TRANSPORTATION CONCEPT REPORT
STATE ROUTE 68
District 5
October 2013

Disclaimer: The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this TCR is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the District 5 System Planning Division makes every effort to ensure the accuracy and timeliness of the information contained in the TCR. The information in the TCR does not constitute a standard, specification, or regulation, nor is it intended to address design policies and procedures.

California Department of Transportation

Caltrans Improves Mobility Across California

Approvals:

10/11/13

Timothy M. Gubbins
District 5 Director

Date

This Page Intentionally Left Blank

THIS TRANSPORTATION CONCEPT REPORT (TCR) HAS BEEN DEVELOPED TO SUPPORT THE REGIONAL TRANSPORTATION PLANNING PROCESS

Recommend Approval

6/22/12

AILEEN K. LOE Date
District 5 Deputy Director
Planning & Local Assistance

Recommend Approval

STEVE PRICE Date
District 5 Deputy Director
Maintenance & Operations

Acceptance

9/16/13

Debra Hale Date
Executive Director
Transportation Agency for Monterey County

This Page Intentionally Left Blank

Table of Contents

1. Introduction 7

1.1 What is a Transportation Concept Report? 7

1.2 Relationship to Other Plans and Legislation 8

1.2.1 State Planning 8
1.2.2 Regional Planning 9
1.2.3 Local Planning 10

2 Corridor Description 17

2.1 State Route 68 Description 17

2.1.1 Route Significance 17
2.1.2 Route Background 18
2.1.3 Route Designations 19
2.1.4 Truck Network 20

2.2 Freeway Agreements 21

2.3 Economic Factors 22

2.4 Goods Movement 22

2.5 Context and Environmental Setting 23

2.6 Land Use, Zoning, and Future Development 35

3 Route Performance and Concepts 39

3.2 Parallel and Connecting Roadways 42

3.2.1 Other State and Local Routes 42

3.3 Route Characteristics and Performance 43

3.3.1 Segment 1 (PM 0.00/L4.26) Asilomar State Park (Sinex Avenue) to SR 1 43

Route Concept 50

Recommended Strategies 50

3.3.2 Segment 2 (PM R3.95/19.97) SR 1 Interchange to Blanco Road 51

Route Concept 61

Recommended Strategies 61

Route Concept 70

Recommended Strategies 71

3.4 Traffic Safety 71

3.4.1 Mainline Collision Rates 71
3.4.2 Ramp Collision Rates 72
3.4.3 Intersection Collision Rates 72

4 Intermodal Planning 77

4.1.1 Transit 77
4.1.2 Aviation 78
4.1.3 Bicycle and Pedestrian 79

4.2 Transportation Demand Management 82

4.2.1 Commuter Programs....82
4.2.2 Park-and-Ride Facilities....83

5 Recommendations for Route and Ultimate Concept.... 87

5.1 Route Concept....87
Strategies to Achieve Route Concept Project....87

Maintenance and Preservation....88

Sources Consulted 93

Appendix A List of Preparers.... 97

Appendix B Acronyms.... 98

Appendix C Glossary.... 99

Appendix D Modeling Assumptions 111

Appendix E Plans and Legislations.... 113

List of Figures

Figure 1-1: State Route 68 Corridor....7
Figure 1-2: Local Planning Areas....14
Figure 2-1: State Route 68 17
Figure 2-2: Easement 19
Figure 2-3: Freeway and Conventional Highway 20
Figure 2-4: Truck Network 21
Figure 2-5: Rolling hills along SR 68 East....24
Figure 2-6: Downtown Salinas 24
Figure 2-7: City of Salinas agriculture 24
Figure 2-8: Scenic Route 25
Figure 2-9: Coastal Zone 25
Figure 2-10: Williamson Act Lands....27
Figure 2-11: Vegetation 28
Figure 2-13: Threatened Species 29
Figure 2-12: California Tiger Salamander....29
Figure 2-14: Endangered and Threatened Plant Species....30
Figure 2-15: Flood Zones....31
Figure 2-16: Public Facilities....36
Figure 3-1: Corridor Segmentation 39
Figure 3-2: 2005 Population and Jobs....40
Figure 3-3: 2005 to 2035 Jobs and Population Growth 41
Figure 3-4: 2005 Versus 2035 Persons Per Job 41
Figure 3-6: Parallel Route for Segment 2....42
Figure 3-5: Parallel Route for Segment 1....42
Figure 3-7: Segment 1....43

Figure 3-8: Intersections and 43
Figure 3-9: Historic Traffic Volume Trends SR 68 Segment 1 44
Figure 3-10: 7-8 am Westbound Congestion along SR 68 Segment 1 45
Figure 3-11: 8 am Eastbound Congestion along SR 68 Segment 1 46
Figure 3-12: 5-6 pm Westbound Congestion along SR 68 Segment 1 47
Figure 3-13: 5-6 pm Eastbound congestion along SR 68 Segment 1 49
Figure 3-14: Segment 2 51
Figure 3-15: Segment 2 52
Figure 3-16: 2035 AMBAG Roadway Improvements 52
Figure 3-17: SR 68 Segment 2 AADT 53
Figure 3-18: 7-8 am Westbound Congestion along SR 68 Segment 2 54
Figure 3-19: 7-8 am Eastbound Congestion along SR 68 Segment 2 56
Figure 3-20: 7-8 am Eastbound Congestion along SR 68 Segment 58
Figure 3-21: Year 2035 am and pm Congestion along SR 68 Segment 2 59
Figure 3-22: Segment 3 location map 62
Figure 3-23: Segment 3 Intersections 63
Figure 3-24: Historic Traffic Volume Trends SR 68 Segment 3 64
Figure 3-25: 7-8 am Westbound Congestion along SR 68 Segment 3 65
Figure 3-26: 7-8 am Eastbound Congestion along SR 68 Segment 3 66
Figure 3-27: 5-6 pm Westbound Congestion along SR 68 Segment 3 68
Figure 3-28: 5-6 pm Eastbound Congestion along SR 68 Segment 3 69
Figure 4-2: Salinas-Monterey via Hwy 68 Bus Route 21 77
Figure 4-1: MST Bus 77
Figure 4-3: Presidio-Salinas Express Via Hwy 68 Bus Route 68 78
Figure 4-4: Airports 79
Figure 4-5: Bicycle Routes 80
Figure 4-6: Bikeway Projects 82
Figure 4-7: Park and Ride Lot 83
Figure 5-1: Easement 90

List of Tables

Table 1-1: Segment Considerations and Route Concept for 2030 8
Table 1-2: TAMC's Regional Development Impact Fee Project List 10
Table 1-3: TAMC's Strategic Expenditure Plan Summary 10
Table 1-4: General Plans 11
Table 1-5: General Plans Land Use Policies and Recommendations 11
Table 1-6: Local General Plans 12
Table 1-7: Local Area Plans 14
Table 1-8: Local Specific Plans 14
Table 2-1: SR 68 TCR Corridor Freeway Agreements 22
Table 2-2: LCP Status 26
Table 2-3: Monterey County Williamson Act & Farmland Security Zone Participation 27
Table 2-4: Endangered and Threatened Plant Species 30
Table 2-5: Population 33
Table 2-6: Population Forecast 33
Table 2-7: Employment Forecast 33

Table 2-8: Corridor Occupational Demographics 34
Table 2-9: Housing and Employment Comparison 34
Table 2-10: Household By Type 35
Table 3-1: Traffic Flow on SR 68 40
Table 3-2: 2010 and 2035 AADT for Segment 1 44
Table 3-3: 7-8 am Westbound System Performance Measures along SR 68 Segment 1 45
Table 3-4: 7-8 Westbound User Performance Measures along SR 68 Segment 1 45
Table 3-5: 7-8 am Eastbound System Performance Measures along SR 68 1 46
Table 3-6: 7-8 am Eastbound User Performance Measures along SR 68 Segment 1 47
Table 3-7: 5-6 pm Westbound System Performance Measures along SR 68 Segment 1 48
Table 3-8: 5-6 pm Westbound User Performance Measures along SR 68 Segment 1 48
Table 3-9: 5-6 pm Eastbound System Performance Measures along SR 68 Segment 1 49
Table 3-10: 5-6 pm Eastbound User Performance Measures along SR 68 Segment 1 49
Table 3-11: Route Concept for SR 68 Segment 1 50
Table 3-12: Segment Highway Improvement Projects for SR 68 Segment 1 50
Table 3-13: 2010 and 2035 AADT for Segment 2 54
Table 3-14: 7-8 am Westbound System Performance Measures along SR 68 Segment 2 55
Table 3-15: 7-8 am Westbound User Performance Measures along SR 68 Segment 2 55
Table 3-16: 7-8 am Eastbound AMBAG System Performance Measures along SR 68 Segment 2 57
Table 3-17: 7-8 am Eastbound AMBAG User Performance Measures along SR 68 Segment 2 57
Table 3-18: 5-6 pm Westbound AMBAG System Performance Measures along SR 68 Segment 2 58
Table 3-19: 5-6 pm Westbound AMBAG User Performance Measures along SR 68 Segment 2 59
Table 3-20: 5-6 pm Eastbound AMBAG System Performance Measures along SR 68 Segment 2 60
Table 3-21: 5-6 pm Eastbound AMBAG User Performance Measures along SR 68 Segment 2 60
Table 3-22: Route Concept for SR 68 Segment 2 61
Table 3-23: Segment Highway Improvement Projects for SR 68 Segment 2 62
Table 3-24: 2010 and 2035 AADT for Segment 3 64
Table 3-25: 7-8 am Westbound System Performance Measures along SR 68 Segment 3 65
Table 3-26: 7-8 am Westbound User Performance Measures along SR 68 Segment 3 66
Table 3-27: 7-8 am Eastbound System Performance Measures along SR 68 Segment 3 67
Table 3-28: 7-8 am Eastbound User Performance Measures along SR 68 Segment 3 67
Table 3-29: 5-6 pm Westbound System Performance Measures along SR 68 Segment 3 68
Table 3-30: 5-6 pm Westbound User Performance Measures along SR 68 Segment 3 68
Table 3-31: 5-6 pm Eastbound System Performance Measures along SR 68 Segment 3 69
Table 3-32: 5-6 pm Eastbound User Performance Measures along SR 68 Segment 3 70
Table 3-33: Route Concept for SR 68 Segment 3 70
Table 3-34: Segment Highway Improvement Projects for SR 68 Segment 3 71
Table 3-35: Corridor Collision Rates by Segment 71
Table 3-36: Segment 1 Actual and Statewide Average Collision Rates 72
Table 3-37: Segment 2 Actual and Statewide Average Collision Rates 72
Table 3-38: SR 68 Intersection and Statewide Average Collision Rates 72
Continuation of Table 3-39: SR 68 Intersection and Statewide Average Collision Rates 73
Table 4-1: Bikeway Project Ranking 81
Table 5-1: Segment Considerations and Route Concept for 2030 87
Table 5-2: Segments Conceptual, Planned, and Programmed Considerations for SR 68 91

Chapter 1

This Page Intentionally Left Blank

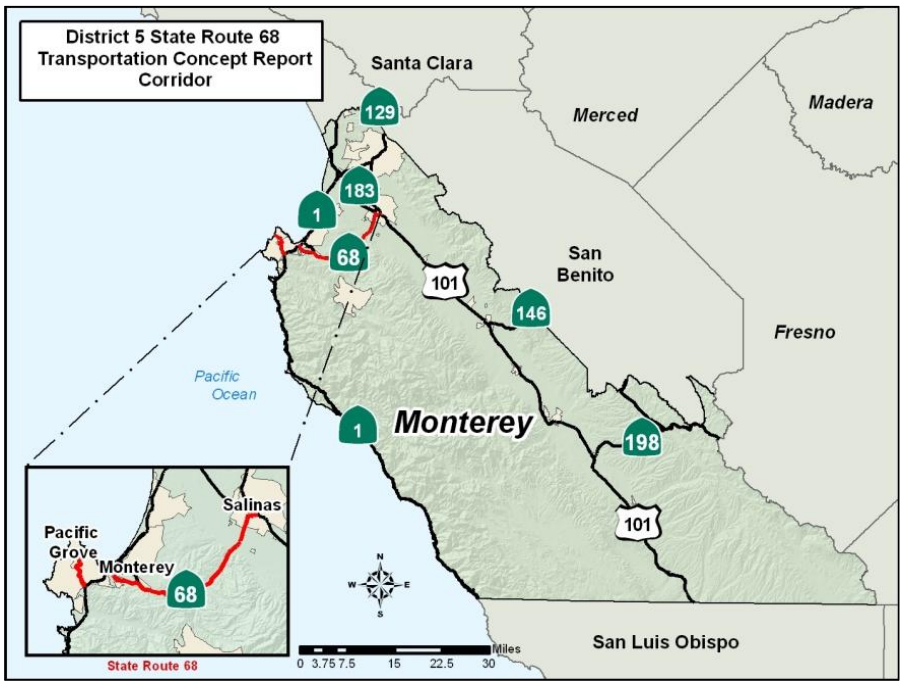
1. Introduction

1.1 What is a Transportation Concept Report?

The California Department of Transportation (Department) is charged with the responsibility of ensuring that highways provide safe and reasonable interregional traffic flow, continuity, and efficient goods movement in order to sustain the state's economy. To address this responsibility, a Transportation Concept Report (TCR) is the Department's long-term planning document for an individual route corridor. A TCR (1) evaluates current and projected conditions of the transportation corridor for a given State Route (SR), (2) establishes a twenty-year planning vision or concept, and (3) recommends long-term strategies to achieve the concept. It also provides a concept for managing, operating, improving, and preserving a corridor across all modes and jurisdictions for the highest productivity, mobility, reliability, accessibility, safety, and preservation outcomes. The SR under study in this document is SR 68 in Monterey County.

Long-range plans prepared by local Regional Transportation Planning Agencies (RTPAs) and Metropolitan Planning Organizations (MPOs) as well as General Plans adopted by cities and counties are incorporated into the TCR by balancing them with the statewide perspective. Since transportation and land use planning interaction has evolved, the Department now gives greater emphasis to intermodal solutions, new technologies, and the relationships among providers of transportation services and facilities [e.g., Department, RTPAs, MPOs, and Transit Operators].

The improvements identified in a TCR are not necessarily tied to a funding source, nor does the document project future funding scenarios. Collectively, TCRs provide the basic goals used to develop the objectives of the District System Management Plan List and the State Transportation Improvement Program (STIP), which do address funding availability and are project specific. New local funding mechanisms may be developed to address anticipated land use development and the associated travel.



Source: System Planning Caltrans District 5

Figure 1-1: State Route 68 Corridor

1.2 Relationship to Other Plans and Legislation

There are many long-range plans prepared by state, regional, and local agencies that are incorporated in the development of this TCR. The state and local plans consistently recommend widening of SR 68 in Segment 2. Table 1.1 identifies SR 68 segments, the existing facility, route concept, and the strategies to achieve the concept. The following sections will explain and provide details on the relationship between this TCR and other plans and legislation.

1.2.1 State Planning

The following approach taken for this TCR is consistent with the goals and objectives of the Governor's Strategic Growth Plan, which among other things commits to minimizing increases in traffic congestion. Other applicable state planning documents that provide the policy foundation for this concept report included the District System Management Plan (DSMP). The DSMP is a comprehensive strategic and policy planning document that provides a 20-year vision for the development of multi-modal and multi-jurisdictional transportation strategies. These strategies must be based on an analysis that is developed in partnership with regional and local agencies. This TCR is consistent with the 2005 District 5 System Management Plan, in identifying Segment 1 on SR 68 (Asilomar State Beach to SR 1) as a potential candidate for relinquishment.

Table 1-1 summarizes the concept route for SR 68. In the following sections below are the summaries of the regional and local planning efforts and the policies and recommendations for SR 68 within their local jurisdictions. The route concept is consistent with state, regional, and local recommendations.

Table 1-1: Segment Considerations and Route Concept for 2030

Segments	Existing Facility	Route/Ultimate Concept	Strategies to Achieve Route/Ultimate Concept
Segment 1 Sinex Ave (PM 0.00) to SR 1 (PM L 4.26)	Two-Lane Conventional Highway	Maintain a two-lane conventional highway.	Maintain existing urbanized area with signal control and when appropriate or as land use development considers operational improvements.
Segment 2 SR 1 (PM L 4.26) to Blanco Rd. (PM 19.97)	Two to Four-Lane Conventional Highway/Freeway	Four-lane access control conventional highway with continuous left-turn channelization or access control of new alignment.	Evaluate capacity improving projects within the corridor such as: Widen existing alignment to a four-lane facility with left turn channelization or bypass alignment four-lane, access controlled.
Segment 3 Blanco Rd. (PM 19.97) to SR 101 (PM 22.02)	Four-Lane Conventional Highway	Maintain four-lane conventional highway.	Maintain existing urbanized area with signal control.

It is important to note that the efficiency and safety of a highway without access control depends greatly upon the amount and character of roadside interferences, characterized by vehicle movements to and from businesses, residences, or other development along the highway. Abutting property owners have rights of access, but Caltrans has the authority to regulate and control the location, design, and operation of access driveways and other roadside elements. Interference from indiscriminate roadside development and uncontrolled driveway connections results in lowered capacity, increased conflict, and

safety concerns. Because of existing operational deficiencies on SR 68, Caltrans has consistently stated that proposed new access points will be denied unless measures are implemented that not only mitigate the delay or conflict, but go beyond and provide a net benefit to the motoring public. Such mitigation could include: significant highway widening to address the control delay of a new signal; or, closing two or more existing driveways in exchange for one new connection.

1.2.2 Regional Planning

The entire corridor is within Monterey County and is served by the Transportation Agency of Monterey County (TAMC), the RTPA, and the Association of Monterey Bay Area Governments (AMBAG), the Federal MPO. The RTPA is responsible for developing the Regional Transportation Plan (RTP) that satisfies state and federal requirements to identify and prioritize transportation projects that can reasonably be expected to be funded over the next 25-years. The RTP outlines the region's goals and policies for meeting current and future transportation needs and provides a foundation for transportation decision–making. The RTP is incorporated into the Metropolitan Transportation Plan (MTP) prepared by AMBAG.

In TAMC's 2010 RTP, SR 68 is identified as an interregional travel route in Monterey County, providing east-west access for traffic between the coast and US 101. TAMC describes SR 68 as having significant congestion during peak hours from Highway 1 west to the Community Hospital of the Monterey Peninsula (CHOMP). The 2010 RTP identifies improvements along SR 68 west to include:

- Widening Holman Highway between Highway 1 and CHOMP
- Interchange improvements to Highway 1/Holman Highway SR 68

Previous regional plans and the Fort Ord Transportation Study (1998) have expressed an interest for a bypass on SR 68 on the former Fort Ord; however, this alternative has fiscal challenges and has not been included in TAMC's regional plans. Regardless, dedication of a transportation corridor on the former Fort Ord was developed between Caltrans, city of Monterey, Monterey County, and the BLM. Memorandum of Understanding's (MOU's) were developed and approved to continue cooperative long range planning on SR 68 that would pursue a bypass alignment.

In June 2011, TAMC's Board of Directors established a prioritized project list for the next 5 to 10 years. TAMC currently identifies SR 68 commuter improvements within the RTP. The recommendation is to make safety and operational improvements on SR 68 between Salinas and the Monterey Peninsula, such as auxiliary lanes and intersection improvements. Evaluations of potential future capacity improvements would be considered.

The following projects represent TAMC's priorities that will be incorporated in to the update of the RTP expected in 2013:

1. US 101 South County Cities Interchanges
2. Westside Bypass/Marina-Salinas Corridor
3. SR-68 Commuter Improvements
4. Del Monte-Lighthouse Corridor
5. SR-1-Widening (Seaside-Sand City)

TAMC continues to support safety, operational, and capacity improvements along SR 68 between Salinas and Monterey and has established a Regional Development Impact Fee program in Monterey County. The program collects fees on the proportional impact of new development on regional transportation infrastructure, helping to streamline the process for analyzing and mitigating transportation impacts. The following table identifies project improvements that are regionally significant along SR 68.

Table 1-2: TAMC's Regional Development Impact Fee Project List

Fee Projects	Description
SR 68 Commuter Improvements	Widen SR 68 from existing 4 lane west to Corral de Tierra
SR 68 (Holman Hwy) Widening	Widen SR 68 to 4 lanes from CHOMP to Highway 1; improve SR 68/1 interchange operations.

Source: Regional Development Impact Fee Strategic Expenditure Plan 2010 Update

Table 1-3: TAMC's Strategic Expenditure Plan Summary

Location	Tier 1 (2009-2015)	Tier 2 (2016-2024)	Tier 3 (2025-2030)
SR 68 Commuter Improvements	-	-	$5,893,571
SR 68 (Holman Hwy)Widening	$1,092,445	$373,986	-

Source: Regional Development Impact Fee Strategic Expenditure Plan 2010 Update

AMBAG is responsible for the MTP, which incorporates federally funded projects from the RTP. The following improvements along SR 68 have been identified in the MTP:

- Installation of motorist aid call boxes with particular sensitivity given to the visual aspects of any installation along scenic roadways;
- Traveler information systems (changeable message signs)
- Upgrades to traffic signal systems to improve signal coordination;
- Safety applications on rural highways; and

1.2.3 Local Planning

SR 68 is located in Monterey County between the city of Monterey and the city of Salinas. Other jurisdictions that surround SR 68 are city of Pacific Grove, city of Del Rey Oaks and the city of Seaside. Both county and cities along the corridor have General Plans, which guide the future growth development of their community through goals and policies. By state law, local governments must include a circulation element that is internally consistent with land use element of a General Plan. In addition, Specific and Area plans by local agencies focus on individual areas within their respective jurisdictions and guide future development through more detailed recommendations. Local agencies are responsible for planning, implementing, and monitoring land use, development, and the majority of alternative transportation modes. They should ensure that permitted land uses are compatible with the state highway and local roads systems as well as local General Plans and other relevant planning documents. The Department works with these agencies in planning and programming transportation projects to meet demand for safe and efficient travel on all state facilities. The following tables list existing General, Specific, and Area Plans for surrounding jurisdictions.

Table 1-4: General Plans

Name	General Plans Date	Agency
General Plan	October 2010	Monterey County
General Plan	September 1994	Pacific Grove
General Plan	January 2005	Monterey
General Plan	January 1997	Del Rey Oaks
General Plan	September 2002	Salinas
General Plan	August 2003	Seaside

Source: County/City Planning Department Website

The policies of a General Plan underlie most land use decisions. The county's Zoning Ordinance and any Specific Plans are required to be consistent with the General Plan. In addition, subdivisions, development projects, capital improvements, development agreements, and many other land use actions must conform to the adopted General Plan. The following tables summarize recommendations and policies found in surrounding jurisdictions General Plans, concerning road and land uses along SR 68.

Table 1-5: General Plans Land Use Policies and Recommendations

Agency	General Plans Land Use Policies and Recommendations
Monterey County	**Affordable/Workforce Housing Program LU-2.12** The County shall encourage the development of affordable and workforce housing projects through the establishment of an Affordable Housing Overlay Program, based on the following parameters. a. The following areas shall be designated as Affordable Housing Overlay (AHO) Districts: 2. Highway 68/Monterey Peninsula Airport. Approximately 85 acres located east of Highway 68, excluding areas with native Monterey pine forest. 3. Reservation Road/Highway 68. A 31-acre parcel located on the south side of Reservation Road shall be developed with a mix of neighborhood commercial uses and residential units that serve a range of income levels.
City of Monterey	**b. Future Population Growth Alternatives Policy: b. 2.** Follow the existing policy directions in the Highway 68 Plan and Old Capitol Site 18 Memorandum of Understanding for residential development south of Highway 1. Workforce housing on the City owned Ryan Ranch and mixed use housing in the Ryan Ranch Business Park may be considered in order to provide housing in proximity to a major employment center.
City of Del Rey Oaks	**Goal #7** Develop commercial/retail uses at the Highway 68/218 entrance to the City compatible with the Stonehouse Historic Building. **Policy L-11** Commercially zoned areas shall include standards for: visual appearance, landscaping screening of storage and trash, building bulk, height, exterior treatment, and relationship to Canyon Del Rey Road and Highway 68.

City of Salinas	Focused Growth Areas are existing urbanized areas with additional growth and/or redevelopment and revitalization would be appropriate and provide benefits to the community. LU-2 in their General Plan illustrates A Focused Growth Area located at Main Street/SR 68.

