchange.
  - Implement planned Class III facility on Boronda Road between Westridge Parkway and future extension of West Rossi Street west of North Davis Road.
  - Implement planned Class II facility on future extension of West Rossi Street between North Davis Road and Boronda Street.
  - Implement planned Class III facility on Adams Street between Tulane Street and West Laurel Drive, and on West Laurel Drive between Adams Street and the US-101/Adams Street interchange.
  - Implement planned Class II facility between the US-101/Adams Street interchange and Boronda Road.
- **Target Area V** benefits from a high concentration of existing bicycle facilities in the urban core of Salinas. However, it is isolated from the city north of US-101 by the highway facility itself and a large parcel of farmland in the center of the City. Connectivity to these areas can be enhanced by providing feeder routes from other parts of the city to Sherwood Drive.
  - Implement planned Class II facility on future roadway between N Madeira Avenue and Sherwood Drive.
  - Implement planned Class II facility on future extension of Constitution Boulevard between East Laurel Drive and future roadway mentioned above.
  - If the above two recommendations are found to be infeasible, consider instead implementing planned Class I facility along the existing multi-use path in Cesar Chavez Park.