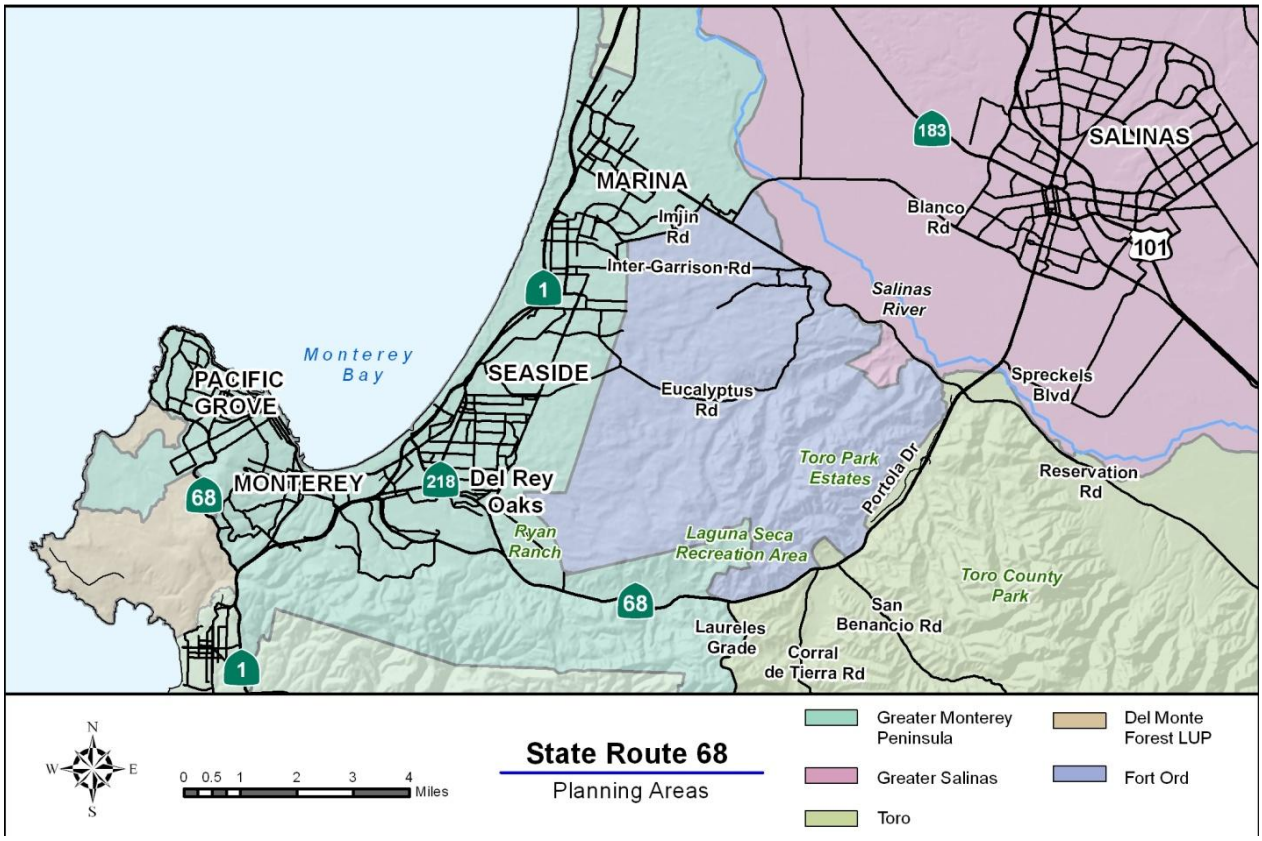
Source: County/City Planning Department Website

Table 1-6: Local General Plans

General Plan	General Plans Road Improvement Policies and Recommendations
Monterey County	**C-1.12** The roadway segments exceeding LOS standards are two-lane rural roads that provide left turn lanes at some intersections. These segments include County Road G14 between US 101 and San Lucas Rd. and Spreckels Blvd. between SR-68 and Harkins Rd. Improvement of these segments would be funded through a combination of project-specific mitigation for individual developments, and through a Capital Improvement and Financing Plan fair-share funding mechanism established for the Corridor by the Public Works Department. These improvements would be implemented when: 1. A proposed development's project-specific assessment identifies a direct impact to the facility in terms of either LOS or safety. 2. A proposed development gains access from an intersection within the segment. 3. A corridor-wide nexus study prepared for the required Capital Improvement and Financing Plan identifies the level of development that can occur before triggering the improvements. To maintain the rural character of the area, there are no plans to widen these roadways to four lane facilities. Therefore, the capacity of these segments will be increased by: 1. Providing left turn lanes at intersections without left turn lanes and where the frequency of turning vehicles affects through vehicle movement; and/or 2. Increasing the width of the roadway shoulder at intersections to allow vehicles to pass turning vehicles; and/or 3. Constructing passing lanes as determined in the Capital Improvement and Financing Plan
City of Pacific Grove	**Program N** Support and encourage continued efforts to implement safety improvements on Highway 68 (Holman Highway) while preserving, as much as possible, the views of the forest edges along the highway and the tree-framed vistas of Monterey Bay that motorist enjoy as they enter Pacific Grove along this route.

City of Monterey	**Program c.13.1**. Support Holman Highway 68 widening to four lanes along the entire length. The design of this project should minimize impacts along the ridgeline and to the forested environment. **Policy c.15.** Continue to coordinate with Caltrans and TAMC to identify improvements and funding for improvements to Highway 1, Highway 68 and other locations within the City deemed important to the function of the regional transportation network so that the level of service standards for such facilities are met.
City of Del Rey Oaks	**Goal #4** Improve and maintain a transportation network of street, transit, and pedestrian paths and bikeways. **Goal #5** Coordinate the economic development needs of the City with proposed circulation improvements on Highway 68 and Canyon Del Rey to ensure that the City benefit from the proposed changes. **Policy C-7** The City does not support any realignment of Highway 68 which will significantly impact the intersection of Canyon Del Rey and Highway 68 and result in land use and fiscal impacts on the City due to the loss of commercial property at the entrance to the community. **Policy C-14** For all proposed new land uses in the City, provision for bicycle circulation, sidewalks and pedestrian-friendly design will be required. **Programs #15** Traffic Volumes and operations at the following twelve intersections will be monitored as needed to evaluate whether installation of signals, or addition of turn lanes, turn prohibitions or coordination or retiming of signal is warranted: Location: Highway 218 @ Highway 68 Jurisdiction: Caltrans & City of Del Rey Oaks
City of Salinas	**Caltrans Roadway Modification:** Planned roadway modifications that may impact operational conditions of the Salinas circulation system. Widen SR 68 to four lanes between Ragsdale Dr. and SR 218, and add signal at Ragsdale Dr.
City of Seaside	**D3/D4. Regional Improvements:** Canyon Del Rey Blvd. (SR218) between General Jim Moore Blvd. and Highway 68 1. Widen to four lanes. Highway 68 from Highway 218 to east of San Benancio Rd. 2. Construct a four-lane bypass.

Source: County/City Planning Department Website



Source: System Planning Caltrans District 5

Figure 1-2: Local Planning Areas

Table 1-7: Local Area Plans

Name	Area Plans Date	Agency
Fort Ord Master Plan Greater Monterey Peninsula Area Plan	November 2007	Monterey County
Greater Salinas Area Plan	March 2010	Monterey County
Greater Monterey Peninsula Area Plan	December 1984	Monterey County
Del Monte Forest LUP & Greater Monterey Peninsula Area Plan	December 2009	Monterey County
Toro Area Plan	February 2009	Monterey County
Highway 68 Area Plan	June 1984	Monterey
Casanova/Oak Knoll	August 1985	Monterey
Oak Grove Neighborhood Plan	December 1990	Monterey
North Fremont Street Area Plan	September 2000	Monterey
Del Monte Grove Area Plan	1978	Monterey

Source: County/City Planning Department Website

Table 1-8: Local Specific Plans

Name	Specific Plans Date	Agency
East Garrison Specific Plan	June 2005	Monterey County

Source: County/City Planning Department Website

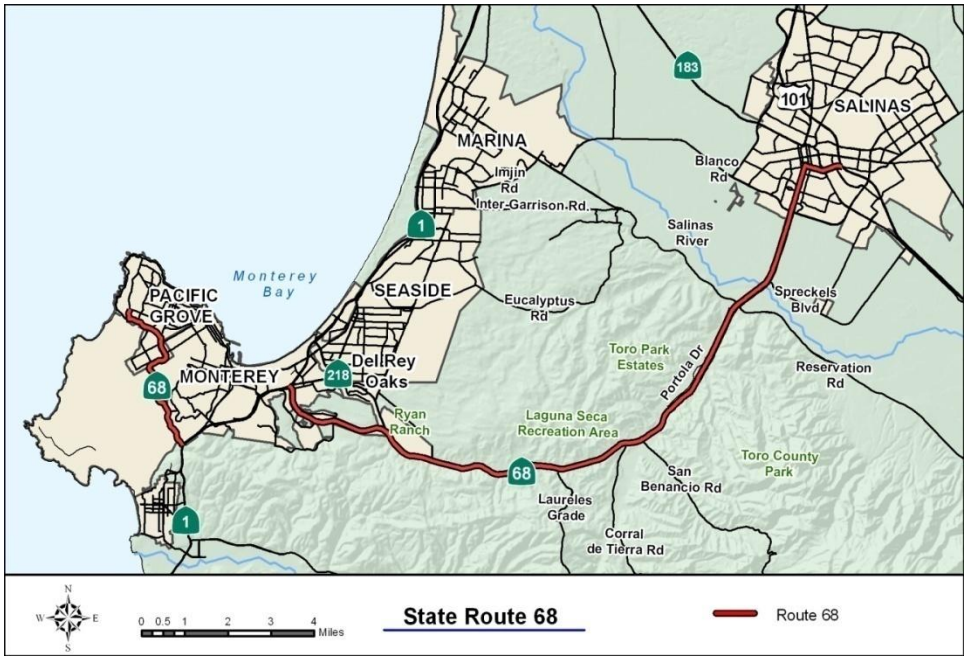
Chapter 2

This Page Intentionally Left Blank

2 Corridor Description

2.1 State Route 68 Description

SR 68 serves as a primary arterial connecting two of Monterey County's principal urbanized areas, the Monterey Peninsula and the city of Salinas. SR 68 West begins as a two-lane conventional highway in the Monterey Peninsula near the Asilomar Conference Center in the city of Pacific Grove. It then continues southeasterly in a serpentine alignment until merging with SR 1. Both SR 68 and SR 1 run contiguously for approximately three miles along the city of Monterey. SR 68 East splits from SR 1 and continues easterly as a two-lane conventional highway through city of Monterey and continues in the county with residential, industrial, and recreational land use adjacent to the corridor. Although there is substantial development, the surrounding areas are zoned rural. A four-lane freeway segment occurs near Toro Park and ends near Spreckels Boulevard. At this point SR 68 continues as a four-lane conventional highway through the city of Salinas until ending at the junction with US 101.



Source: System Planning Caltrans District 5

Figure 2-1: State Route 68

2.1.1 Route Significance

The county of Monterey partially surrounds the Monterey Bay, making it a very desirable tourist center. The city of Monterey attracts a great amount of domestic and international tourism, local recreation travel, and is home of major music and art festivals. The city of Monterey is home to the Monterey Bay Aquarium, Cannery Row, Fisherman's Wharf, and the Monterey Jazz and Blues Festival among other attractions. At one time, the city of Monterey was the capital of California, and many of the buildings are now historic landmarks. Writers and artists have been attracted to the area, drawn by the culture and Mediterranean climate.

The city of Salinas has a major tourist attraction with annual California Rodeo and the California International Air Show. Overall, the county of Monterey has 25 golf courses including Pebble Beach, National Marine Sanctuary, 368,000 acres of National Wilderness Forrest Areas, and the Laguna Seca

Raceway, which is located along SR 68. The combined traffic from the city of Monterey to the city of Salinas to other cities in Monterey County such as the cities of Pacific Grove, Sand City, Seaside, Marina, Del Rey Oaks, Carmel, make tourist traffic a significant factor of SR 68 congestion.

SR 68 also accommodates the commuter travel between the two major centers of population and employment in the Monterey County, the city of Monterey and the city of Salinas; in addition, it accommodates every day trips such as shopping, school attendance, business, and personal appointments. Even with the future development in the areas of Seaside and Fort Ord, SR 68 will continue to be the route of choice for many commuters.

2.1.2 Route Background

The existing SR 68 roadway was constructed in 1930 by Monterey County and generally follows the same route that had been used for transportation since the late 1700s. In the 1800s, the route was known as "the road to San Juan Bautista" and later, in the mid-1800s, became a well-traveled stage route by the California Stage Company. In the early 1900s, the winding dirt stage route was called "the road to Salinas" and was realigned through the Rancho Aguajito and along El Toro Creek. In 1929, Monterey County obtained a two-million dollar bond for road building and realigned the roadway to eliminate dangerous curves. In 1930, SR 68 was built as a two-lane conventional highway by Monterey County and was adopted into the state highway system in 1933. Studies by the State of California began in 1950, with strong public support, to convert SR 68 to a freeway; however, the California Highway Commission (CHC) nullified the route adoption in 1973 because the city and county of Monterey could not agree on the freeway alignment for SR 68.

In 1991, the United States Congress voted to retire the Fort Ord Military Reservation from active use and to revert portions of the base land to governmental and other uses through the Base Realignment and Closure Act. Fort Ord had been in continuous use since 1917, but was greatly expanded in 1940 with the activation of the U.S Army Seventh Infantry Division. It had once been home to 17,700 military personnel and employed 2,700 civilians from the neighboring communities. Additional land was acquired by the Army for the expanded reservation, including all of the city of Monterey lands north of SR 68, which included large portions of the Ranchos Laguna Seca and El Toro. In 1971 the Army donated a portion of the Rancho Laguna Seca lands north of SR 68 to Monterey County for the formal establishment of the Laguna Seca Recreational Area. As of 1994, most of the facilities within the base were closed, with the exceptions limited housing for the Defense Language Institute, Naval Postgraduate School, and the Coast Guard Station, and office space for Fort Ord Reuse Authority, the Commissioner, and the Post Exchange.

The roadway network serving Fort Ord consists of a mix of arterial and local roads that connect with the cities of Marina and Seaside and the Toro Park Community. Since the network was developed to serve the military base, roadway segments may not be compatible with the proposed civilian land uses. In other cases, however, the existing roadway network provides the foundation for planning the future network within the area and surrounding communities.

The closure of Fort Ord presented opportunities for locating a new transportation facility for the SR 68 corridor and other transportation facilities on Fort Ord properties. The Fort Ord Reuse Plan (1997) calls for over 18,000 jobs and 13,500 housing units in the Fort Ord Reuse Area (FORA) by the year 2015. The proposed land use plan includes approximately 45,000 jobs and over 22,000 housing units at build-out. Fort Ord reuses are projected to generate over 300,000 daily trips, 43% of which are expected to be

captured internally. In 2005, the Agency completed an update to the list of FORA transportation "obligations" as defined in the 1997 Base Reuse Plan, in order to reallocate FORA development fees to transportation projects that best mitigate the impacts of Fort Ord redevelopment and which are consistent with the intent of the Base Reuse Plan. The revised list of FORA Capital Improvement Program projects that resulted from this process is reflected in the regional plan's finding-constrained project list. For more information concerning FORA visit:
http://www.basereuse.org/reuseplan/ReusePln/RPMain.htm

In 1993, a MOU between Caltrans and the BLM was approved for a transportation corridor plan line for the development of a new controlled access bypass alignment. The BLM designated a portion of Fort Ord, roughly one thousand feet in width and six and a half miles in length (approximately 894 acres), near the existing Fort Ord southerly boundary. The land is designated as a potential SR 68 transportation corridor and the MOU requires cooperative language planning between Caltrans and the BLM. A decision for the location has not been made but the reservation allows for this to be considered subject to further review. The MOU also limits development within the plan line to only be transportation in nature. The designated portion will be utilized for a capacity improving project within the corridor, such as widening existing alignment to a four-lane facility with contours, left turn channelization, or a bypass alignment of four-lane, and access controlled.

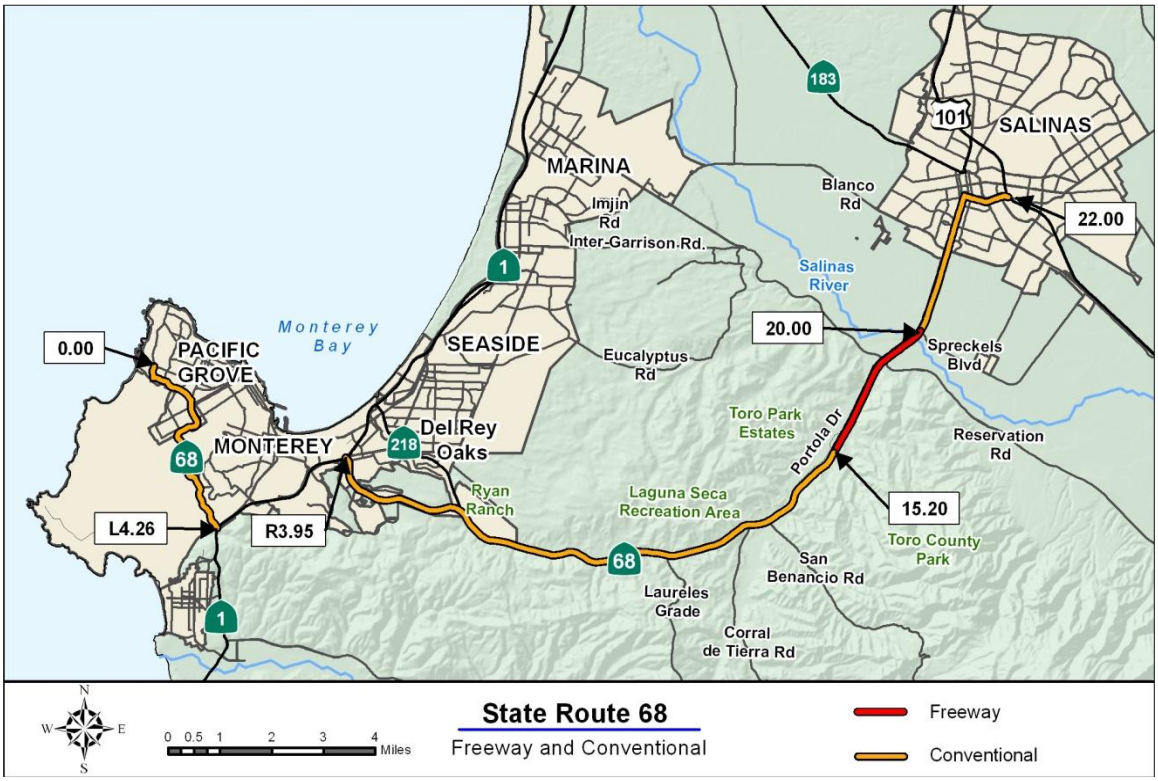
Source: System Planning Caltrans District 5

Figure 2-2: Easement

2.1.3 Route Designations

The Federal Highway Administration (FHWA) route designation or route classification states, "The process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide." It becomes necessary then to determine how this travel can be channelized within the network in a logical and efficient manner. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in

serving the flow of trips through a highway network. The following designations and classifications provide information regarding the facility itself within SR 68 and its intended use. They also indicate the availability of special purpose funding related to the designation. The Federal functional classification of SR 68 is Principal Arterial and it is divided as a Freeway and as a Conventional Highway.



Source: System Planning Caltrans District 5

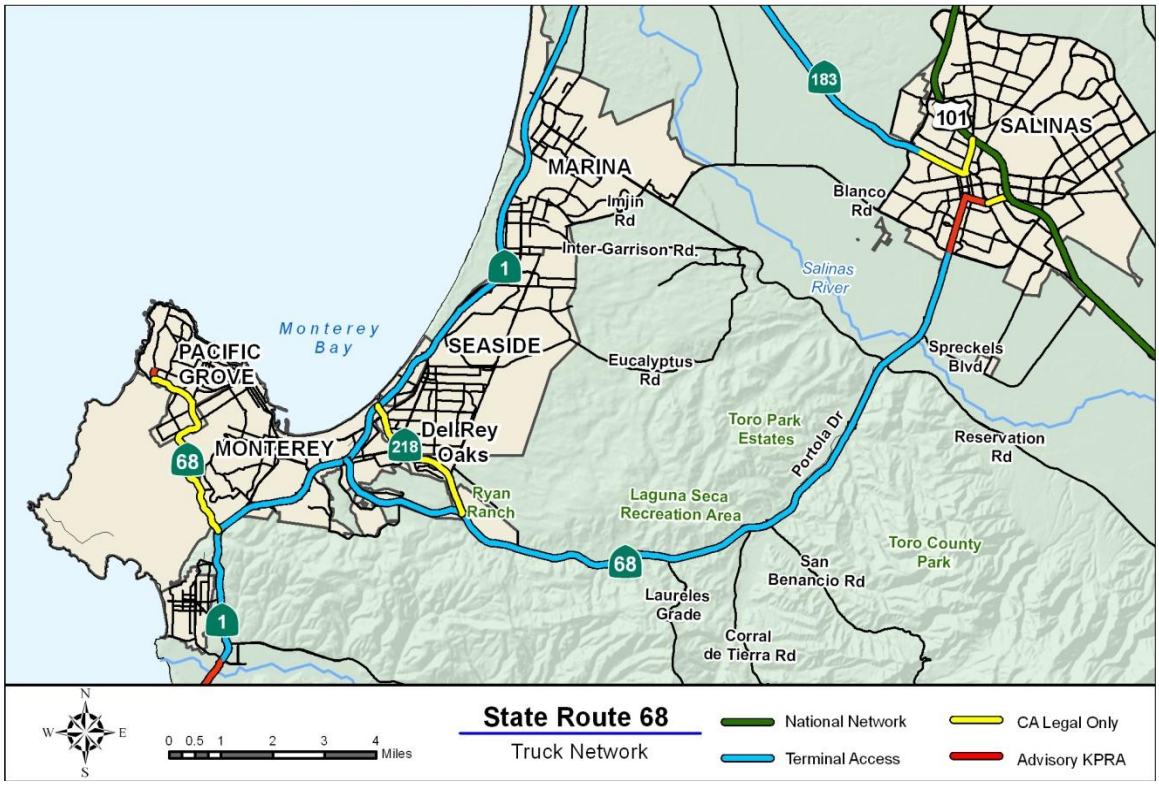
Figure 2-3: Freeway and Conventional Highway

SR 68 is not a part of the Strategic Highway Corridor System (STRAHNET), nor is it part of the National Highway System (NHS). STRAHNET is a network of highways, which are important to the United States' strategic defense policy and which provide defense access, continuity and emergency capabilities for defense purposes. NHS consists of 160,000 miles of roadway that are important to the nation's economy, defense, and mobility created by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). SR 68 is not a Focus Route or High Emphasis Route, which somewhat limits state funding of improvements.

2.1.4 Truck Network

The Surface Transportation Assistance Act (STAA) of 1982 allows large trucks, referred to as STAA trucks, to operate on routes that are part of the National Network. The FHWA provides standards for STAA trucks based on the Code of Federal Regulations Title 23 Part 658. These standards designate the minimum truck sizes that all states must allow on the National Network; however, states are encouraged to allow access for STAA trucks on all highways. In California the STAA Network consists of the National Network routes and Terminal Access routes. STAA trucks are limited to the green and blue routes (Figure 2-4), which provide reasonable access to terminals and facilities for purposes limited to fuel, food, lodging, and repair when that access is consistent with safe operation. The use of unidentified local streets and roads requires prior approval from local highway authority. The cities within the

Monterey County have adopted and designated truck routes in order to reduce problems associated with increased congestion during peak hours and to direct trucks away from certain streets that were not designed to accommodate the through weight. The following figure illustrates the different truck restrictions and regulations that surround and are within SR 68.



Source: System Planning Caltrans District 5

Figure 2-4: Truck Network

For more information on truck route segments and their truck access designations (such as National Network, Terminal Access, California Legal, Advisory, or Restricted) visit Caltrans Truck Network Map where a detailed list can be viewed http://www.dot.ca.gov/hq/traffops/trucks/truckmap/index.htm .

2.2 Freeway Agreements

According to Chapter 24, Article 1 of the 1999 Caltrans *Project Development Procedures Manual*, a freeway agreement "documents the understanding between Caltrans and the local agency relating to the planned traffic circulation features of the proposed facility". Studies by the State of California to convert SR 68 to a freeway began in 1950, with strong public support. In 1958, the city of Monterey and the county of Monterey agreed on the freeway route adoption, but could not agree on the four-mile alignment between SR 1 and York Road within the city. Subsequently, both the city and county requested a restudy of the proposed project location by the State. After 15 years of discussions, however, consensus could not be reached between the city and county. In 1973, the California Highway Commission, now referred to as the California Transportation Commission, nullified the route adoption and all studies were halted. Attempts to establish mutually agreeable plan lines for a freeway alignment for the route were again initiated by the city and Monterey County in the late 1970s. In 1978, as Monterey County was proceeding with steps to establish plan lines on the portion of SR 68 between York Road and Reservation Road, the city of Monterey also initiated studies to establish plan lines along

the portion of the route between SR 1 and York Road. In the 1970s and 1980s, segments of SR 68 between Toro Park Estates and the city of Salinas were widened to freeway standards (four-lane divided highway). Currently there are six freeway agreements that exist within the post mile limits of the SR 68 TCR corridor, and apply to the entire corridor.

Table 2-1: SR 68 TCR Corridor Freeway Agreements

Date	Freeway Agreement No.	Description
12/2/1952	N/A	Agreement with city of Monterey regarding Freeway layout between Camino Estero and Del Monte junction. Superseded by agreement with city of Monterey on Hwy 1.
10/15/1962	V-Mon-117-A	Agreement with county for Freeway layout 0.2 miles west of Reservation Road. County will close/relocate roads as needed.
9/3/1963	N/A	Agreement with county of Monterey to freeway lay out, 1.1 miles east of route 169 to 0.2 miles west of Reservation Road.
11/18/1963	V-Mon-117-A	Agreement with county of Monterey to relocate River Road and upgrade to freeway status.
6/21/1965	05-Mon-68 P.M. 16.5- 22.0	Revises previous agreement on portion of State Highway 117 between .2 miles west of Reservation Road.
12/14/1965	05-Mon-68 P.M. 16.5- 22.0	Modifies freeway agreement with the Monterey County to add west side connection with freeway with Spreckels Blvd. interchange.

Source: Caltrans Resource Record Center

2.3 Economic Factors

The major employers in the city of Monterey consist of governmental, health care, education, and tourism. The city of Monterey and Presidio of Monterey are some of the major employers for governmental jobs. Among other major employers for the city of Monterey is CHOMP, which offers a wide range of healthcare services. Education is provided by Monterey Peninsula College, Monterey Institute of International Studies, Naval Postgraduate School, and the Defense Language Institute. Overall, the city of Monterey is a tourist-driven economy, attracting an estimated four million visitors to the Monterey Peninsula annually and accounting for 10.2% of the county's retail sales. Since Monterey Bay Aquarium opened in 1996 it has been one of the major employer contributors for the city.

The city of Salinas and the Salinas Valley are known as “The Salad Bowl of the World” for the production of lettuce, broccoli, mushrooms, and strawberries among other produce. The city of Salinas has an agricultural-driven economy, along with manufacturing firms, and governmental jobs. Some of the largest employers include Dole fresh Vegetable, Monterey County, Household Credit Services, and Salinas Valley Memorial Hospital. Most of the tourism activity flows toward the Monterey Peninsula area, but the continued success of local events in the city of Salinas, such as the California Rodeo, Salinas Air Show, and the National Steinbeck Center also has known to drive visitors.

2.4 Goods Movement

SR 68 serves as a linkage between U.S. 101 and the Greater Salinas Valley to the Monterey Peninsula. Central Coast Commercial Flows Study Draft Report (2011), found that over 63 million tons of freight, worth approximately $50 billion, was transported into, out of, and within the Central Coast region via

highway, railroad, and air in 2007. As consumers of products from both inside and out of the region, an increasing population will require additional services and freight. Monterey County is highly dependent on trucks for the movement of its freight. In 2007, trucks handled 86 percent of the county's freight by weight (about 19 million tons), and 84 percent by value (nearly $11 billion).

SR 156 and U.S. 101 serve as the major route for the movement of goods that are exported out of the county. The economy of the city of Salinas is largely based on agriculture. Located in one of California's richest farming regions, the area produces a variety of fruits and vegetables, including lettuce. Many major vegetable producers are headquartered in the city of Salinas. Trucking is the most efficient way to move agriculture goods that are perishable or require timely delivery; therefore, commercial truck traffic is a major component of transportation in the Salinas and Pajaro Valleys. However, truck traffic on SR 68 East appears to be light. The average percentage of trucks per total vehicles generally ranges from 2 % to 4%. The two highest percentages of total trucks occur at Reservation Road (4.6%) and at junction of US 101 (6.2%). Truck movements along SR 68 primarily consist of transport of goods into the Monterey Bay.

2.5 Context and Environmental Setting

During the transportation planning process, development of projects and strategies that address the route concept and the entire range of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) planning factors, would need a reasonable range of alternatives to achieve State and Federal goals. SAFETEA-LU includes several provisions intended to enhance the consideration of environmental issues and impacts within the transportation planning process and encourage the use of the products from planning in the National Environmental Policy Act (NEPA) process. Specifically, Sections 6001 and 6002 require many of the activities that were previously considered "good" practices to strengthen linkages. Here are some of the most relevant provisions. Section 6001: Environmental Considerations in Planning requires certain elements and activities to be included in the development of long-range transportation plans, including:

- Consultations with resource agencies, such as those responsible for land-use management, natural resources, environmental protection, conservation and historic preservation, which shall involve, as appropriate, comparisons of resource maps and inventories

- Discussion of potential environmental mitigation activities

- Participation plans that identify a process for stakeholder involvement

- Visualization of proposed transportation strategies where practicable

The purpose of this section is to provide a broad overview of environmental resources and issues to be considered in planning for appropriate transportation facilities along the SR 68 corridor in Monterey County. Areas of environmental sensitivity have been identified at numerous locations along the SR 68 corridor. Potential project-related impacts to environmental resources must be evaluated in compliance with the California Environmental Quality Act (CEQA) and, if federal funds are involved, then it must also be in compliance with NEPA. Other involvements that may trigger NEPA compliance are: federal approval or permit, work on federal land, and certain actions on the National Highway System. Environmental compliance could require further investigation of environmental sites as well as redesign of the project or mitigation of impacts.

Aesthetic and Scenic Resources

SR 68 can be broken down into multiple landscape units based on the route's diverse landscape. The first section of SR 68 West, from Pacific Grove to the separation with SR 1, is bordered by commercial and residential areas interspersed with Monterey Pine Forest. At the beginning of SR 68 East to the Salinas River, the route passes through rolling topography consisting of coastal scrub, coast live oak woodland, and non-native grasslands.

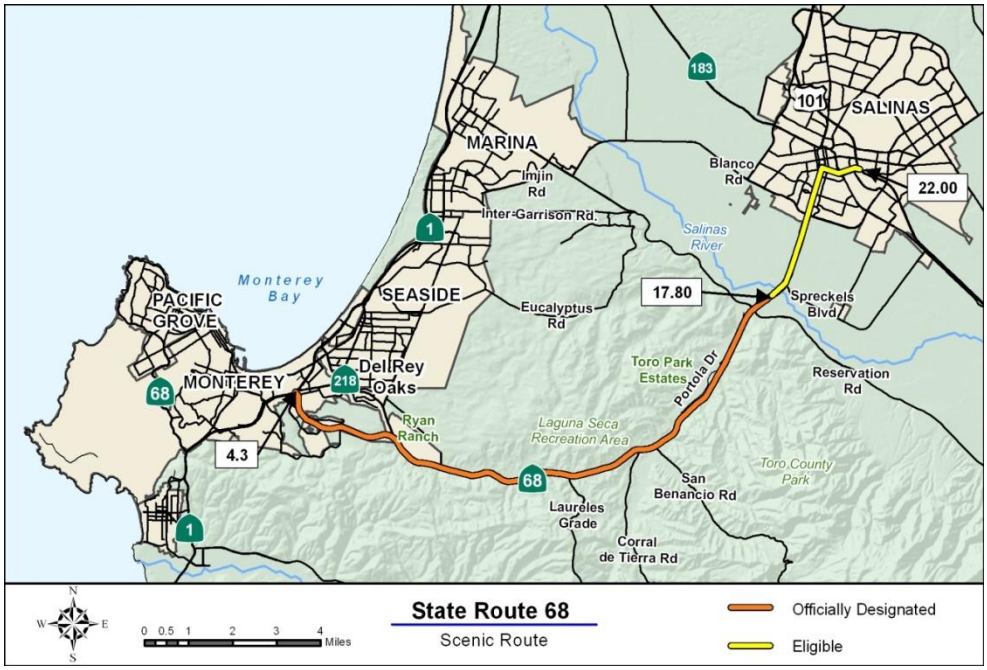
Figure 2-5: Rolling hills along SR 68 East

Development can be seen along the corridor but is mostly screened from view by the existing roadside vegetation, landform, or both. From the Salinas River, the route passes through mostly flat topography with a variety of row crops and scattered development visible on both sides of the highway. Moderately sized hills are dominant visual elements which define the horizon northwest and southwest of this section of highway. Once SR 68 East enters the city of Salinas, the area is very urbanized passing through the downtown core with commercial development lining both sides of the highway up to the transition to US 101.

Figure 2-7: City of Salinas agriculture

SR 68 is considered as a Scenic Highway from PM 4.30 to PM 17.80. The Scenic Highway designation is based largely on the rural character and lack of urbanization visible along the roadway corridor. The beginning and end of SR 68 are eligible for State Scenic Highway status. If a proposed project is within an officially designated scenic highway, the environmental document must discuss whether the project has the potential to affect the scenic highway and if so, whether the project is consistent with the protection program. If a highway is listed as eligible for official designation, it is also part of the Scenic Highway System and care must be taken to preserve its eligible status.

Figure 2-6: Downtown Salinas

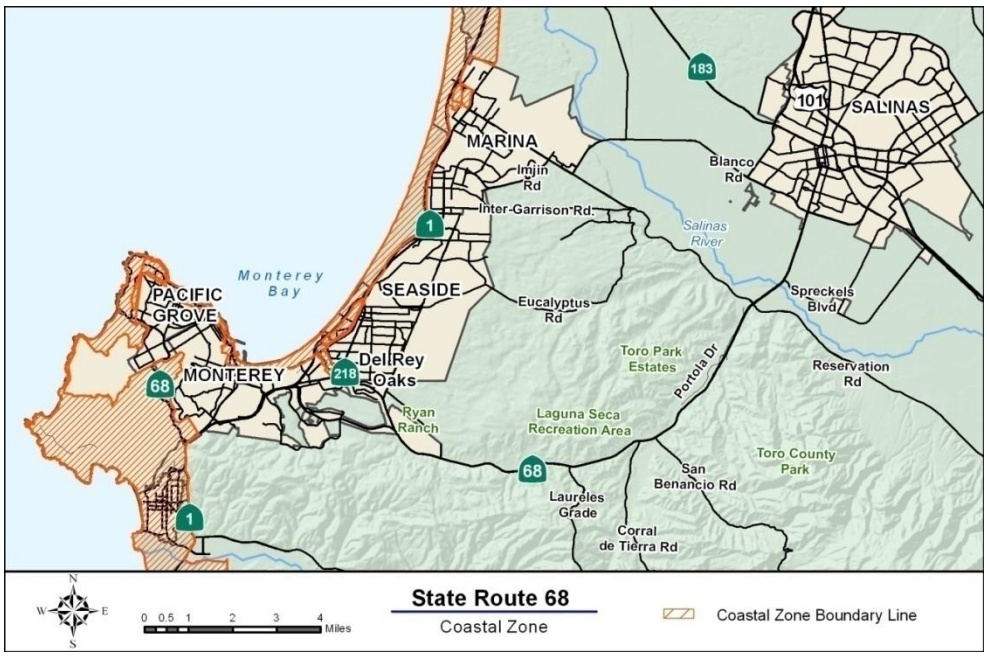


Source: System Planning Caltrans District 5

Figure 2-8: Scenic Route

Coastal Zone

The first segment of SR 68, from PM 0.0 to the intersection with SR 1 at PM L4.2, is almost entirely within the established boundaries of the coastal zone except from PM 0.32 to PM 2.0, which under the California Coastal Act (CCA), Section 30160 paragraph (e) states "In the city of Pacific Grove, approximately 300 acres are excluded". The excluded area is illustrated in figure 2-9.



Source: System Planning Caltrans District 5

Figure 2-9: Coastal Zone

Applicable Local Coastal Programs (LCP) that provides the policy foundation for this concept report includes:

Table 2-2: LCP Status

Area	LCP Status as of July 1, 2009
Monterey County	LCP Effectively Certified
Pacific Grove	City LUP Effectively Certified
Monterey	City LUP Effectively Certified
Seaside	City LUP Effectively Certified
Sand City	City LCP Effectively Certified
Marina	City LCP Effectively Certified

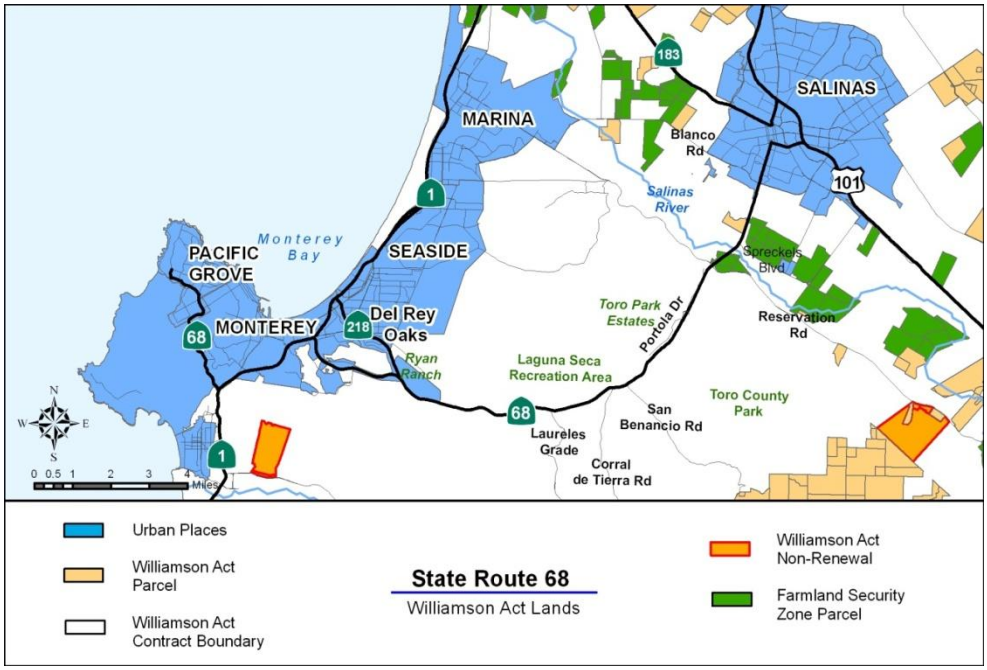
Source: California Coastal Commission Technical services Division 2009

Williamson Act Lands

The California Land Act, better known as the Williamson Act is a state program that was created in 1965, to provide incentives to landowners through reduced property taxes to deter the early conversion of agricultural and open space lands to other uses. The California Land Conservation (Williamson) Act Status Report (2010) found that as of January 1, 2009, approximately 15 million reported acres were enrolled under the Williamson Act statewide. This represents approximately half of California's farmland total of about 30 million acres, and nearly one-third of State's privately owned land. Out of California's 58 counties, Monterey County is one of the 53 counties that have adopted the Williamson Act and is located under the Bay and Central Coast Williamson Act Region. The Williamson Act lands are classified into different categories including: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban, and Building-Up-Land.

CEQA requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. In addition to Williamson Act requirements, impacts to farmland require consultation with the Natural Resources Conservation Service. The main purpose of the Williamson Act is to preserve agricultural land and to encourage open space preservation and efficient urban growth. NEPA and the Farmland Protection Policy Act (FPPA, 7 USC 4201-4209; and its regulations, 7 CFR Part 658) require federal agencies, such as FHWA, to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

In August 1998, the Farmland Security Zones (FSZ) provisions were enacted and offered landowners greater property tax reduction in return of at least a 20-year contractual commitment. As of January 1, 2009, Monterey is one of the 21 counties that have their Williamson Act land under FSZ contract. Monterey has 38,796 acres under FSZ approximately 5.04% (The California Land Conservation Williamson Act Status Report 2010). Table 2.4 describes the total reported enrollment in acres for Monterey County and figure 2-10 illustrates what surrounds the SR 68 corridor.



Source: System Planning Caltrans District 5

Figure 2-10: Williamson Act Lands

Table 2-3: Monterey County Williamson Act & Farmland Security Zone Participation

Participating Local Jurisdiction	Williamson Act*		Farmland Security Zone *				Total
			Urban		Non-Urban		
	Prime	Nonprime	Prime	Nonprime	Prime	Nonprime	
Monterey County	57,936	669,723	18,487	2,097	12,728	5,484	766,455

*Totals include both continuing term and nonrenewal contracts.

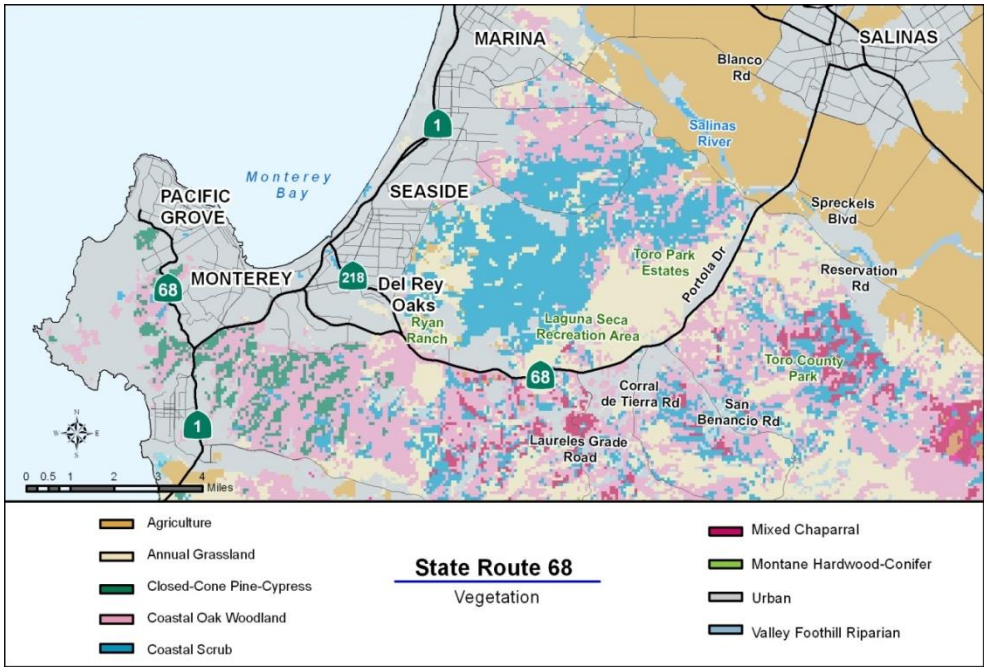
Source: California Land Conservation (Williamson) Act Status Report 2010

Air Quality

SR 68 is located within the North Central Coast Air Basin (NCCAB). The Monterey Bay Unified Air Pollution Control District has jurisdiction over the air quality in the NCCAB (which includes Santa Cruz, San Benito, and Monterey Counties). Under the Federal Clean Air Act, the entire district has been designated a Maintenance area for the 1-hour ozone standard, while under the California Clean Air Act (CCAA), the district has been designated Non-attainment/Transitional for the 1-hour ozone standard. Also under the CCAA, the entire air basin has been designated non-attainment for inhalable particulate matter (PM_{10}). The NCCAB has been designated either unclassified or in attainment of all other state and federal ambient air quality standards for criteria pollutants.

Vegetation

As denoted on figure 2-11, SR 68 travels east from the city of Pacific Grove to the city of Salinas. A variety of vegetation types can be seen adjacent to the corridor from closed cone pine-cypress to the coastal scrub vegetation types to a denser canopy of coastal oak woodland. East from Laureles Grade is mostly annual grassland, coastal oak woodland, some mixed chaparral and coastal scrub. After Reservation Road the predominant vegetation is agriculture.



Source: System Planning Caltrans District 5

Figure 2-11: Vegetation

Wildlife Corridors

Corridors can help to reduce the negative effects of habitat fragmentation (Soule and Terborgh 1999) by facilitating the movement of wildlife species through habitat patches (Hilty et al. 2006, Beier and Noss 1998). It has also been shown that the connectivity provided by corridors has improved genetic heterozygosity within metapopulations of multiple species, including species with smaller home ranges, such as tiger salamanders (Noss 1987, Buza et al. 2000). Genetic isolation, which results in loss of genetic diversity within a metapopulation, leads to an inbreeding depression within the population (Frankham et al. 2002). Genetic depression occurs when inbreeding results in reducing the reproduction and survival of a population (Frankham et al. 2002). Ultimately, populations can go locally extinct due to being unable to travel through a highly fragmented landscape to find mates (Beier 1993).

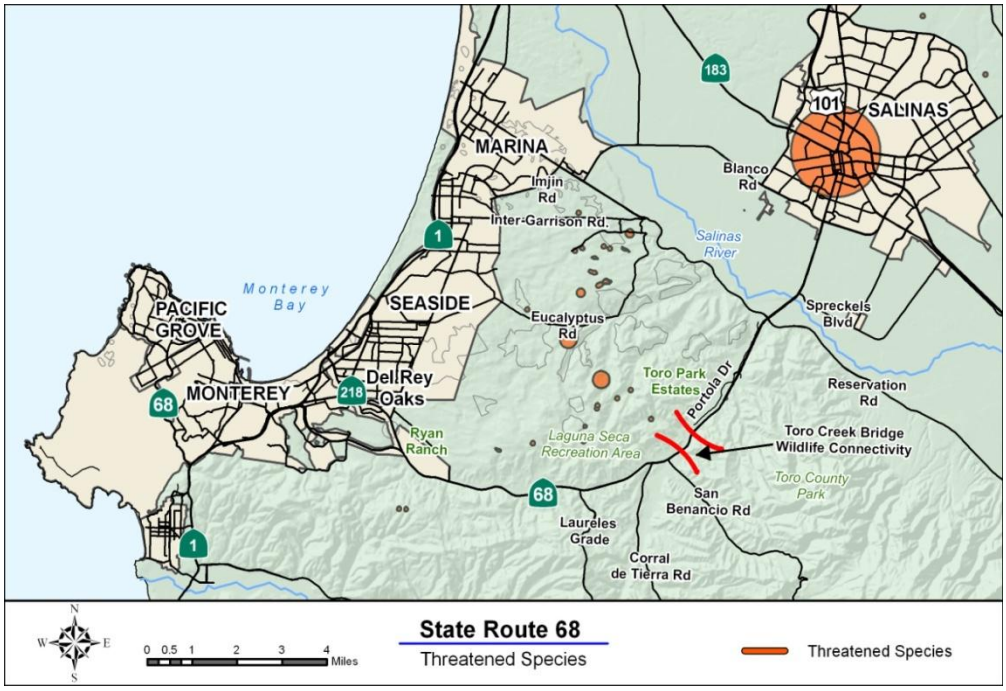
On September 2010, the Big Sur Land Trust (BSLT) released a study detailing wildlife movement on SR 68 corridor and the area around Marks Ranch, Toro County Park and Fort Ord Natural Reserve. The study was conducted by Connectivity for Wildlife LLC (www.cfwildlife.com) and funded by the Land Trust. The study showed that the region facilitates a high degree of wildlife activity. Most notably, it identified one of the last remaining safe linkages for animals moving between these protected lands at a currently undeveloped area that exists between the relatively dense housing along San Benancio Road (on the east) and Toro Creek Estates (on the west). Between October 2008 and December 2009, 404 individual detections were recorded of animals moving through a single location within this area – a large bridge underpass on SR 68 at El Toro Creek (Figure 2-13). Among the species found to utilize the passageway were mountain lions, gray foxes, bobcats, coyotes, deer, and North American badgers (The Central Coast Connectivity Project, 2010). All regional habitat connectivity plans and studies, along with the California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California February 2010 will be used as one of the decision tools to help develop alternatives to avoid and minimize impacts to wildlife corridors.

Special-Status Animals and Plants

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) have regulatory responsibility for the protection of animal and plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special-status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) administered by the USFWS and/or the California Endangered Species Act (CESA) administered by the CDFG.

Research gathered for threatened and endangered species along SR 68 was found through the California Natural Diversity Database (CNDDB). The CNDBB is a program that inventories the status and locations of rare plants and animals in California. CNDDB staff work with partners to maintain current lists of rare species as well as maintain an ever-growing database of GIS-mapped locations for these species. The following map generated from CNDDB illustrates were the threatened California Tiger Salamander are found along SR 68. The California tiger salamander is protected by both CESA and ESA. It is a threatened species and it is estimated to have disappeared from more than 50 percent of its historic range. Many populations have been extirpated due to loss of or fragmentation of suitable habitat through urbanization and agriculture.

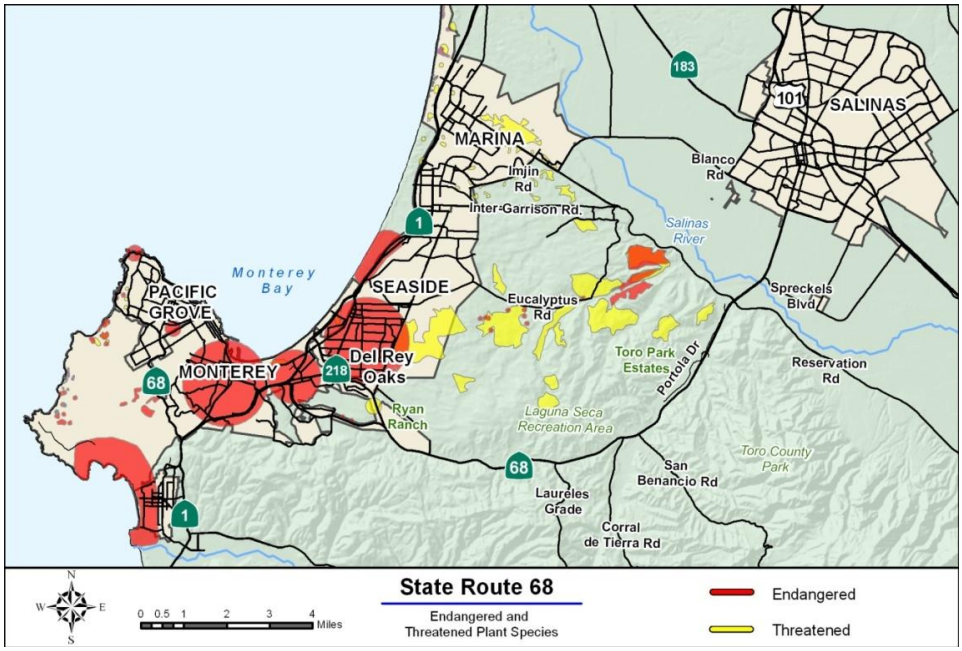
Figure 2-12: California Tiger Salamander



Source: California Natural Diversity Database

Figure 2-13: Threatened Species

In addition to the CNDBB, the California Native Plant Society (CNPS) Inventory of Rare and endangered Plants of California identify rare and endangered plant species. CNPS uses a ranking system to categorize the degree of concern. Threat Rank guidelines only represent a starting point in the assessment of threat level. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are also considered in setting the threat Rank. Along the 68 Corridor there are currently over 15 plant species that are considered rare by CNPS including the federally threatened Yadon's rein orchid, state and federally endangered Monterey Clover, and state endangered seaside bird's beak.



Source: California Natural Diversity Database

Figure 2-14: Endangered and Threatened Plant Species

Table 2-4: Endangered and Threatened Plant Species

State Rank	Species Name	Common Name	California Listing
S1.1	Potentilla Hickmanii	Hickman's Cinquefoil	Endangered
S1.1	Cordylanthus Rigidus ssp. Littoralis	Seaside Bird's Beak	Endangered
S1.1	Trifolium Trichocalyx	Monterey Clover	Endangered
S2.1	Lupinus Tidestromii	Tidestrom's Lupine	Endangered
S2.1	Layia Carnosa	Beach Layia	Endangered
S2.2	Gilia Tenuiflora ssp. Arenaria	Sand Gilia	Threatened

Source: California Natural Diversity Database

Hydrological Features

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The FHWA requirements for compliance are outlined in 23 CFR 650 Subpart A.

In order to comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments

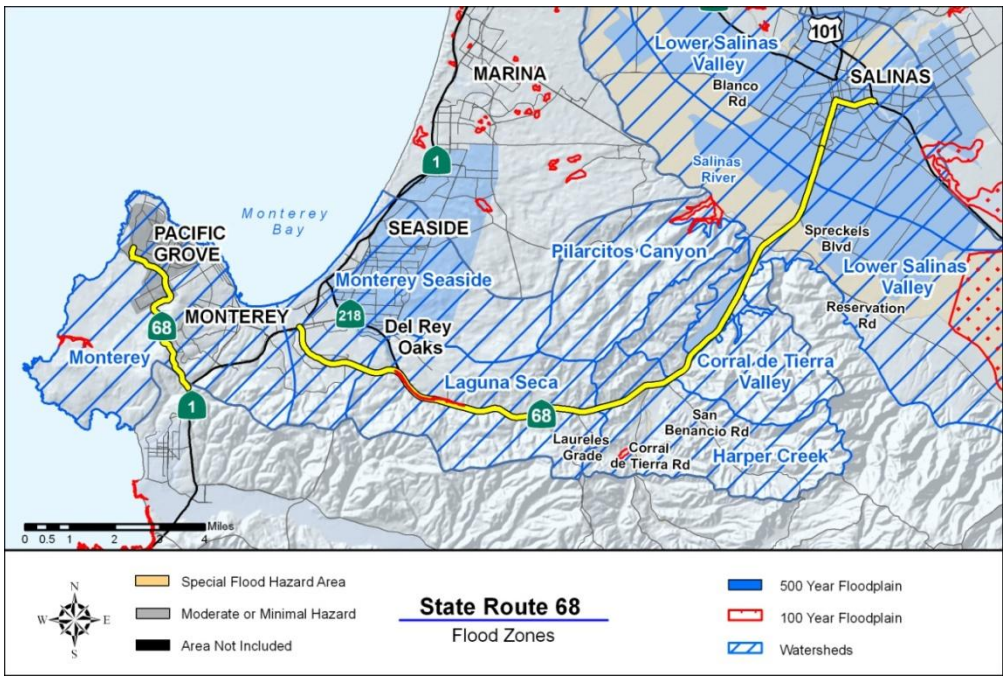
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the project.

The base floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the base floodplain."

The most predominant hydrologic feature within the limits of SR 68 would be the Salinas River. The highway crosses the river approximately 13 miles southeast of the river mouth where it discharges into the Pacific Ocean between the communities of the city of Marina and Moss Landing. Projects proposed within the vicinity of any of these water bodies would need to be analyzed for potential impacts to floodplains and all environmental resources that may be associated with those features (e.g. riparian habitat, wetlands, and listed species). Although habitats in the corridor have been altered, there is still the potential for sensitive biological resources including wetlands at the Salinas River, but also where small drainages cross under or parallel the roadway.

Wetlands

The study area contains one major river system (Salinas River) and numerous creek corridors. These water bodies include stream channels that are considered other waters of the U.S. and wetland areas that are considered jurisdictional wetlands of the U.S. by the U.S. Army Corps of Engineers. A variety of other wetland types are found, including isolated wetlands such as seasonal swales and vernal pools. In addition to the naturally occurring wetlands, many areas within the study area have been created as a result of direct or indirect human activities (i.e. agricultural reservoirs, irrigation ditches, and roadside ditches).



Source: System Planning Caltrans District 5

Figure 2-15: Flood Zones

Cultural Resources

SR 68 corridor travels through areas of sensitivity for cultural resources. Several prehistoric archaeological sites have been documented in the vicinity of the Salinas River and the creeks that are crossed by SR 68. Historic-period cultural resources are also located along the highway corridor. Potential project-related impacts to archaeological, cultural and historical resources must be evaluated in compliance with the CEQA and, if federal funds are involved, NEPA, for a project proposing changes to SR 68. Environmental compliance could require a complete assessment of cultural resources through a detailed cultural resources study, further investigation of known cultural sites, as well as redesign of the project or mitigation of impacts.

Demographics

The NEPA of 1969 as amended, established that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 USC 4331[b][2]). The FHWA in its implementation of NEPA (23 USC 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the CEQA, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

There are many elements that factor together to create a sense of place and character in a community. In addition to examining the people (demographics) and the place (land use) that defines the surroundings of the study area, focus is placed on the nature of the transportations system that provides mobility within the corridor. SR 68 and the surrounding transportation networks are part of one greater system that serves both local commuters and regional travelers. Analysis of the demographics, employment characteristics, housing characteristics, and land use; results in a better understanding of how the people and place of the community interact with transportation along and surrounding SR 68. The summary of population, employment, and housing along the corridor identified in this section is the basis of the analysis in Chapter 3 that looks at jobs, housing, and population characteristics that exist or are projected. The analysis in Chapter 3 looks at how job, housing, and population impact the transportation corridors.

Population Characteristics

SR 68 primarily serves two principal population centers, the city of Monterey to the West, and the city of Salinas to the East. These are major sources of economic activity as well as providing residence to over 175,000 people. The following table provides the population characteristics from the 2010 U.S. Census.

Table 2-5: Population

Race	Monterey County	Monterey	Salinas
White	55.6%	78.3%	45.8%
Black or African American	3.1%	2.8%	2.0%
American Indian and Alaska Native	1.3%	0.5%	1.3%
Asian	6.1%	7.9%	6.3%
Native Hawaiian and Other Pacific Islander	0.5%	0.3%	0.3%
Some Other Race	28.3%	5.0%	39.2%
Two or more races	5.1%	5.1%	5.1%
Hispanic or Latino (of any race)	55.4%	13.7%	75.0%

Source: 2010 U.S. Census Bureau Profile of General Population and Housing Characteristics

The population forecast table shown below, shows that the city of Salinas is growing at a much more rapid pace than the city of Monterey.

Table 2-6: Population Forecast

Jurisdiction	2005	2010	2015	2020	2025	2030	2035
Monterey	30,467	30,106	30,092	30,278	30,464	30,650	30,836
Salinas	149,705	153,779	162,044	163,234	166,401	170,913	173,359

Source: AMBAG Population, Housing Unit & Employment Forecasts, 2008

Employment Characteristics

AMBAG projects that the number of jobs countywide will increase from 193,110 in 2005 to 235,460 in 2035, an increase of 22% over a 25-year period. Table 2-8 provides the employment forecast for both the city of Monterey and the city of Salinas.

Table 2-7: Employment Forecast

Jurisdiction	2005	2010	2015	2020	2025	2030	2035
Monterey	32,327	32,752	34,209	35,773	37,346	38,974	40,696
Salinas	49,141	49,872	52,135	54,230	56,380	58,611	61,425

Source: TAMC 2010 RTP

As of 2009 the city of Monterey's median household income was an estimated $60,581 and $51,116 for the city of Salinas, compared to a national average of $52,029. The largest industries in the region by revenue and employment are tourism related, agriculture, education, military, and other public sectors. Table 2-9 lists both the city of Monterey and the city of Salinas occupational demographics. While for the city of Salinas farming, fishing, and forestry accounts for 15%, many believe this number is skewed as they do not include a significant portion of farm workers and blue collar workers who are migratory and undocumented, and are present for approximately 9 months of the year.

Table 2-8: Corridor Occupational Demographics

Occupations	Monterey	Salinas
Management, Professional, and Related	48.0%	20.5%
Service	19.5%	19.6%
Sales and Office	23.9%	20.6%
Farming, Fishing and Forestry	0.0%	15.0%
Construction, Extraction and Maintenance	5.2%	9.8%
Production, Transportation, and Material Moving	3.4%	14.5%
TOTAL	100%	100%

Source: U.S. Census Bureau Economic Characteristics 2005-2009

Housing Characteristics

A significant factor affecting transportation demand in Monterey County is the existing and projected jobs/housing imbalance. Table 2-11 compares available jobs and housing for the city of Monterey and the city of Salinas. Currently the majority of the Monterey's County housing supply is accommodated in the cities of the Salinas Valley. While a significant amount of employment exists both in the city of Monterey and the city of Salinas, it is projected to increase, on the Monterey Peninsula.

Table 2-9: Housing and Employment Comparison

Jurisdiction	Housing Units		Employment		Jobs/Housing Ratio	
	2005	2035	2005	2035	2005	2035
Monterey	13,537	14,095	32,327	40,696	2.39	2.89
Salinas	41,725	53,563	49,141	61,425	1.18	1.15

Source: AMBAG Population, Housing Unit & Employment Forecasts, 2008

The 2010 U.S. Census reports 12,184 households live in the city of Monterey and 40,387 households in the city of Salinas. There are two predominant types of households as defined by the Census: family and non-family households. The Census defines a family household as a household with one or more people living in the same household who are related by birth, marriage, or adoption. A non-family household is defined as persons living alone or with non-relatives.

There are 5,963 family households in the city of Monterey, of which 4,690 are married families, 902 are single-mother households and 371 are single-father households. From the 5,963 family households 14.2% of the married families, 3.3% of the single-mother households, and 1.3% of the single-father households have their own children who are under the age of 18. The city of Salinas has 31,515 family households, of which 21,380 are married families, 6,835 are single-mother households and 3,300 are single-father households. From the 21,380 family households 31.5% of the married families, 10.1% of the single-mother households, and 4.5% of the single-father households have their own children who are under the age of 18. Approximately half of the city of Monterey households are categorized as non-family households, while the city of Salinas more than half are categorized as family households by the U.S. Census. The majority of the non-family households are single persons living alone. In general, these households fall into two groups: individual students and older households.

Table 2-10: Household By Type

Household By Type	Monterey		Salinas	
	Number	Percent	Number	Percent
Family Households	5,963	48.9%	31,515	78.0%
Non family Households	6,221	51.1%	8,872	22.0%

Source: U.S. Census Bureau Profile of General Population and Housing Characteristics 2010

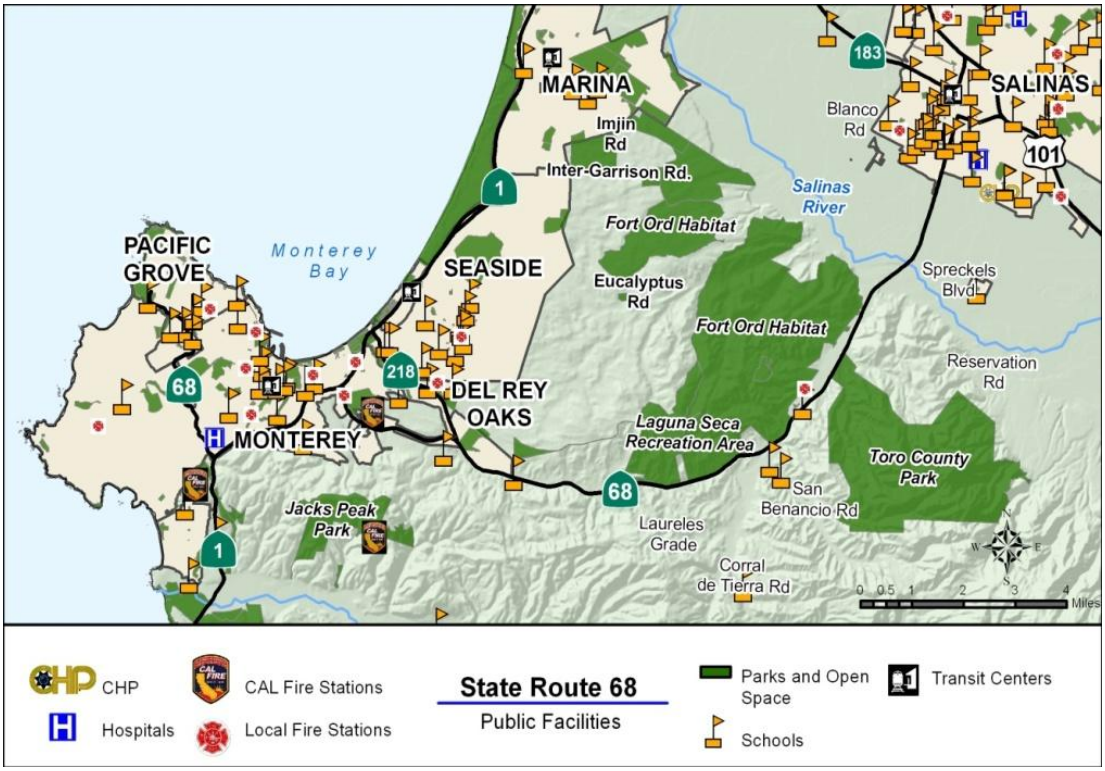
Household size is an indicator of overcrowding. A city's household size will increase over time if there is a trend toward larger families. In communities where the population is aging, the average household size is likely to decline. In 2010, the average household size in the city of Monterey was 2.08 persons and for the city of Salinas it was 3.66.

2.6 Land Use, Zoning, and Future Development

Land use characteristics of the communities within SR 68 corridor, as identified in local general plans, are described in this section of the document by local jurisdiction. In addition to identifying the land use characteristics of the communities adjacent to SR 68, this study also highlights plans for future development of these communities. Additionally, new State legislation such as SB 375 mandates that MPOs develop a Sustainable Communities Strategy (SCS) into its regional transportation plan that demonstrates how, through more efficient coordination of land use decisions and transportation investments, each region can reduce per capita greenhouse gas emissions from cars and light trucks. By gaining better insight into future development plans of the corridor, the associated probable impacts on the transportation system can be identified early. This provides an opportunity to plan ahead in developing strategies for maintaining long-term mobility along SR 68.

Public Facilities

SR 68 serves to transport goods and people, and allows emergency services to respond to incidents along the corridor. Fire, police, and ambulance services use SR 68 to respond to calls, which can range from collisions, medical emergencies to fires or flooding. Figure 2-16 illustrates emergency services locations such as: Cal Fire, local fire stations, California Highway Patrol (CHP), and hospitals. Transportation projects are to identify potential impacts to section 4(f) land uses. Section 4(f) land uses include publically owned parks, recreation areas, wildlife, waterfront refuge, and lands from a historic site of national, state, or local significance. On April 20, 2012, the Federal Government announced that the former Fort Ord Army Base is to be considered a National Monument. No changes are expected from the MOU between the BLM and Caltrans. Other public facilities illustrated on Figure 2-15 are major public facilities such as: parks, open space, schools, and transit centers.



Source: System Planning Caltrans District 5

Figure 2-16: Public Facilities

Chapter 3

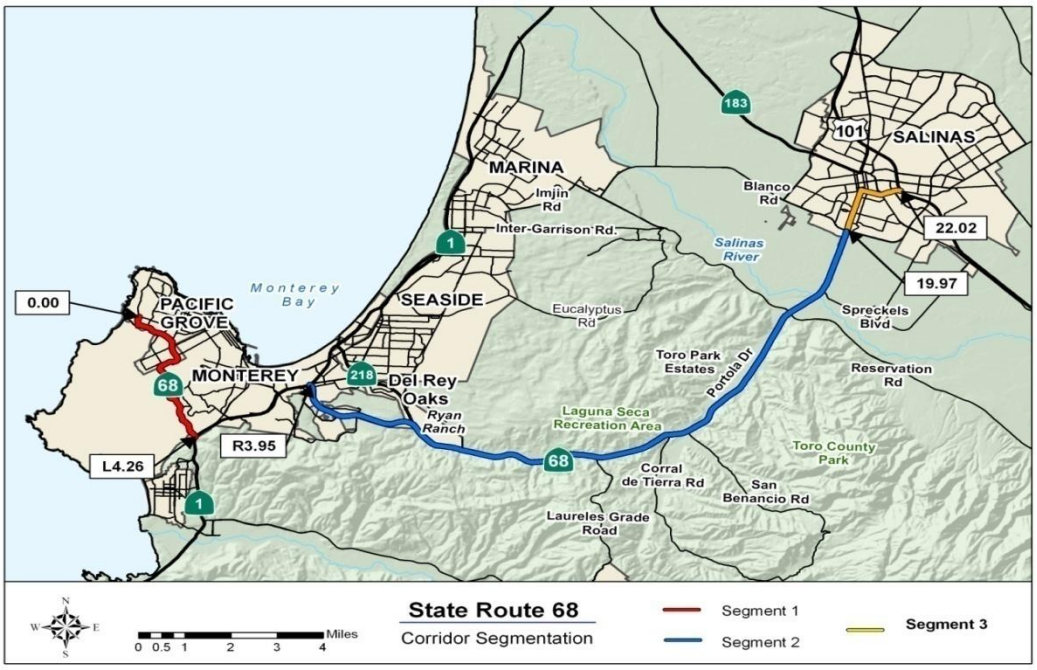
This Page Intentionally Left Blank

3 Route Performance and Concepts

SR 68 is located in northern Monterey County and is part of the California Freeway and Expressway System. Tourism plays a key role in the economy of the Monterey Peninsula; and as such, SR 68 experiences significant recreational traffic. SR 68 also bridges Salinas to the east with Seaside, Pacific Grove, and city of Monterey to the west. Commuters use SR 68 to access these communities and US 101 to the east.

Segment Limits

SR 68 starts at the entrance to Asilomar State Park at Sinex Avenue (PM 0.0) in Pacific Grove and ends in the city of Salinas at the junction with U.S. 101 (PM 22.02). The section of SR 68 from Sinex Avenue (PM 0.0) to SR 1 (PM L4.26) is referred to as SR 68 West, Holman Highway, and as Segment 1 in this TCR. The section of SR 68 from the east junction with SR 1 (PM 3.95) to the junction with U.S. 101 (PM 22.02) is referred to as SR 68 East and consists of TCR Segments 2 and 3.



Source: System Planning Caltrans District 5

Figure 3-1: Corridor Segmentation

Annual Average Daily Traffic and Truck %

The average traffic flow along SR 68 varies widely. The western end of SR 68 (Segment 1) is in a residential neighborhood near Asilomar State Park and carries low volumes. In contrast, the eastern end of SR 68 (Segment 3) in the city of Salinas carries greater amounts of traffic heading to or from a wide range of locations including U.S. 101, SR 183, and attractions in the city of Salinas. Annual Average daily traffic (AADT) presents a picture of the average traffic flow along a section of highway and is described in Table 3-1 for SR 68. The low truck percentages in Table 3-1 indicate that SR 68 served mainly personal travel in 2009. This travel included inter-regional recreational travel as well as local travel for business and pleasure. The AMBAG model predicts that growth will be heaviest in the Salinas area (Segment 3). Due to housing and employment shifts, there are some areas of Segments 1 and 2 that experience negative traffic growth. Negative traffic growth along SR 68 has occurred historically as well, as shown in Table 3-1.

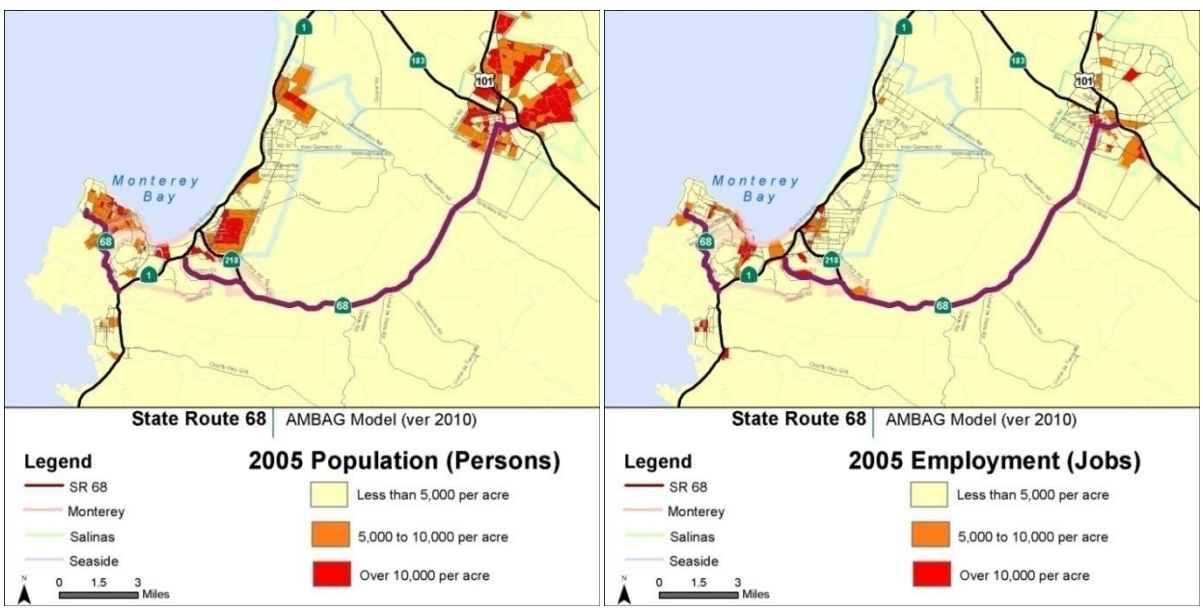
Table 3-1: Traffic Flow on SR 68

Segments	AMBAG Model (AADT)			Truck % of AADT Counts
	2005 AADT	2035 AADT	Growth (veh/yr)	2010
Segment 1 Sinex Ave (PM 0.00) to SR 1 (PM L4.26)	2,100 – 24,600	2,500 – 30,900	(-6) – 32	3.2 – 3.5%
Segment 2 SR 1 (PM L4.26) to Blanco Rd. (PM 19.97)	13,200 – 24,500	16,600 – 44,800	(-39) – 103	2.4 – 4.6%
Segment 3 Blanco Rd. (PM 19.97) to SR 101 (PM 22.02)	19,000 – 37,600	21,800 – 60,600	2 – 140	Up to 6.2%

Source: AMBAG Regional Travel Demand Model, Version 1.4. 2010 Truc k % from Caltrans Traffic Data Branch.

Population and Employment

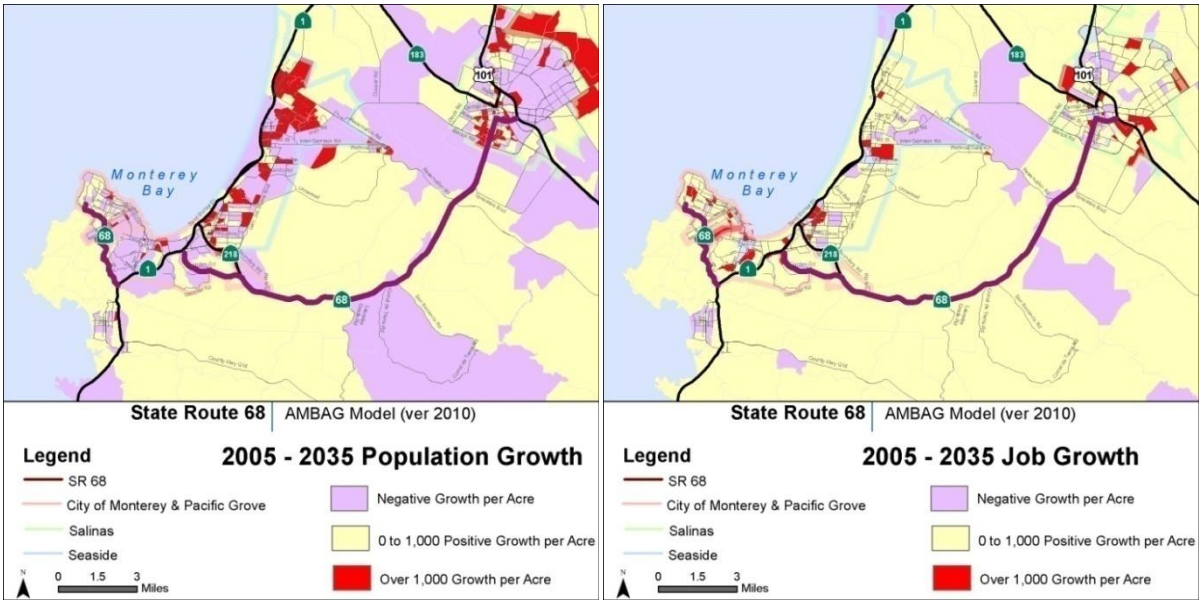
The Census data and AMBAG population growth forecast data summarized in Chapter 2 is the basis of the analysis presented in the figures below and throughout this chapter. Figure 3-2 shows 2005 population and employment, which are based on the AMBAG Model (Version 1.4). Monterey Bay residents are concentrated in city of Monterey, Pacific Grove and Seaside to the west and Salinas to the east. In the west, most jobs are service and retail related and are tourism based, accounting for 74% of the total jobs available. In these cities to the west, there are a total of 32,200 households and 37,200 jobs, with a jobs-to-housing ratio of 1.16. In the east, retail and service jobs account for 58% of total job, with government jobs accounting for another 24% of total jobs. There are a total of 35,400 households and 38,700 jobs in Salinas. The jobs-to-housing ratio in Salinas is 1.09.



Source: AMBAG Model, Version 1.4

Figure 3-2: 2005 Population and Jobs

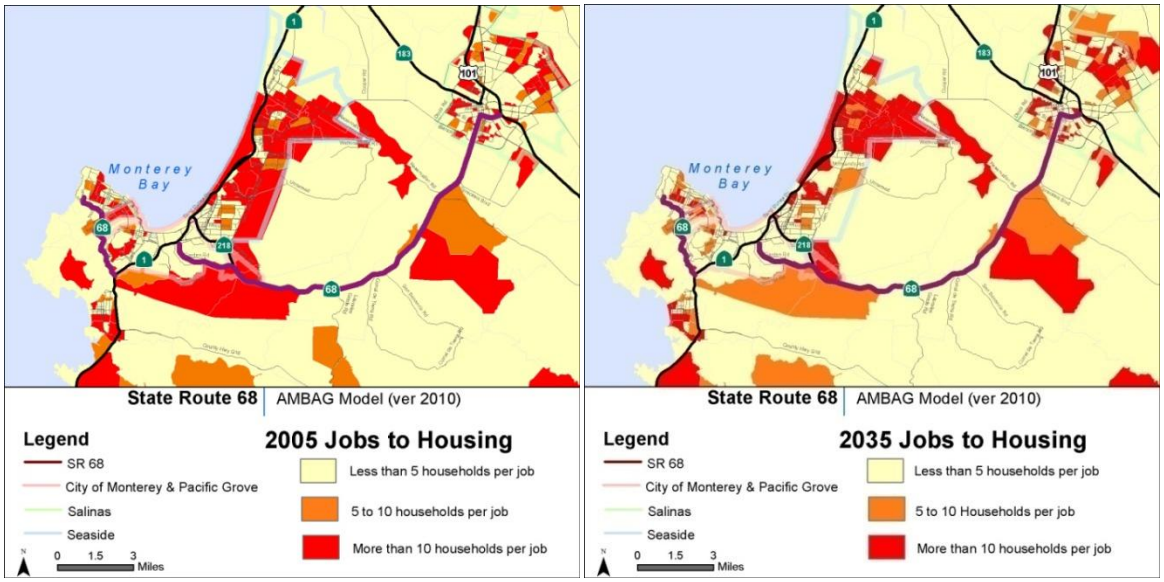
Figure 3-3 shows population and job growth from 2005 to 2035. Many areas experience a loss of population, perhaps due to workers moving closer to job opportunities. Population increases in Salinas and Seaside. Job growth occurs slightly in both Salinas and the city of Monterey.



Source: AMBAG Model, Version 1.4

Figure 3-3: 2005 to 2035 Jobs and Population Growth

Figure 3-4 shows jobs-to-housing in 2005 and 2035. The ratio of homes to jobs is relatively high in Seaside, Salinas, and areas south of SR-68, forcing some of these residents to commute farther north to work in such communities as San Jose, Watsonville, and Gilroy. The population and employment changes from 2005 to 2035 result in a slightly more balanced jobs-to-housing ratio in 2035 as opposed to 2005. The jobs-to-housing ratio in Seaside, city of Monterey, and Pacific Grove increases from 1.16 in 2005 to 1.31 in 2035. The jobs-to-housing ratio in Salinas increases from 1.09 in 2005 to 1.23 in 2035. A larger jobs-to-housing ratio in 2035 should reduce the commute demand on SR-68, and there are sections of Segment 1 and 2 that do experience negative traffic growth. In other areas surrounding SR 68, overall housing and job growth offsets these commute reduction benefits, leading to net positive traffic growth rates. Households and Jobs in this region increases by 9% and 23% respectfully from 2005 to 2035.



Source: AMBAG Model, Version 1.4

Figure 3-4: 2005 Versus 2035 Persons Per Job

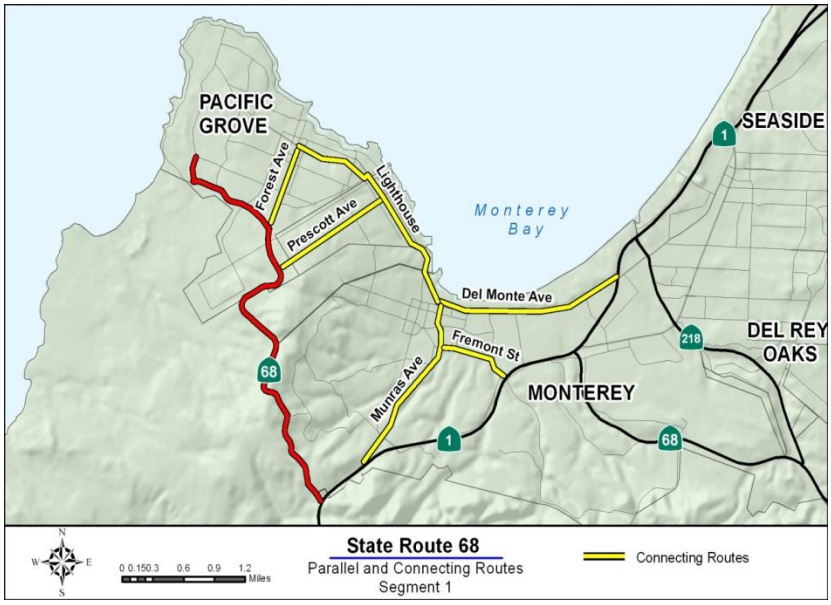
3.2 Parallel and Connecting Roadways

3.2.1 Other State and Local Routes

There is some potential relief in parallel routes that could siphon off congestion on SR 68. These routes can also be useful as access routes in disaster/security situations.

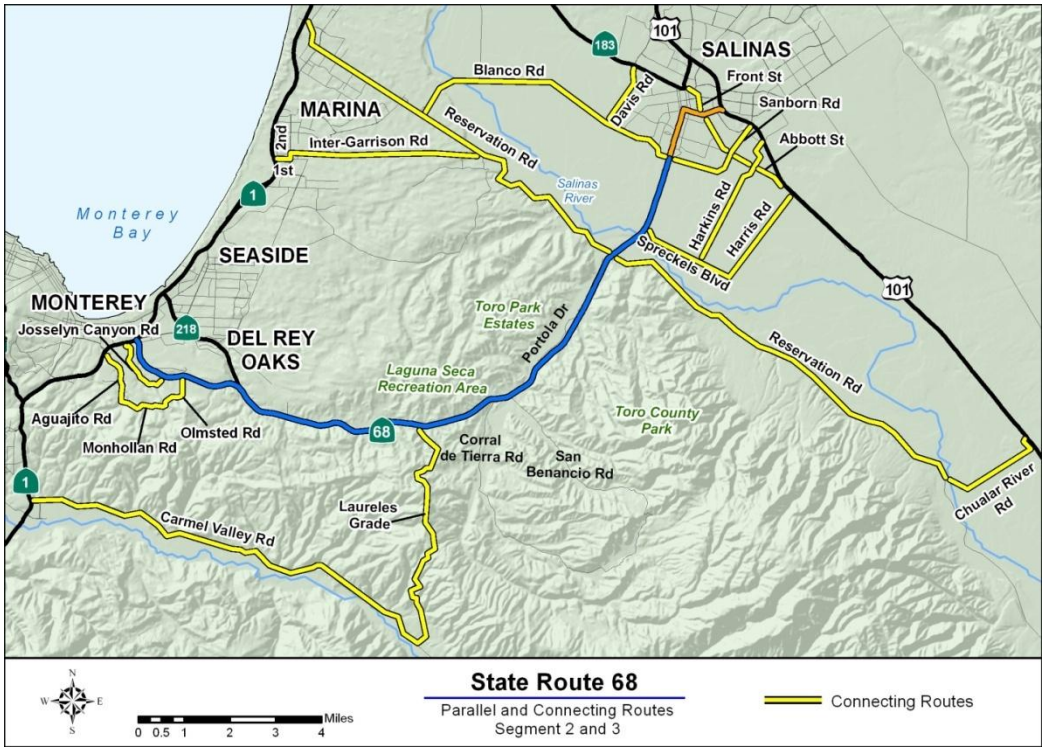
Pacific Grove can be accessed by Lighthouse Avenue to Monterey, then connecting with SR 1 via Del Monte Avenue. Figure 3-5 identifies parallel routes for Segment 1 but these routes are often congested.

A more promising alternative route exists for Segment 2, with Reservation Road connecting the Marina area with SR 68, bypassing most of Segment 2.



Source: System Planning Caltrans District 5

Figure 3-5: Parallel Route for Segment 1



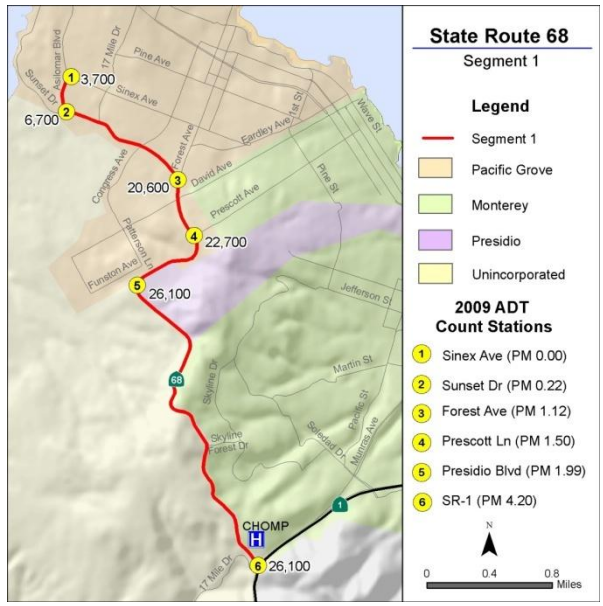
Source: System Planning Caltrans District 5

Figure 3-6: Parallel Route for Segment 2

3.3 Route Characteristics and Performance

3.3.1 Segment 1 (PM 0.00/L4.26) Asilomar State Park (Sinex Avenue) to SR 1

Segment 1 is approximately 4 miles in length. It begins in Pacific Grove at Sinex Avenue (PM 0.00) as a two lane facility. Traffic is light at 3,700 AADT, but within a mile it increases to 20,600 AADT at Forest Avenue, a main arterial that leads directly to downtown Pacific Grove. From Forest Avenue, SR 68 West serves as the main arterial. Adjacent land uses include commercial, public education facilities, and residential. The roadway continues, through the greenery of the Presidio of Monterey and Huckleberry Hill, a natural preserve. It then travels through streets connecting with residential areas. Just before Segment 1 ends, SR 68 passes by the entrance of Community Hospital of the Monterey Peninsula and the entrance to 17 Mile Drive, which are major attractors for SR 68 West with most trips coming from SR 1(L4.26).



Source: Advanced Planning Caltrans District 5

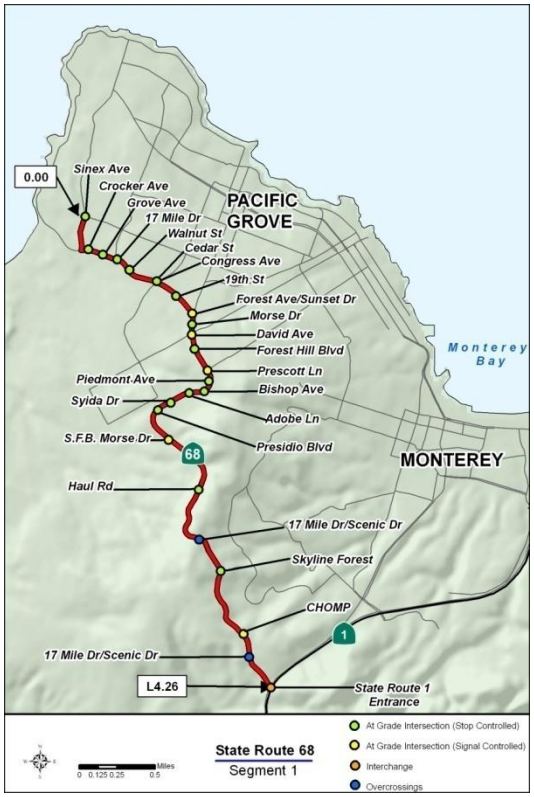
Figure 3-7: Segment 1

Route Characteristics

Segment 1 operates as a two-lane conventional highway, with 12 foot lanes and 2 to 8 foot outside shoulders. The segment extends for 4.26 miles over terrain that varies from flat to steep (grades over 6%). From Sinex Ave (PM 0.0), the speed limit along Segment 1 is 25 mph. Just past Forest Ave at PM 1.17, the speed limit increases to 35 mph and increases to 40 mph from PM 1.83 to SR 1 (PM 4.26).There are a few sharp curves between PM 1.17 and PM 3.90 with posted 30 mph limits (source: http://onramp/photolog/). There are 22 intersecting streets, including eighteen with stop signs and four that are signalized, as shown in figure 3-8.

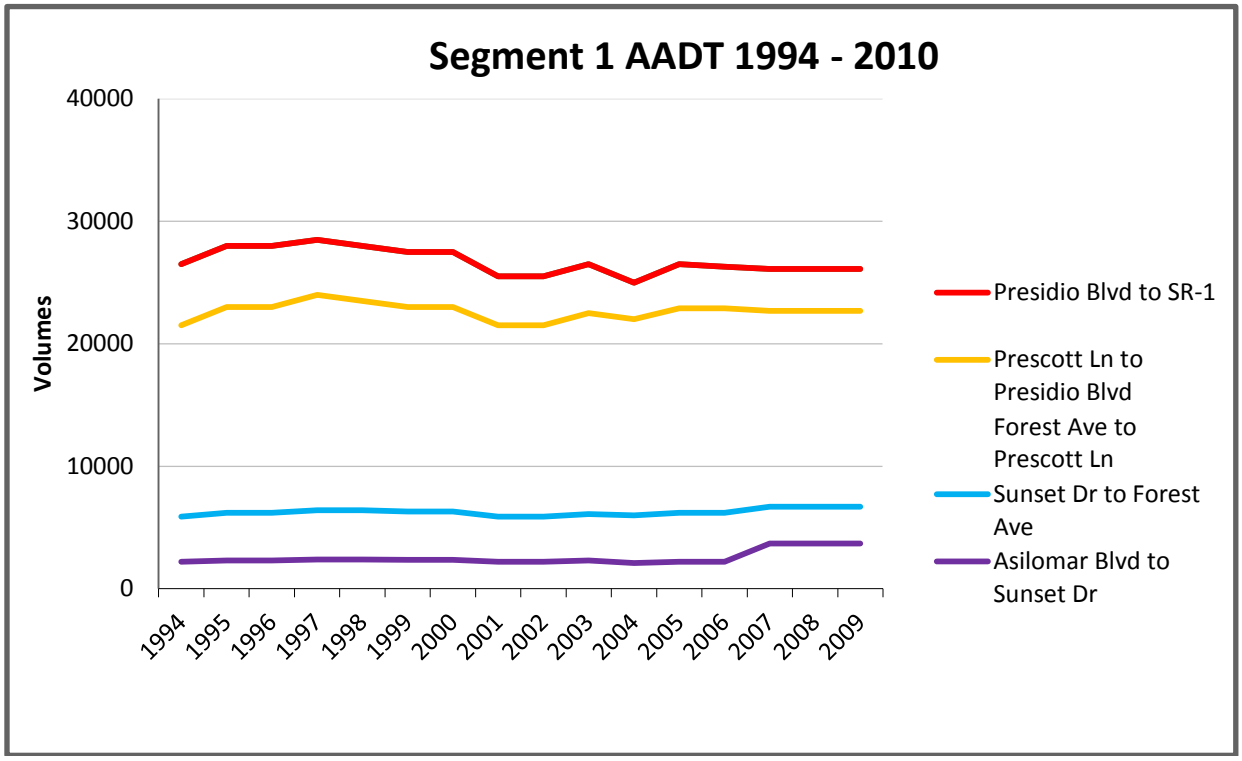
Route Performance

Figure 3-9 shows historic AADT, and Table 3-2 shows historic and model AADT along Segment 1. In 2010, AADT along Segment 1 ranged from 3,100 to 26,100 vehicles per day. Moving from west (Asilomar State Park) to east (SR 1), volumes rise as SR 68 increasingly serves local residential and commercial areas. Between 1994 and 2010, AADT remained relatively constant, which is consistent with the slow population growth in the surrounding area (Figure 3-2).



Source: System Planning Caltrans District 5

Figure 3-8: Intersections and Interchanges along Segment 1



Source: Count AADT from Caltrans Traffic Data Branch

Figure 3-9: Historic Traffic Volume Trends SR 68 Segment 1

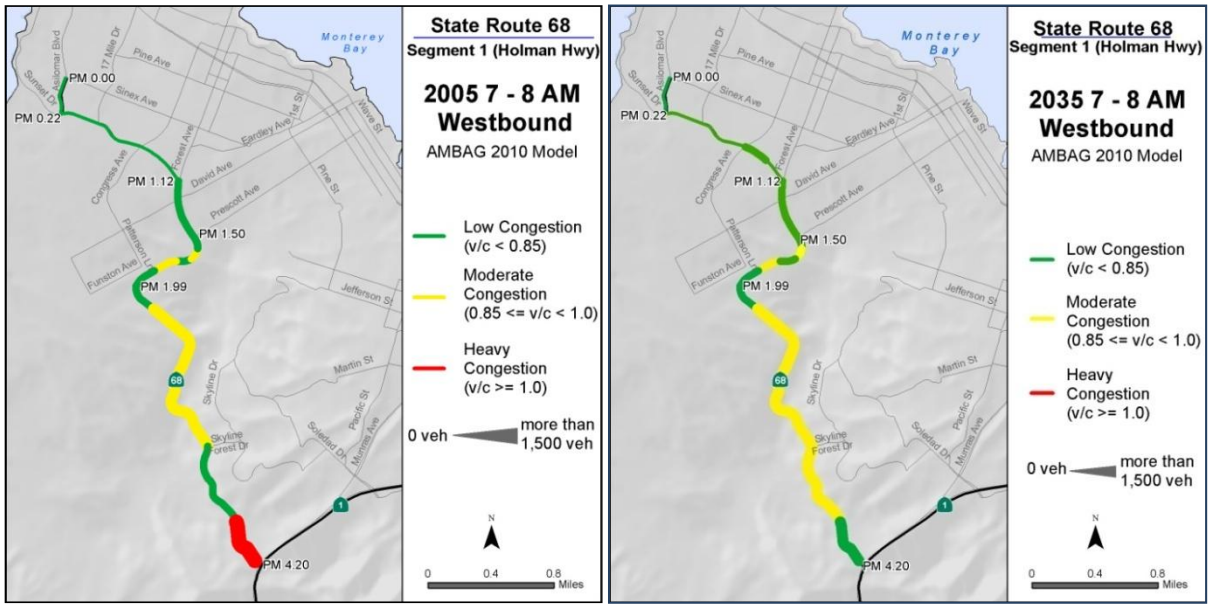
Historically, there has been little to no traffic growth along Segment 1. The AMBAG model predicts that traffic will continue to grow very slowly, and in some areas, grow at a negative rate. This is due mostly to housing and employment shifts in this region over the next thirty years, as explained earlier.

Table 3-2: 2010 and 2035 AADT for Segment 1

From	To	2010 Count AADT	2035 Model AADT
Sinex Ave. (PM 0.00)	Sunset Dr. (PM 0.22)	3,000-3,600	3,400 - 4,100
Sunset Dr. (PM 0.22)	Forest Dr. (PM 1.12)	6,500-14,000	6,600 -14,300
Forest Dr. (PM 1.12)	Prescott Ln. (PM 1.50)	20,000	19,800
Prescott Ln. (PM 1.50)	Presidio Blvd. (PM 1.99)	22,000-25,400	21,900 -25,300
Presidio Blvd. (PM 1.99)	SR-1 (PM L4.20)	25,400	26,200

Source: Count AADT from Caltrans Traffic Data Branch. Model AADT from AMBAG Model, Version 1.4

The AMBAG Model (Version 1.4) gives typical weekday peak hour (7 – 8 am and 5 – 6 pm) performance measures, as reported in Tables 3-3 to 3-10. A typical weekday experiences more vehicles traveling east as opposed to west along Segment 1 during the am peak hour, and vice versa for the pm hour. Furthermore, the am peak hour is generally more congested than the pm hour, causing a few instances of heavy congestion. The specific locations of bottlenecks and congestion will be detailed in the sections below.



Source: AMBAG Model, Version 1.4

Figure 3-10: 7-8 am Westbound Congestion along SR 68 Segment 1

Table 3-3: 7-8 am Westbound System Performance Measures along SR 68 Segment 1

SR-68 Segment 1		Projected Model Volumes		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
From	**To**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**
Sinex Ave. (PM 0.00)	Sunset Dr. (PM 0.22)	72	75	18.6	19.7	0.7	0.7	0.07-0.12	0.07-0.12
Sunset Dr. (PM 0.22)	Forest Dr. (PM 1.12)	70-450	75-503	295.3	325.7	9.5	10.6	0.12-0.63	0.12-0.58
Forest Dr. (PM 1.12)	Prescott Ln. (PM 1.50)	526-840	571-893	233.7	251.5	6.8	7.4	0.19-0.30	0.21-0.32
Prescott Ln. (PM 1.50)	Presidio Blvd. (PM 1.99)	655-942	673-959	577.1	597.8	16.3	17.1	0.24-0.94	0.24-0.97
Presidio Blvd. (PM 1.99)	SR-1 (PM L4.20)	954-1525	1,099-1,789	2,144.2	2,384.4	63.4	67.8	0.81-1.29	0.65-0.98

Source: AMBAG Model, Version 1.4

Table 3-4: 7-8 Westbound User Performance Measures along SR 68 Segment 1

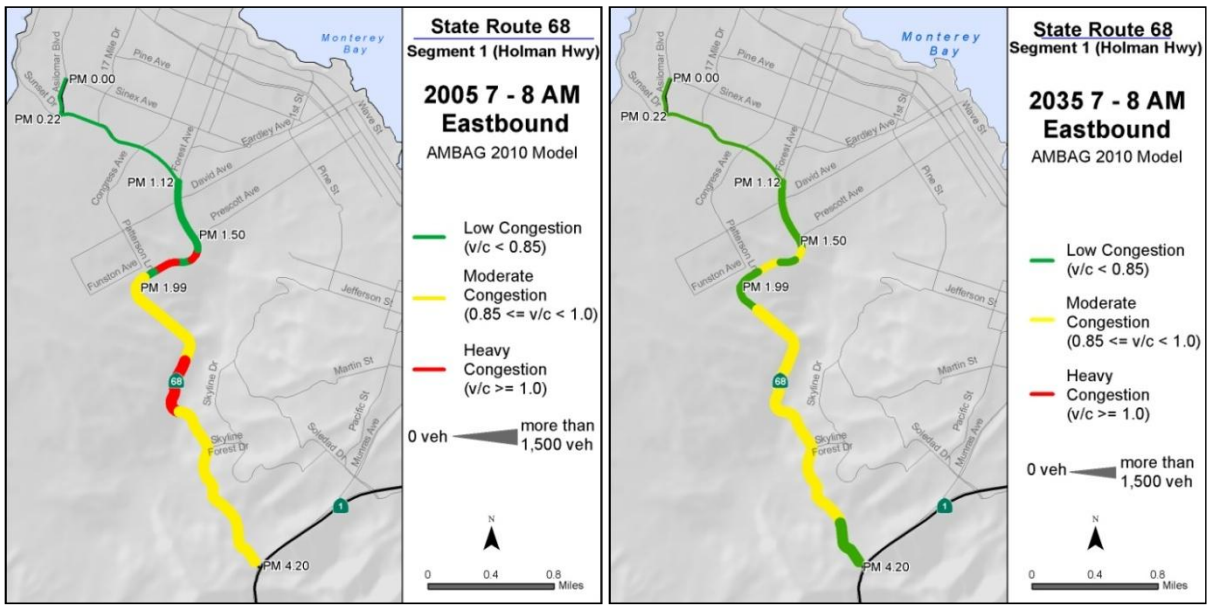
SR-68 Segment 1		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
From	**To**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**
Sinex Ave. (PM 0.00)	Sunset Dr. (PM 0.22)	19.3-29.7	19.3-29.7	0.55	0.55	0.00	0.00
Sunset Dr. (PM 0.22)	Forest Dr. (PM 1.12)	15.7-33.1	16.3-32.7	1.93	1.94	0.09	0.10
Forest Dr. (PM 1.12)	Prescott Ln. (PM 1.50)	33.8-34.5	33.6-34.4	0.67	0.67	0.01	0.02
Prescott Ln. (PM 1.50)	Presidio Blvd. (PM 1.99)	26.7-40.2	26.3-39.9	1.28	1.30	0.22	0.23
Presidio Blvd. (PM 1.99)	SR-1 (PM L4.20)	28.7-34.0	33.5-42.2	3.42	3.37	0.81	0.76

Source: AMBAG Model, Version 1.4

In 2005, westbound traffic experiences a bottleneck near CHOMP and 17 Mile Drive as they exit SR 1. This bottleneck ends and congestion is reduced significantly once vehicles travel beyond these two main attractors. By 2035, a 4-lane widening project just west of SR 1 should be constructed, alleviating the bottleneck and reducing congestion (from v/c = 1.29 in 2005 to v/c = 0.65 in 2035.)

On average, vehicles experience 1 minute worth of delay as they travel westbound from SR 1 to Prescott Lane during the am peak hour. As they continue to Sinex Avenue, they experience an additional 6 seconds of delay. It's important to note that the average delay per vehicle is based on average travel times along section of Segment 1 and does not include delay from an operational analysis of intersections along the segment.

Speeds for am westbound traffic is kept under 45 mph for both 2005 and 2035, mostly due to signals, stop signs, and sharp roadway curves. The 4-lane widening project near SR 1 allows vehicles to travel 42.2 mph in 2035 as opposed to 34 mph in 2005.



Source: AMBAG Model, Version 1.4

Figure 3-11: 8 am Eastbound Congestion along SR 68 Segment 1

Table 3-5: 7-8 am Eastbound System Performance Measures along SR 68 1

SR-68 Segment 1		Peak Hour Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
From	**To**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**
Sinex Ave. (PM 0.00)	Sunset Dr. (PM 0.22)	90	80	24.2	21.9	0.8	0.8	0.09-0.15	0.08-0.14
Sunset Dr. (PM 0.22)	Forest Dr. (PM 1.12)	90-510	80-560	230.4	210.4	7.6	7.0	0.15-0.83	0.14-0.91
Forest Dr. (PM 1.12)	Prescott Ln. (PM 1.50)	586-720	510-650	237.4	209.5	6.9	6.1	0.21-0.26	0.19-0.23
Prescott Ln. (PM 1.50)	Presidio Blvd. (PM 1.99)	720-1,000	660-960	617.9	580.8	17.9	16.4	0.72-1.01	0.24-0.94
Presidio Blvd. (PM 1.99)	SR-1 (PM L4.20)	1,130-1,210	1,100-1,170	2,264	2,212.8	67.3	63.0	0.96-1.02	0.42-0.99

Source: AMBAG Model, Version 1.4

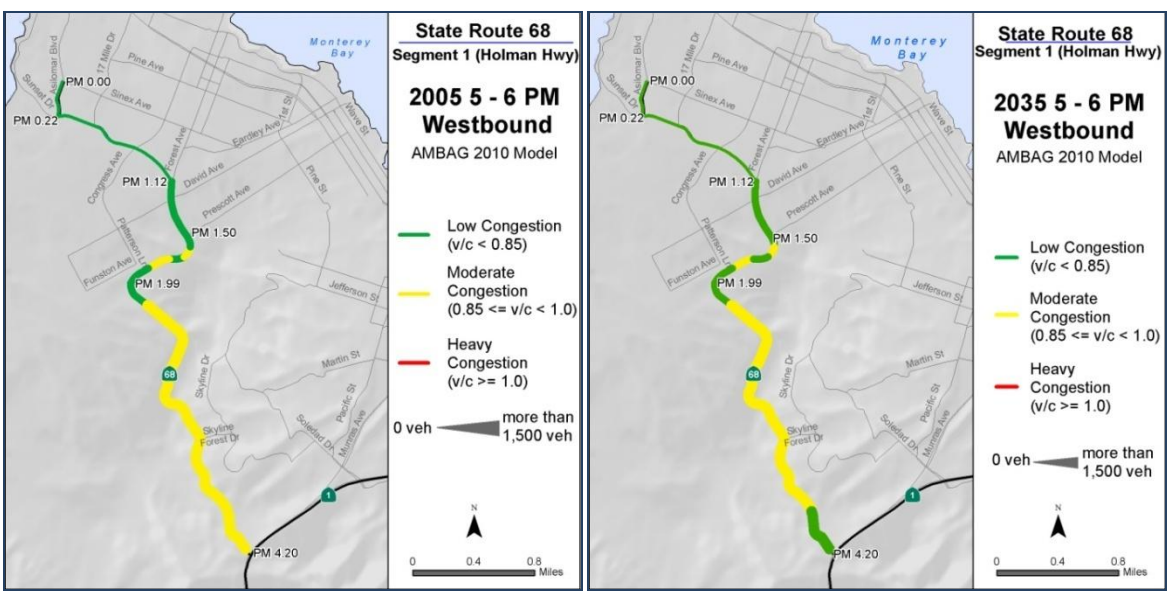
Table 3-6: 7-8 am Eastbound User Performance Measures along SR 68 Segment 1

SR-68 Segment 1		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
From	**To**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**
Sinex Ave. (PM 0.00)	Sunset Dr. (PM 0.22)	19.2-29.6	19.3-29.6	0.56	.56	0.00	0.00
Sunset Dr. (PM 0.22)	Forest Dr. (PM 1.12)	13.8-34.1	13.0-34.2	1.91	1.90	0.06	0.06
Forest Dr. (PM 1.12)	Prescott Ln. (PM 1.50)	34.1-34.4	34.2-34.5	0.67	0.67	0.01	0.01
Prescott Ln. (PM 1.50)	Presidio Blvd. (PM 1.99)	25.8-39.6	26.7-40.2	1.31	1.29	0.25	0.22
Presidio Blvd. (PM 1.99)	SR-1 (PM L4.20)	33.0-34.03	33.5-42.2	3.49	3.35	0.88	0.74

Source: AMBAG Model, Version 1.4

Traveling eastbound during the am peak, there are two bottlenecks that occur in 2005 between PM 1.50 and PM 1.99. These bottlenecks are alleviated slightly in 2035 due to a shift in demographics. Jobs-to-housing increases in 2035, alleviating some commuter travel impact (2005 volumes range from 720-1,000, versus 660-960 in 2035). Another bottleneck between PM 1.99 and PM 4.20 is also alleviated in 2035 for similar reasons.

Vehicles traveling eastbound from 7 – 8 am from Sinex Avenue (PM 0.0) to Prescott Lane (PM 1.5) experience insignificant delay in 2005 and 2035. Traveling from Prescott Lane (PM 1.5) to SR 1 (PM 4.20), vehicles experience just over 1 minute of delay in 2005 that decreases to under 1 minute of delay in 2035 due to the 4-lane widening project just west of SR 1. The average delay per vehicle is based on average travel times along section of Segment 1 and does not include delay from an operational analysis of intersections along the segment. Eastbound am speeds are below 45 mph for both 2005 and 2035, mostly due to signals, stop signs, and sharp roadway curves. The 4-lane widening project near SR-1 allows vehicles to travel 42.2 mph in 2035 as opposed to 34 mph in 2005.



Source: AMBAG Model Version 1.4

Figure 3-12: 5-6 pm Westbound Congestion along SR 68 Segment 1

Table 3-7: 5-6 pm Westbound System Performance Measures along SR 68 Segment 1

SR-68 Segment 1		Model Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
From	To	2005	2035	2005	2035	2005	2035	2005	2035
Sinex Ave. (PM 0.00)	Sunset Dr. (PM 0.22)	102	103	26.6	26.8	0.95	0.96	0.098-0.165	0.098-0.167
Sunset Dr. (PM 0.22)	Forest Dr. (PM 1.12)	102-456	103-450	232.8	232.4	7.65	7.64	0.165-0.739	0.167-0.728
Forest Dr. (PM 1.12)	Prescott Ln. (PM 1.50)	532-672	515-656	217.9	211.8	6.33	6.15	0.192-0.243	0.186-0.237
Prescott Ln. (PM 1.50)	Presidio Blvd. (PM 1.99)	653-902	657-917	565.0	570.7	15.9	16.1	0.236-0.939	0.237-0.944
Presidio Blvd. (PM 1.99)	SR-1 (PM L4.20)	1010-1122	1052-1210	2062.6	2145.5	58.80	59.96	0.856-0.951	0.436-0.935

Source: AMBAG Model, Version 1.4

Table 3-8: 5-6 pm Westbound User Performance Measures along SR 68 Segment 1

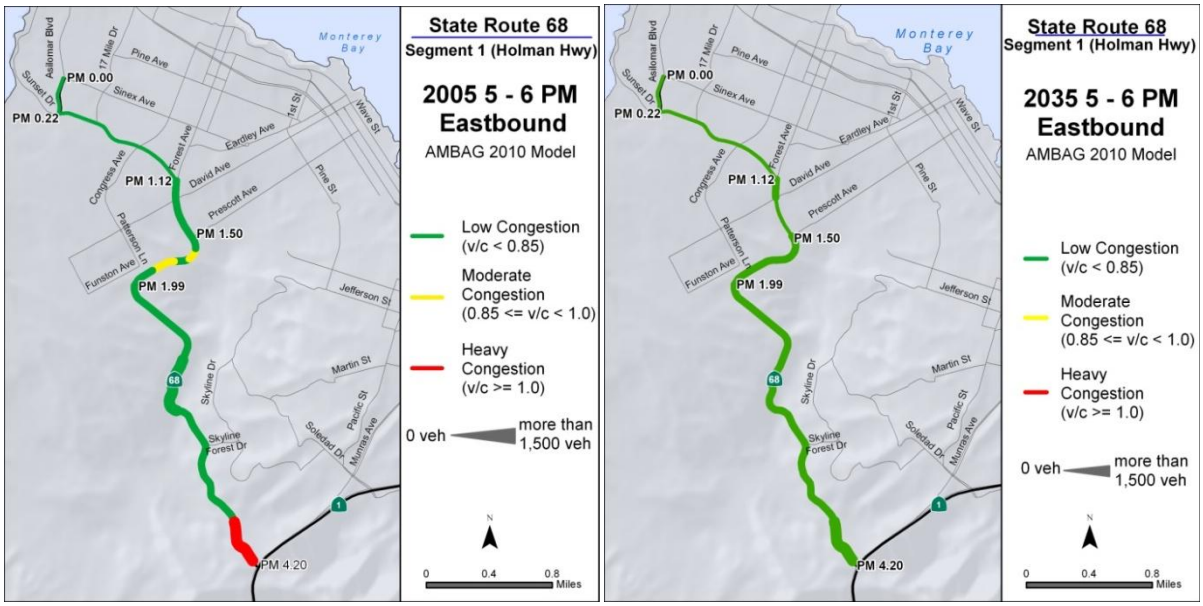
SR-68 Segment 1		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
From	To	2005	2035	2005	2035	2005	2035
Sinex Ave. (PM 0.00)	Sunset Dr. (PM 0.22)	19.2-29.6	19.2-29.6	0.56	0.56	0.00	0.00
Sunset Dr. (PM 0.22)	Forest Dr. (PM 1.12)	14.7-34.0	14.8-34.1	1.91	1.91	0.06	0.06
Forest Dr. (PM 1.12)	Prescott Ln. (PM 1.50)	34.2-34.5	34.2-34.5	0.67	0.67	0.01	0.01
Prescott Ln. (PM 1.50)	Presidio Blvd. (PM 1.99)	26.7-40.2	26.6-40.2	1.28	1.28	0.21	0.22
Presidio Blvd. (PM 1.99)	SR-1 (PM L4.20)	34.1-35.7	36.1-41.1	3.35	3.29	0.74	0.68

Source: AMBAG Model, Version 1.4

In 2005, westbound traffic from 5 – 6 pm is slightly lighter than in the am peak hour. Congestion is heaviest east of PM 1.50 (v/c = 0.95); however, in no instance does traffic demand exceed capacity.

On average, vehicles experience just below 1 minute of delay as they travel westbound from SR 1 (PM 4.20) to Prescott Lane (PM 1.50) during the pm peak hour. As vehicles continue westward towards Silex Avenue, they experience insignificant delay (4 seconds). It is important to note that the average delay per vehicle is based on average travel times along section of Segment 1 and does not include delay from an operational analysis of intersections along the segment.

Speeds for pm westbound traffic is kept under 45 mph for both 2005 and 2035, mostly due to signals, stop signs, and sharp roadway curves. The 4-lane widening project near SR 1 allows vehicles to travel 41.1 mph in 2035 as opposed to 34.1 mph in 2005.



Source: AMBAG Model, Version 1.4

Figure 3-13: 5-6 pm Eastbound congestion along SR 68 Segment 1

Table 3-9: 5-6 pm Eastbound System Performance Measures along SR 68 Segment 1

SR-68 Segment 1		Model Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
From	**To**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**
Sinex Ave. (PM 0.00)	Sunset Dr. (PM 0.22)	84	85	22.0	22.1	0.78	0.45	0.081-0.137	0.081-0.136
Sunset Dr. (PM 0.22)	Forest Dr. (PM 1.12)	84-408	85-403	263.2	264.6	8.50	8.54	0.137-0.635	0.138-0.636
Forest Dr. (PM 1.12)	Prescott Ln. (PM 1.50)	506-735	467-720	217.5	204.8	6.33	5.95	0.182-0.265	0.169-0.260
Prescott Ln. (PM 1.50)	Presidio Blvd. (PM 1.99)	623-875	568-835	543.0	506.8	15.06	13.77	0.225-0.899	0.205-0.824
Presidio Blvd. (PM 1.99)	SR-1 (PM L4.20)	885-1291	892-1388	1953.6	1967.9	55.01	52.47	0.750-1.094	0.501-0.834

Source: AMBAG Model, Version 1.4

Table 3-10: 5-6 pm Eastbound User Performance Measures along SR 68 Segment 1

SR-68 Segment 1		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
From	**To**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**
Sinex Ave. (PM 0.00)	Sunset Dr. (PM 0.22)	19.3-29.6	19.3-29.6	0.56	0.56	0.00	0.00
Sunset Dr. (PM 0.22)	Forest Dr. (PM 1.12)	15.7-33.6	15.7-33.5	1.91	1.92	0.06	0.07
Forest Dr. (PM 1.12)	Prescott Ln. (PM 1.50)	34.0-34.5	34.1-34.6	0.67	0.67	0.01	0.01
Prescott Ln. (PM 1.50)	Presidio Blvd. (PM 1.99)	27.2-40.6	26.6-41.2	1.26	1.24	0.20	0.17
Presidio Blvd. (PM 1.99)	SR-1 (PM L4.20)	31.8-37.4	36.1-41.1	3.28	3.15	0.67	0.54

Source: AMBAG Model, Version 1.4

In 2005, westbound traffic during the pm peak hour is relatively light except near SR 1, where there is some heavy congestion (v/c=1.1) just west of the interchange. This congestion is alleviated in 2035 because of the 4-lane widening (v/c=0.8). In 2035, congestion is light (v/c <= 0.83) throughout Segment 1.

On average, vehicles experience just below 1 minute of delay as they travel eastbound from Prescott Lane (PM 1.50) to SR 1 (PM 4.20) during 5-6 pm. From Sinex Avenue (PM 0.00) to Prescott Lane (PM 1.50), vehicles experience insignificant delay (4 seconds). It's important to note that the average delay per vehicle is based on average travel times along section of Segment 1 and does not include delay from an operational analysis of intersections along the segment.

Speeds for pm westbound traffic is kept under 45 mph for both 2005 and 2035, mostly due to signals, stop signs, and sharp roadway curves. The 4-lane widening project near SR 1 allows vehicles to travel 41.1 mph in 2035 as opposed to 37.4 mph in 2005.

Route Concept

Table 3-11 summarizes the existing facility, route concept, and the strategies to achieve the concept. Segment 1 serves the city of Pacific Grove and the city of Monterey. This segment is within an urbanized area with physical constraints that preclude widening the route. It is recommended that this segment be considered as a candidate for relinquishment.

Table 3-11: Route Concept for SR 68 Segment 1

Segment	Existing Facility	Route/Ultimate Concept	Strategies to Achieve Route/Ultimate Concept
Segment 1 Sinex Avenue (PM 0.00) to SR 1 (PM L 4.26)	Two-Lane Conventional Highway	Maintain a two-lane conventional highway.	Maintain existing urbanized area with signal control and when appropriate or as land use development considers operational improvements.

Source: System Planning Caltrans District 5

Recommended Strategies

Maintenance, preservation, and relinquishment. Since this segment serves primarily local users it is recommended that relinquishment of this segment be pursued. The following table identifies current projects proposed in the segment.

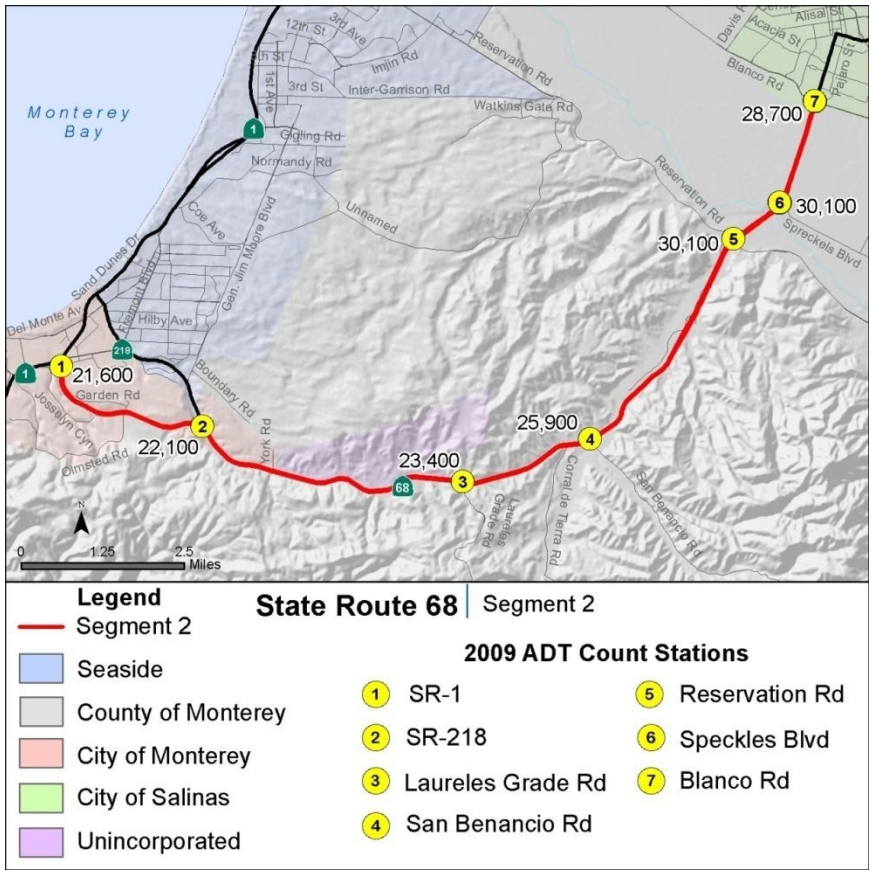
Table 3-12: Segment Highway Improvement Projects for SR 68 Segment 1

Segment 1
Planned: • Widen Holman Highway SR 68 to 4-lanes from CHOMP to Hwy 1 (2010 TAMC RTP).
Programmed: • From 0.2 KM west of CHOMP entrance to SR 1/68 separation. Widening & Intersection Improvements (city of Monterey lead agency).

Source: System Planning/Caltrans Status of Projects Central Region District 5 September 201

3.3.2 Segment 2 (PM R3.95/19.97) SR 1 Interchange to Blanco Road

Segment 2, also called SR 68 East, is a sixteen mile section beginning at the northern junction of SR 1 (PM R 3.95) and ending at Blanco Road (PM 19.97). Shoulders are generally 8 ft but vary 0 ft to 10 ft. The Monterey Airport is served by SR 68 East. This segment is the major traveled corridor between the Monterey Peninsula and the city of Salinas. Traffic counts show current ranges between 21,600 and 30,100 AADT.

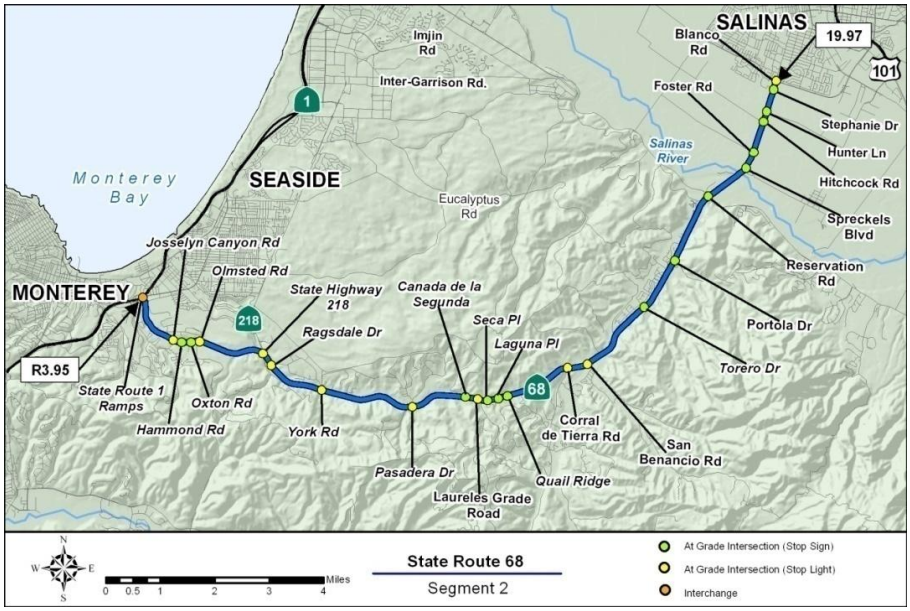


Source: Advanced Planning Caltrans District 5

Figure 3-14: Segment 2

Route Characteristics

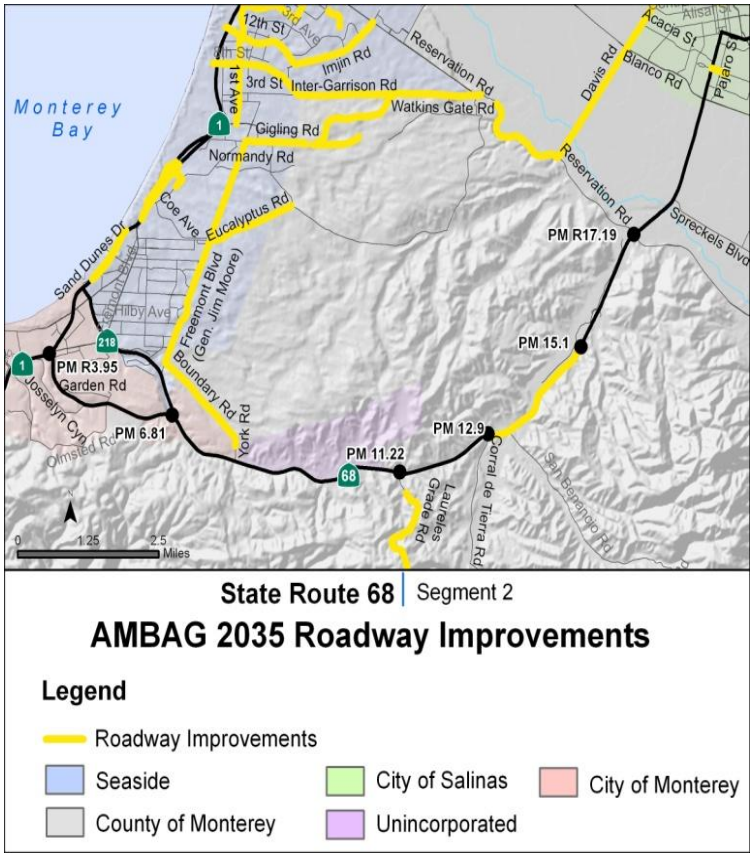
Segment 2 operates as both a conventional highway and a freeway. From SR 1 and heading east for 11.12 miles (near Toro Park), Segment 2 is a two-lane conventional highway, with 12 ft lanes and eight ft outside shoulders. The segment then operates as a four-lane freeway for 2.92 miles, with 12 ft lanes and 8 ft to 10 ft outside shoulders. From the end of the freeway to Blanco Road (PM 19.97), Segment 2 is a four-lane conventional highway with 12 ft lanes and 8 ft shoulders. In all, the segment extends over terrain that varies from flat to rolling. The speed limit along Segment 2 is 55 mph from SR 1 (PM 3.95) and changes to 65 mph at PM 15.26 (between San Benancio Road and Reservation Road) The speed limit reduces back to 55 mph just north of Speckles Boulevard (PM 18.43) and reduces to 45 mph just before Blanco Road (PM 19.72). There are 24 intersecting streets (including the entrance to Laguna Seca Track), with ten signalized intersections, and one freeway interchange, as shown in figure below 3-15.



Source: System Planning Caltrans District 5

Figure 3-15: Segment 2

The AMBAG model incorporates several roadway improvements in the 2035 network (Fig. 3-11) that affect future travel along SR 68 Segment 2. SR 1 just north of SR 218 (PM 79.6 to PM 82.0) has an additional lane added in each direction. General Jim Moore, a major arterial that runs parallel to SR 1, has 2 lanes added in each direction just north of SR 218 and continuing north to Gigling Road Laureles Grade Road (SR 68 PM 11.22) has 1 lane added in each direction. SR 68 from Corral de Tierra (PM 12.9) to PM 15.1 will have 1 lane in each direction added, improving this section to a 4-lane expressway. An additional lane in each direction along Davis Road between Reservation Road and Blanco Road will be added. The capacity increase along Inter-Garrison Road serve as an alternate east-west corridor joining the communities of Salinas and Seaside. The affect of these improvements on the performance of SR 68 Segment 2 will be discussed in the Route Performance section below.

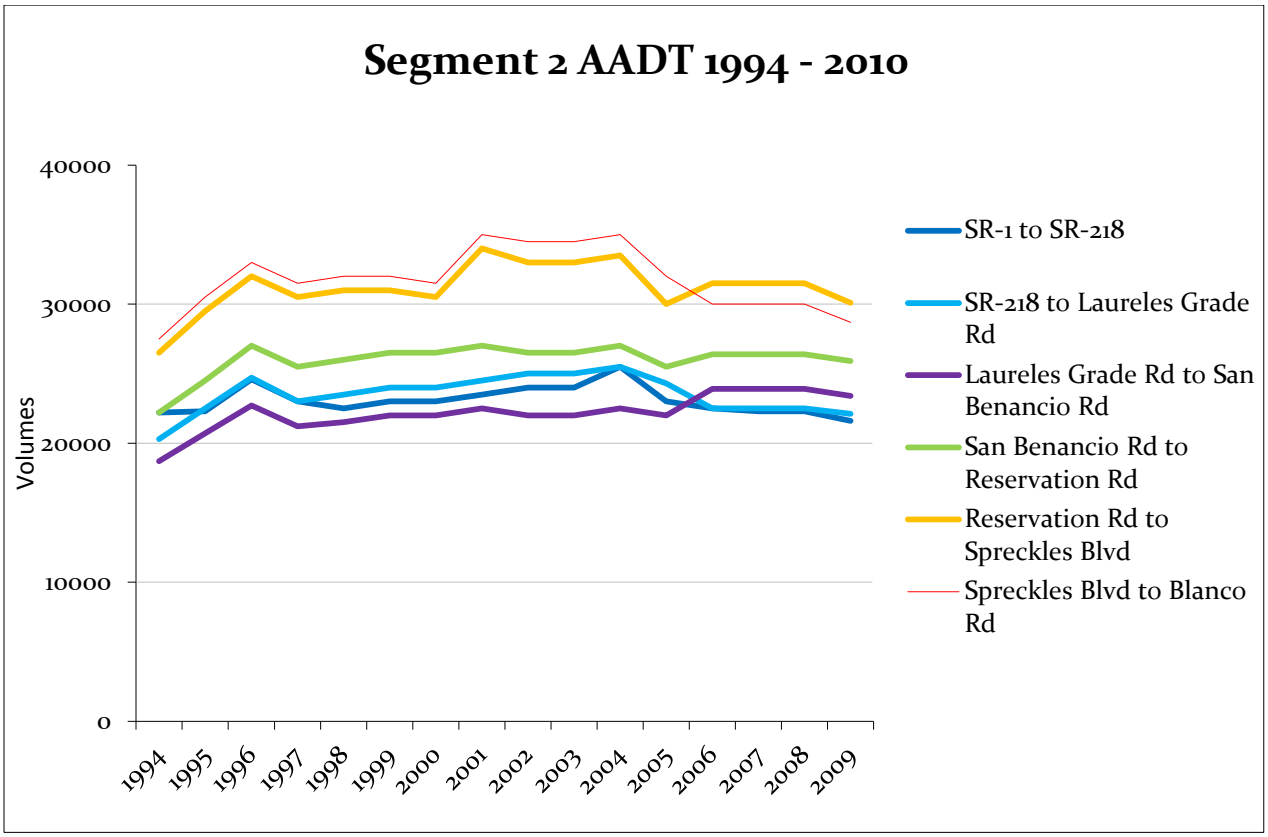


Source: Advanced Planning Caltrans District 5

Figure 3-16: 2035 AMBAG Roadway Improvements

Route Performance

Figure 3-17 show historic AADT along Segment 2 and Table 3-13 shows historic and model AADT. Between 1994 and 2010, AADT remained relatively constant, which is consistent with the slow population growth in the surrounding area (Figure 3-2). Volumes are highest between Reservation Road and Blanco Road, indicating that Reservation Road serves as an access point to housing and jobs to the west and beyond.



Source: Count AADT from Caltrans Traffic Data Branch

Figure 3-17: SR 68 Segment 2 AADT

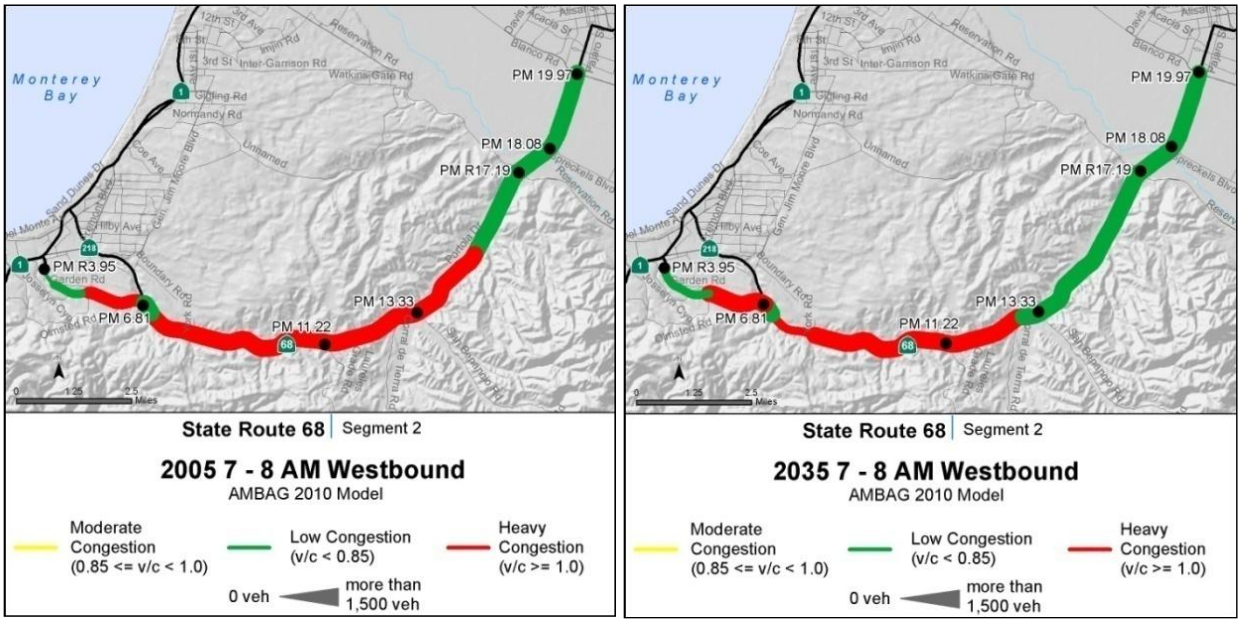
Historically, there has been little to no traffic growth along Segment 2. Table 3-13 shows that the AMBAG model predicts that traffic will have little to no growth from SR-1 (PM R3.95) to Laureles Grade Road (PM 11.22). This is due mostly to the lack of additional capacity to meet expected demand. The regional model also includes housing and employment shifts which may start to alleviate traffic demand on SR-68 in the region over the next thirty years.

Table 3-13: 2010 and 2035 AADT for Segment 2

From	To	2010 Count AADT	2035 Model AADT
SR 1 (PM R3.95)	SR 218 (PM 6.81)	21,600-21,700	20,000-20,100
SR 218 (PM 6.81)	Laureles Grade Rd. (PM 11.22)	22,100	22,800
Laureles Grade Rd. (PM 11.22)	San Benancio Rd. (PM 13.33)	23,400	25,100
San Benancio Rd. (PM 13.33)	Reservation Rd. (PM R17.19)	25,900	28,300
Reservation Rd. (PM R17.19)	Spreckels Blvd. (PM 18.08)	30,100	34,300
Spreckels Blvd. (PM 18.08)	Blanco Rd. (PM 19.97)	28,700	31,600

Source: Count AADT from Caltrans Traffic Data Branch. Model growth % from AMBAG Model Version 1.4

The AMBAG Model (Version 1.4) gives typical weekday peak hour (7 – 8 am and 5 – 6 pm) performance measures, as reported in Tables 3-14 to 3-21. A typical weekday driver experiences heavy congestion traveling west as opposed to light congestion traveling east along Segment 2 during the am peak hour, and vice versa for the pm peak hour. Furthermore, the am peak hour is generally more congested than the pm peak hour. These patterns suggest that many people living in Salinas work on the Monterey Peninsula. Although there is population and housing growth in this region, traffic impacts are minimized east of PM 12.9 because 2 lanes are being added in both directions of SR 68 between Corral de Tierra (PM 12.9) to PM 15.1. Specific locations of bottlenecks and congestion will be detailed in the sections below.



Source: AMBAG Model, Version 1.4

Figure 3-18: 7-8 am Westbound Congestion along SR 68 Segment 2

Table 3-14: 7-8 am Westbound System Performance Measures along SR 68 Segment 2

	SR-68 Segment 2		Model Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
	From	To	2005	2035	2005	2035	2005	2035	2005	2035
A	SR 1 (PM R3.95)	SR 218 (PM 6.81)	735 - 1220	586 -1535	2465	2651	92.2	107.95	0.262–1.036	0.198-1.301
B	SR 218 (PM 6.81)	Laureles Grade Rd. (PM 11.22)	1530-1833	1725-2265	7393.8	8601	335.3	453.69	0.524-1.553	0.614-1.919
C	Laureles Grade Rd. (PM 11.22)	San Benancio Rd. (PM 13.33)	2051-2058	2546-2611	4331.2	5387	129.8	176.38	1.738-1.744	0.763-2.158
D	San Benancio Rd. (PM 13.33)	Reservation Rd. (PM R17.19)	1851-1986	2446-2547	7189.2	9332.6	167.3	184.72	0.491-1.683	0.646-0.744
E	Reservation Rd. (PM R17.19)	Spreckels Blvd. (PM 18.08)	1606-2305	2100-2850	592.0	2254.8	21.8	41.95	0.441-0.633	0.576-0.782
F	Spreckels Blvd. (PM 18.08)	Blanco Rd. (PM 19.97)	1937-2174	2145-2452	3718.6	4146.2	77.9	88.89	0.532-0.745	0.588-0.840

Source: AMBAG Model, Version 1.4

Table 3-15: 7-8 am Westbound User Performance Measures along SR 68 Segment 2

	SR-68 Segment 2		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
	From	To	2005	2035	2005	2035	2005	2035
A	SR 1 (PM R3.95)	SR 218 (PM 6.81)	10.9-35.4	12.7-35.8	5.59	5.84	1.20	1.45
B	SR 218 (PM 6.81)	Laureles Grade Rd. (PM 11.22)	20.1-35.8	16.5-35.7	11.97	13.70	4.73	6.46
C	Laureles Grade Rd. (PM 11.22)	San Benancio Rd. (PM 13.33)	33.3-33.4	28.4-46.4	3.79	4.14	1.36	1.71
D	San Benancio Rd. (PM 13.33)	Reservation Rd. (PM R17.19)	34.1-55.9	46.6-54.6	5.16	4.40	1.06	0.30
E	Reservation Rd. (PM R17.19)	Spreckels Blvd. (PM 18.08)	55.1-56.1	52.9-55.5	0.96	0.99	0.01	0.04
F	Spreckels Blvd. (PM 18.08)	Blanco Rd. (PM 19.97)	38.9-55.7	37.3-55.4	2.27	2.32	0.20	0.25

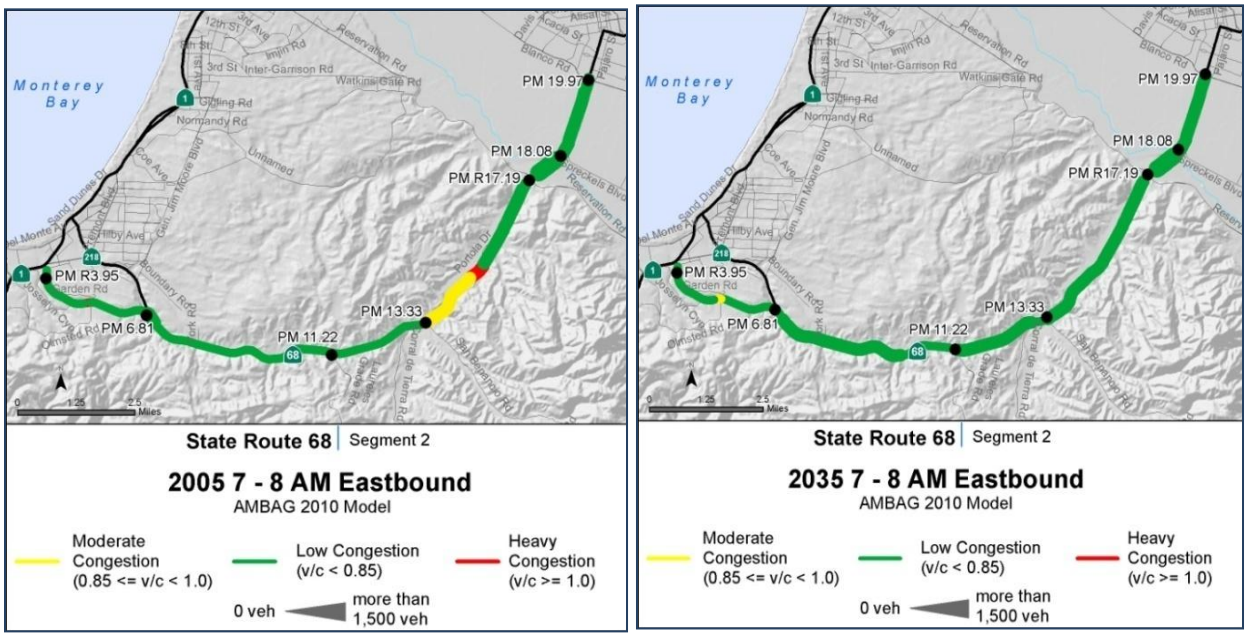
Source: AMBAG Model, Version 1.4

In both 2005 and 2035, SR 68 experiences its worst congestion in the am westbound direction. Congestion is heaviest between PM 5.2 and PM 13.1 (v/c <= 2.2). From SR 1 (PM R3.95) to PM 5.2, SR 68 starts out with light congestion (2005 v/c = 0.3, 2035 v/c = 0.2), but just east of PM 5.2, SR 68 constricts to 2 lanes, causing a bottleneck that extends to SR 218 (PM 6.81). Between SR 218 (PM 6.81) and PM 7.1, 68 widens back to 4 lanes and congestion becomes light (v/c ranges between 0.5 and 0.6). East of PM 7.1, SR-68 narrows to 2 lanes. A six mile long bottleneck extends from this point to east of PM 13.1, where demand can exceed capacity by over 2 fold (2005 v/c reaches 1.7, 2035 v/c reaches 2.2). A

widening project from Corral de Terra Road (PM 12.9) to PM 15.1 helps alleviate traffic. Before the project is constructed, v/c ratios reach a magnitude of 1.7. After construction, v/c drops to 0.7. From Reservation Road (PM R17.19) to Blanco Road (PM 19.97), congestion remains light in both 2005 (v/c < 0.7) and 2035 (v/c < 0.8).

On average, it takes a vehicle 30 minutes to traverse Segment 2 in the 2005 am westbound direction, with 9 of those minutes attributed to delay. Although there is traffic growth between 2005 and 2035, vehicles experience just slightly more delay (1 minute) if they traverse the entire segment. From SR 218 (PM 6.81) to Laureles Grade Road (PM 11.2) vehicles experience over six minutes of delay in 2035, as opposed to 5 minutes in 2005. Whereas from San Benancio Road (PM 13.33) to Reservation Road (PM R17.19), delay is reduced from over 1 minute in 2005 to just 0.3 minutes, due to a widening project. It is important to note that the average delay per vehicle is based on average travel times along section of Segment 1 and does not include delay from an operational analysis of intersections along the segment.

Within the two bottlenecks along Segment 2, speeds are kept between 11 mph and 36 mph. Speeds outside of these bottlenecks approach 56 mph. The 4-lane widening project near San Benancio Road (PM 13.33) allows vehicles to travel 47 mph in 2035 as opposed to 34 mph in 2005.



Source: AMBAG Model, Version 1.4

Figure 3-19: 7-8 am Eastbound Congestion along SR 68 Segment 2

Table 3-16: 7-8 am Eastbound AMBAG System Performance Measures along SR 68 Segment 2

	SR-68 Segment 2		Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
	From	**To**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**
A	SR 1 (PM R3.95)	SR 218 (PM 6.81)	619-789	559-675	1869	1630	63.3	53.0	0.267-1.051	0.228-0.867
B	SR 218 (PM 6.81)	Laureles Grade Rd. (PM 11.22)	619-1094	503-881	3181	2589	97.4	76.6	0.389-0.636	0.314-0.556
C	Laureles Grade Rd. (PM 11.22)	San Benancio Rd. (PM 13.33)	911-923	787-804	1940	1686.9	42.0	35.2	0.772-0.782	0.230-0.681
D	San Benancio Rd. (PM 13.33)	Reservation Rd. (PM R17.19)	1080-1203	969-1080	4225	3805	83.9	70.2	0.321-1.003	0.283-0.314
E	Reservation Rd. (PM R17.19)	Spreckels Blvd. (PM 18.08)	963-1532	857-1543	1115	1077	19.9	19.2	0.264-0.420	0.235-0.423
F	Spreckels Blvd. (PM 18.08)	Blanco Rd. (PM 19.97)	1232-1297	1082-1144	2365	2074	46.4	40.4	0.345-0.444	0.303-0.392

Source: AMBAG Model, Version 1.4

Table 3-17: 7-8 am Eastbound AMBAG User Performance Measures along SR 68 Segment 2

	SR-68 Segment 2		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
	From	**To**	**2005**	**2035**	**2005**	**2035**	**2005**	**2035**
A	SR 1 (PM R3.95)	SR 218 (PM 6.81)	10.7-35.4	12.3-35.6	5.37	5.19	0.67	0.49
B	SR 218 (PM 6.81)	Laureles Grade Rd. (PM 11.22)	31.7-38.4	32.6-39.1	8.18	7.86	0.94	0.62

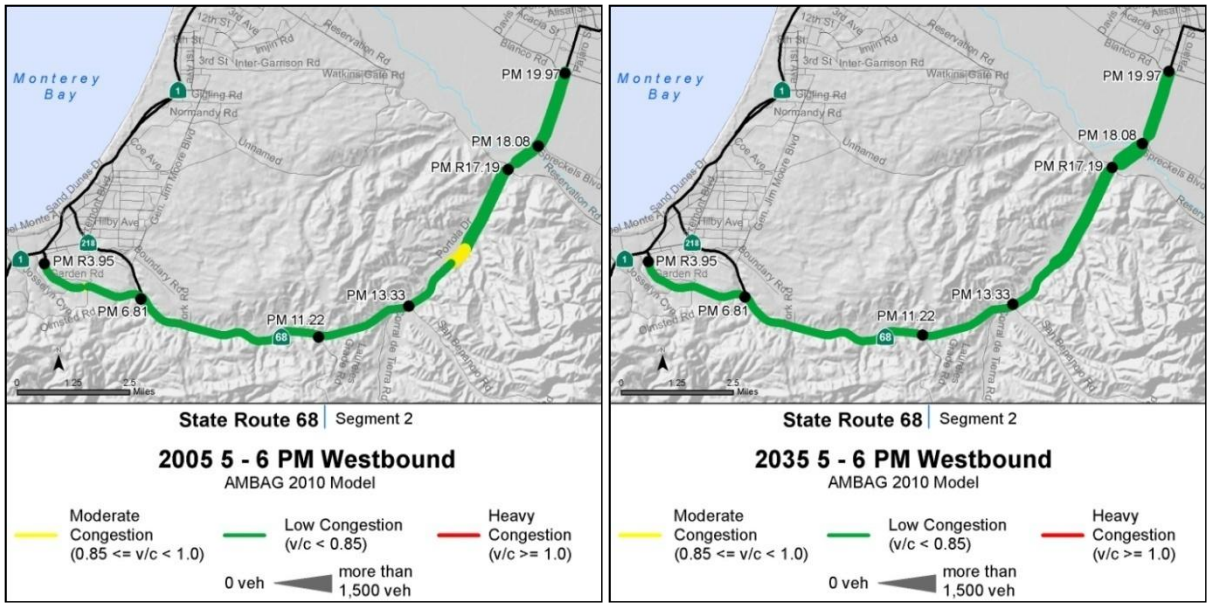
Continuation of Table 3-17: Population

C	**Laureles Grade Rd. (PM 11.22)**	**San Benancio Rd. (PM 13.33)**	**46.1-46.3**	**47.3-51.3**	**2.74**	**2.63**	**0.31**	**0.20**
D	San Benancio Rd. (PM 13.33)	Reservation Rd. (PM R17.19)	44.5-56.2	51.0-56.2	4.40	4.08	0.36	0.04
E	Reservation Rd. (PM R17.19)	Spreckels Blvd. (PM 18.08)	56.1-56.2	56.1-56.3	0.94	0.94	0.00	0.00
F	Spreckels Blvd. (PM 18.08)	Blanco Rd. (PM 19.97)	43.4-56.2	44.1-56.2	2.20	2.18	0.08	0.06

Source: AMBAG Model, Version 1.4

In 2005, Segment 2 traffic flow in the am eastbound direction is heaviest between San Benancio Road (PM 13.33) and Reservation Road (PM 17.19), with volumes exceeding capacity in some locations (v/c = 1.003). This congestion is alleviated considerably in 2035 (v/c <= 0.3) due to adding 2 lanes in each direction. A second bottleneck (v/c = 1.05) occurs just east of PM 5.2, where SR 68 constricts to 2 lanes. This bottleneck is alleviated slightly in 2035 (v/c = 0.87), due to slightly lower traffic volumes. There are future roadway improvements along Boundary Road which may be drawing away some SR 68 traffic in 2035. The rest of SR 68 experiences light congestion.

On average, it takes a vehicle 24 minutes to traverse Segment 2 in the 2005 am eastbound direction, with 2 of those minutes attributed to delay. Due to roadway improvement projects and decreased traffic along sections of Segment 2 in 2035, vehicles experience slightly less delay (1 minute). Most delay occurs from SR 1 to Laureles Grade Road, near the bottleneck at PM 5.2, where speeds drop to less than 15 mph in 2005 and 2035. East of Laureles Grade Road (PM 11.22), delay is insignificant for both 2005 and 2035, where speeds can exceed 56 mph.



Source: AMBAG Model, Version 1.4

Figure 3-20: 7-8 am Eastbound Congestion along SR 68 Segment

Table 3-18: 5-6 pm Westbound AMBAG System Performance Measures along SR 68 Segment 2

	SR-68 Segment 2		Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
	From	To	2005	2035	2005	2035	2005	2035	2005	2035
A	SR 1 (PM R3.95)	SR 218 (PM 6.81)	601-705	571-645	1587.6	1507.9	52.71	49.03	0.239-0.906	0.218-0.805
B	SR 218 (PM 6.81)	Laureles Grade Rd. (PM 11.22)	992-1359	626-915	3213.5	3071.0	98.87	93.8	0.3533-0.647	0.326-0.644
C	Laureles Grade Rd. (PM 11.22)	San Benancio Rd. (PM 13.33)	866-869	850-869	1827.9	1823.2	39.16	38.45	0.734-0.736	0.249-0.736
D	San Benancio Rd. (PM 13.33)	Reservation Rd. (PM R17.19)	967-1035	971-1054	3732.3	3775.7	73.57	70.26	0.268-0.874	0.271-0.305
E	Reservation Rd. (PM R17.19)	Spreckels Blvd. (PM 18.08)	841-1372	866-1512	1023.1	1105.0	18.21	19.68	0.231-0.376	0.238-0.415
F	Spreckels Blvd. (PM 18.08)	Blanco Rd. (PM 19.97)	1054-1126	1042-1110	1951.7	1929.6	38.08	37.62	0.289-0.386	0.287-0.380

Source: AMBAG Model, Version 1.4

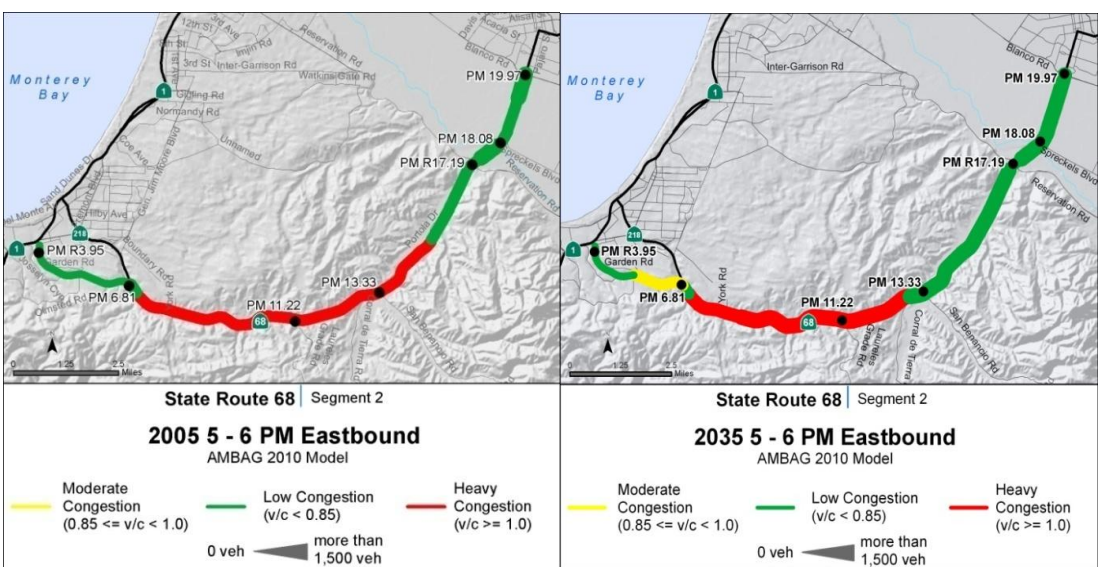
Table 3-19: 5-6 pm Westbound AMBAG User Performance Measures along SR 68 Segment 2

	SR-68 Segment 2		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
	From	To	2005	2035	2005	2035	2005	2035
A	SR 1 (PM R3.95)	SR 218 (PM 6.81)	12.0-35.6	12.8-35.7	4.92	4.85	0.54	0.67
B	SR 218 (PM 6.81)	Laureles Grade Rd. (PM 11.22)	31.6-38.7	31.6-39.0	8.18	8.11	0.94	0.87
C	Laureles Grade Rd. (PM 11.22)	San Benancio Rd. (PM 13.33)	46.7	46.7-51.2	2.71	2.66	0.28	0.23
D	San Benancio Rd. (PM 13.33)	Reservation Rd. (PM R17.19)	45.7-56.2	51.0-56.2	4.40	4.15	0.29	0.04
E	Reservation Rd. (PM R17.19)	Spreckels Blvd. (PM 18.08)	56.2-56.3	56.1-56.3	0.95	0.95	0.00	0.00
F	Spreckels Blvd. (PM 18.08)	Blanco Rd. (PM 19.97)	44.0-56.2	44.2-56.2	2.13	2.13	0.06	0.06

Source: AMBAG Model, Version 1.4

In 2005, Segment 2 traffic flow in the pm westbound direction experiences light to medium congestion, with 2005 volumes reaching 90% of capacity near PM 5.2, where SR 68 constricts to 2 lanes. In 2035, roadway improvements along South Boundary Road may draw away some SR 68 traffic, relieving some of this congestions (v/c = 0.8). 2005 volumes also reach 87% of capacity near South San Benancio Road (PM 13.33); however, the additional 2 lanes in each direction in 2035 removes most congestion (v/c = 0.3). The rest of SR 68 experiences light congestion.

On average, it takes a vehicle 23 minutes to traverse Segment 2 in the 2005 pm westbound direction, and slightly longer in 2035, with 2 to 3 of those minutes attributed to delay. Due to roadway improvement projects on and near Segment 2 and shifts in population and employment, by 2035 vehicles are able to travel between 44 mph and 56 mph east of Laureles Grade Road (PM 11.22), very similar to 2005 conditions. Vehicles slow down to 12 mph near the bottleneck at PM 5.2.



Source: AMBAG Model, Version 1.4

Figure 3-21: Year 2035 am and pm Congestion along SR 68 Segment 2

Table 3-20: 5-6 pm Eastbound AMBAG System Performance Measures along SR 68 Segment 2

	SR-68 Segment 2		Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
	From	To	2005	2035	2005	2035	2005	2035	2005	2035
A	SR 1 (PM R3.95)	SR 218 (PM 6.81)	590-904	558-1107	2064.6	2226.9	69.19	77.93	0.231-0.831	0.205 - 0.938
B	SR 218 (PM 6.81)	Laureles Grade Rd. (PM 11.22)	1188-1359	1267-1674	5560.4	6444.2	209.55	277.54	0.465-1.152	0.500 - 1.419
C	Laureles Grade Rd. (PM 11.22)	San Benancio Rd. (PM 13.33)	1438-1443	1877-1884	3037.4	3966.1	75.34	98.48	1.218-1.223	0.549 - 1.597
D	San Benancio Rd. (PM 13.33)	Reservation Rd. (PM R17.19)	1371-1421	1840-1903	5154.6	6895.0	107.63	130.90	0.376-1.196	0.505 - 0.541
E	Reservation Rd. (PM R17.19)	Spreckels Blvd. (PM 18.08)	1140-1691	1500-2132	1262.1	1616.6	22.50	29.03	0.313-0.464	0.411 - 0.585
F	Spreckels Blvd. (PM 18.08)	Blanco Rd. (PM 19.97)	1405-1606	1521-1743	2776.1	3008.3	55.60	60.76	0.385-0.550	0.420 - 0.597

Source: AMBAG Model, Version 1.4

Table 3-21: 5-6 pm Eastbound AMBAG User Performance Measures along SR 68 Segment 2

	SR-68 Segment 2		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
	From	To	2005	2035	2005	2035	2005	2035
A	SR 1 (PM R3.95)	SR 218 (PM 6.81)	12.6-35.6	13.0-35.8	5.43	5.59	0.73	0.90
B	SR 218 (PM 6.81)	Laureles Grade Rd. (PM 11.22)	25.0-37.6	21.7-37.1	9.98	11.08	2.74	3.84
C	Laureles Grade Rd. (PM 11.22)	San Benancio Rd. (PM 13.33)	40.3-40.4	35.2-48.8	3.13	3.41	0.70	0.98
D	San Benancio Rd. (PM 13.33)	Reservation Rd. (PM R17.19)	40.7-56.2	48.8-55.9	4.60	4.09	0.56	0.06
E	Reservation Rd. (PM R17.19)	Spreckels Blvd. (PM 18.08)	56.0-56.2	55.4-56.1	0.94	0.95	0.00	0.01
F	Spreckels Blvd. (PM 18.08)	Blanco Rd. (PM 19.97)	42.0-56.2	41.2-56.1	2.23	2.25	0.11	0.13

Source: AMBAG Model, Version 1.4

In 2005, the Segment 2 pm eastbound direction experiences very heavy congestion from PM 7.0 to PM 15.2 due to high commuter demand (v/c = 1.2). This congestion is most pronounced from SR 218 (PM 6.81) to Laureles Grade Road (PM 11.22), where vehicles experience an average of 2.7 minutes of delay. In 2035, this delay increases to 3.8 minutes per vehicle. In 2005, congestion slowly dissipates as vehicles

move eastward from Laureles Grade Road (PM11.22), with the least amount of delay (0 minutes) occurring near Reservation Road (PM R17.19) and then increasing slightly as vehicles approach Blanco Road. In 2035, roadway improvements along SR 68 from Corral de Tierra (PM 12.9) to PM 15.1 reduces congestion from heavy to light (v/c = 0.5). But just west of Corral de Tierra (PM 12.9), where SR 68 remains a 2 lane facility in 2035, congestion is at its highest (v/c = 1.6). This bottleneck extends west to pm 7.0. Some medium congestion also occurs west of SR 218 (PM 6.81) in 2035 (v/c = 0.9) due to capacity restrictions.

On average, it takes a vehicle 26 minutes to traverse Segment 2 in the 2005 pm eastbound direction (compared to 23 minutes traveling westbound). In 2035, travel time increases slightly to 27 minutes, with 6 minutes attributed to delay. The most significant delay occurs between SR 218 (PM 6.81) and Laureles Grade Road (PM 11.22), where vehicles in 2005 experience 2.7 minutes of delay. Because capacity constraints are not addressed, delay increases to 3.8 minutes in 2035. East of PM 13.33, delay drops considerably in 2035 due to roadway improvements, with vehicles experiencing an average of 0.2 minutes of delay compared to 0.7 minutes in 2005. In 2035, vehicles are able to travel between 35 mph and 56 mph east of Laureles Grade Road (PM 11.22), very similar to 2005 conditions. Vehicles slow down to 13 mph near the bottleneck at PM 5.2 in both 2005 and 2035.

Route Concept

Based on the analysis in the previous sections, the route concept for this segment is to develop a four-lane conventional highway with a continuous left-turn channelization or a four-lane access controlled freeway on a new bypass alignment. This segment serves as a major commute corridor for users between the Monterey Peninsula and the greater Salinas area. The corridor experiences delay and reduced speed during peak hours.

Table 3-22: Route Concept for SR 68 Segment 2

Segments	Existing Facility	Route/Ultimate Concept	Strategies to Achieve Route/Ultimate Concept
Segment 2 SR 1 (PM L 4.26) to Blanco Rd. (PM 19.97)	Two to Four-Lane Conventional Highway/Freeway	Four-lane access control conventional highway with continuous left-turn channelization or access control of new alignment.	Evaluate capacity improving projects within the corridor such as: Widen existing alignment to a four-lane facility with contours left turn channelization or bypass alignment four-lane, access controlled.

Source: System Planning Caltrans District 5

Recommended Strategies

To improve congestion, operations, and safety within this segment the following strategies are recommended: access management modal options, operational improvements, system expansion, and parallel road network. Caltrans has consistently stated that proposed new access points will be denied unless measures are implemented that not only mitigate the delay or conflict, but go beyond and provide a net benefit to the motoring public. Such mitigation could include: significant highway widening to address the control delay of a new signal; or, closing two or more existing driveways in exchange for one new connection. It is recommended that additional corridor analysis be completed for

Segment 2, in order to determine scenarios that would address access management and existing operational deficiencies within SR 68.

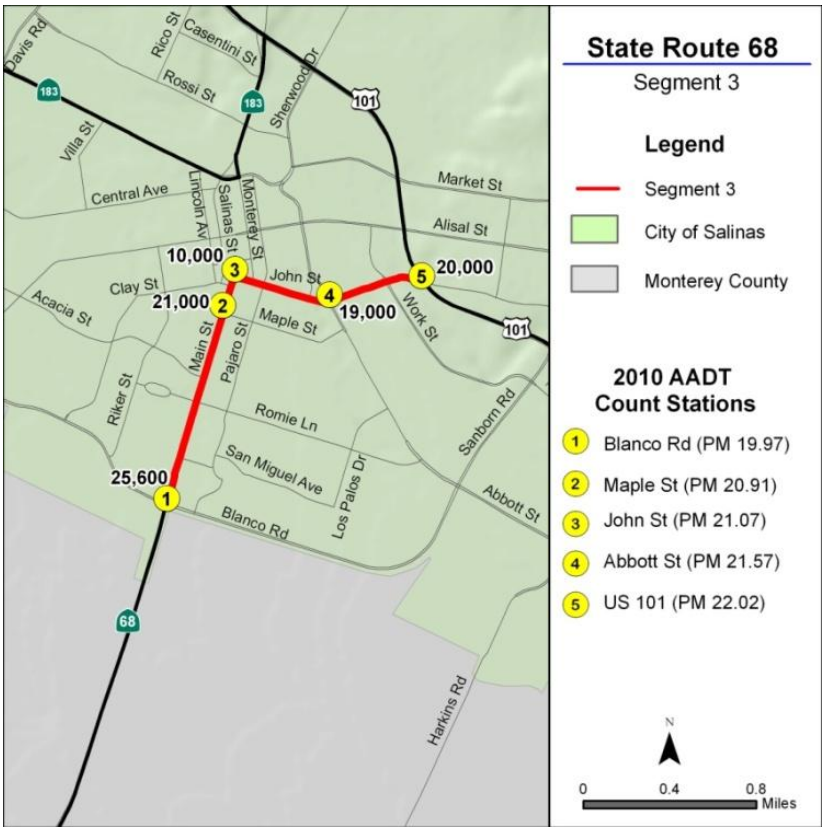
Table 3-23: Segment Highway Improvement Projects for SR 68 Segment 2

Segment 2
Concept: • Widen SR 68 from existing 4 lane sections west to Corral de Tierra (2010 TAMC RTP).
Planned: • Construct 4-lane bypass along Fort Ord ROW or widen existing roadway to 4-lanes (MON-68-4.0/15.0) (2010 TAMC RTP).
Programmed: • Corral De Tierra Intersection Improvements. Construct Dual WB Left Turn Lanes • Near Salinas at Salinas River bridge No. 44-0040 R/L Bridge Widening

Source: System Planning/Caltrans Status of Projects Central Region District 5 September 201

3.1.1 Segment 3 (PM 19.97/22.02) Blanco Road to US 101

SR 68 Segment 3 begins at Blanco Road (PM 20.00) and continues as Main St until it reaches John St (PM 21.07), at which point it is called John Street before ending at the junction with US 101 (PM 22.00). SR 68 through the city of Salinas passes through a highly developed business area before entering a stretch of several miles of agricultural lands.

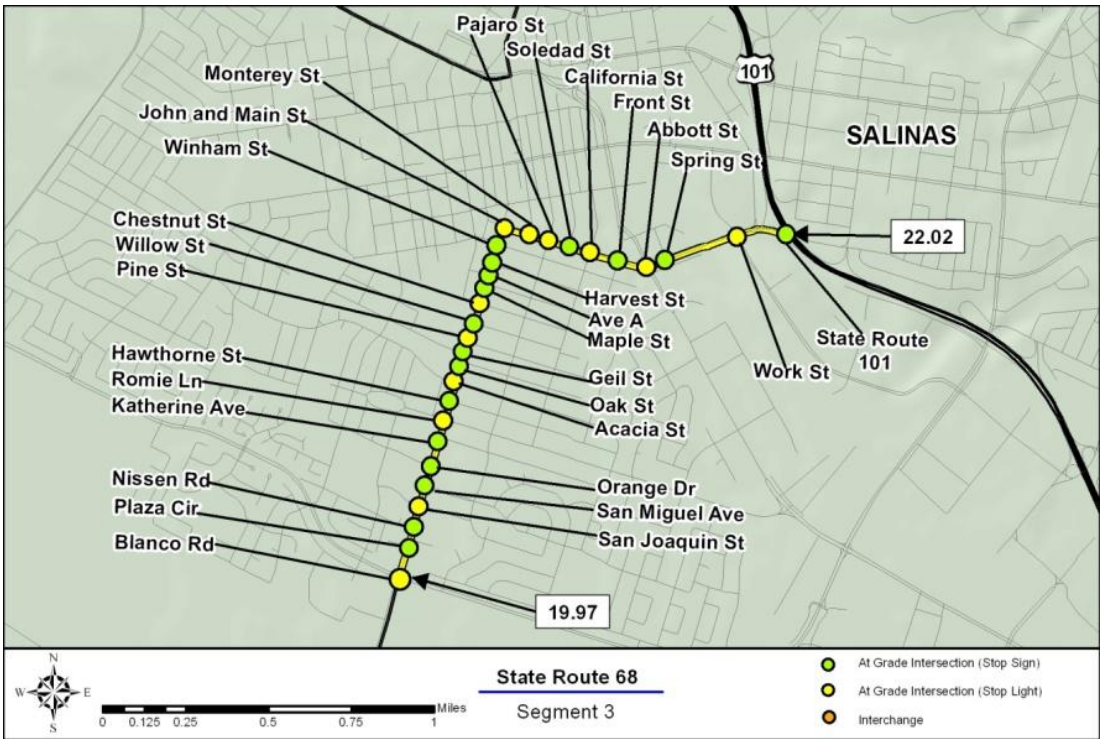


Source: Advanced Planning Caltrans District 5

Figure 3-22: Segment 3 location map

Route Characteristics

Segment 3 maintains a four lane configuration but is no longer access controlled. Segment 3 operates as a four-lane conventional highway and functions as a major arterial. Lane widths are 12 feet, and there are curbs, gutters and partial bike lanes. The segment extends for 2.05 miles through mostly flat terrain. The speed limit along Segment 3 varies between 30 mph and 35 mph. From Blanco Road through the city of Salinas there are many intersecting streets, with twelve signalized intersections, as shown in figure 3-23 below. Synchronizing the signal timing within Segment 3 is essential for improving performance.

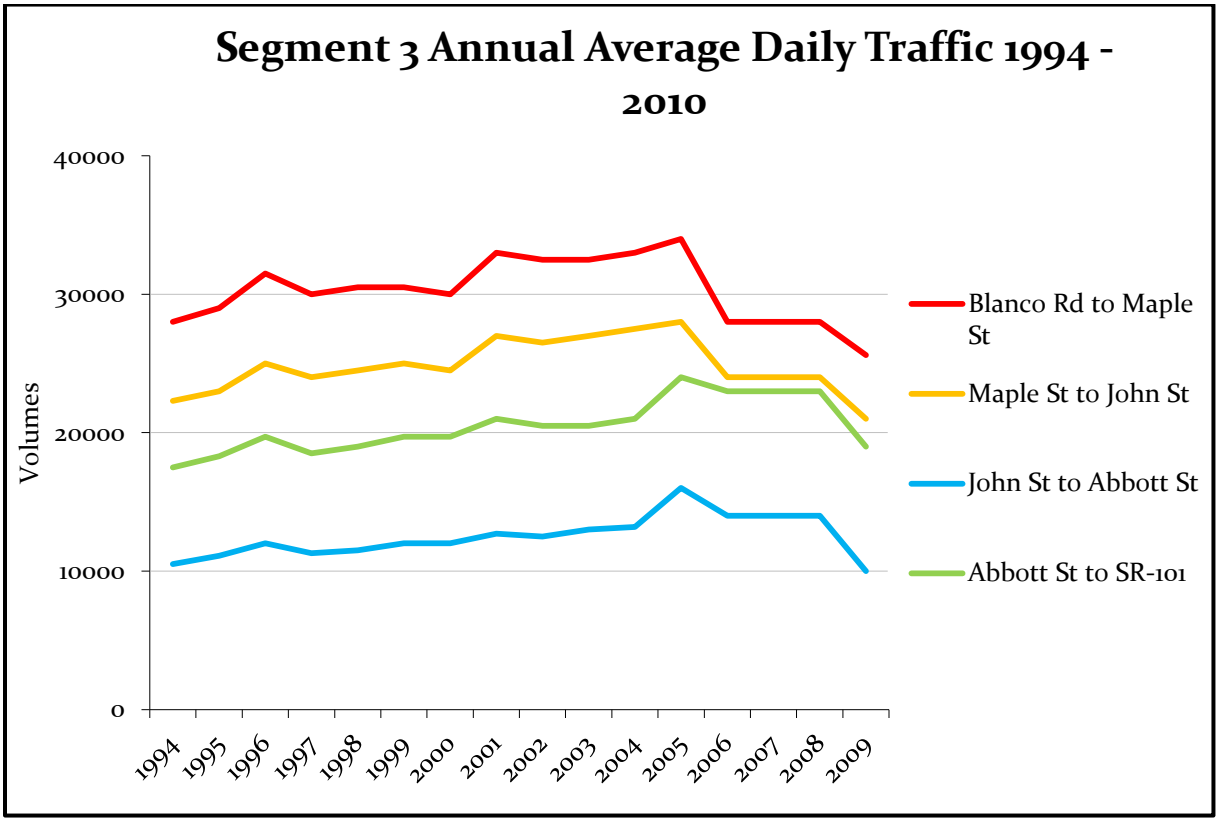


Source: System Planning Caltrans District 5

Figure 3-23: Segment 3 Intersections

Route Performance

Figure 3-24 shows historic AADT, and Table 3-24 shows historic and model AADT along Segment 3. In 2010, AADT along Segment 3 ranged from 10,000 to 25,600 vehicles per day. Daily volumes are highest at Blanco Road (PM 19.97) with volumes reaching 25,600 vpd. Traffic decreases steadily as vehicles approach John St, reaching a low of 10,000 vpd. From John St to US 101, traffic becomes heavier, reaching 20,000 vpd at US 101.



Source: Count AADT from Caltrans Traffic Data Branch

Figure 3-24: Historic Traffic Volume Trends SR 68 Segment 3

Between 1994 and the mid-2000s, volumes increased along Segment 3, reflecting growth in population in Salinas and growth in employment in the cities of Salinas and Monterey. However, with the economic downturn in the late 2000s, travel decreased along the entire segment. By 2035, given the large expected growth in jobs and housing in Salinas, daily volumes along Segment 3 are expected to increase again in the core of Salinas between John/Main St (PM 21.07) and US 101 (PM 22.02), with minimal to negative growth occurring west of John/Main St (PM 21.07).

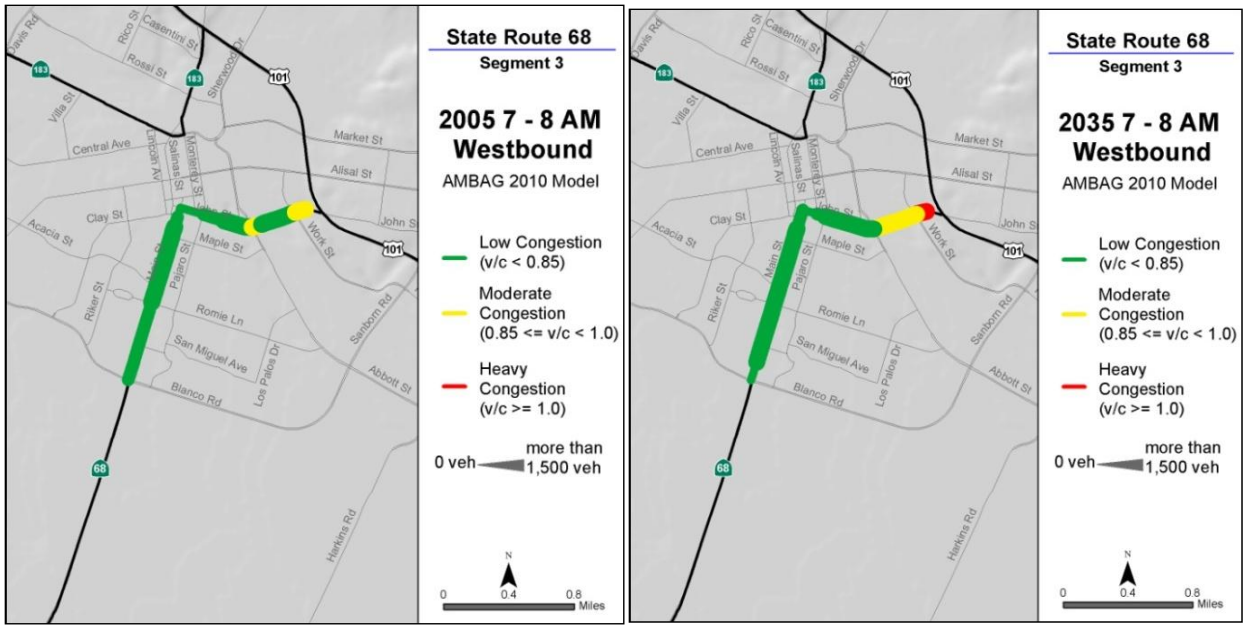
Table 3-24: 2010 and 2035 AADT for Segment 3

From	To	2010 Count AADT	2035 Model AADT
Blanco Rd. (PM 19.97)	Maple St. (PM 20.91)	25,600	25,600
Maple St. (PM 20.91)	John/Main St. (PM 21.07)	21,000	21,200
John/Main St. (PM 21.07)	Abbott St. (PM 21.57)	10,000 – 11,400	11,200 -12,700
Abbott St. (PM 21.57)	US 101 (PM 22.02)	19,000 – 20,000	20,700-21,800

Source: Count AADT from Caltrans Traffic Data Branch. AADT uses growth rates from AMBAG Model, Version 1.4

The AMBAG Model (Version 1.4) gives typical weekday peak hour (7 – 8 am and 5 – 6 pm) performance measures, as reported in Tables 3-3 to 3-10. A typical weekday experiences more vehicles traveling west as opposed to east along Segment 3 during the am peak hour, and vice versa for the pm hour. Furthermore, the am peak hour is generally more congested than the pm hour, causing a few instances

of heavy congestion. The specific locations of bottlenecks and congestion will be detailed in the sections below.



Source: AMBAG Model, Version 1.4

Figure 3-25: 7-8 am Westbound Congestion along SR 68 Segment 3

Table 3-25: 7-8 am Westbound System Performance Measures along SR 68 Segment 3

	SR-68 Segment 2		Model Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
	From	To	2005	2035	2005	2035	2005	2035	2005	2035
A	Blanco Rd. (PM 19.97)	Maple St . (PM 20.91)	1308-1726	1402-1767	1372.7	1450.9	50.56	54.33	0.472-0.622	0.506-0.637
B	Maple St. (PM 20.91)	John/Main St. (PM 21.07)	1273-1547	1429-1654	256.6	278.9	13.76	15.37	0.459-0.558	0.515-0.596
C	John/Main St. (PM 21.07)	Abbott St (PM 21.57)	877-1801	981-1988	644.6	723.0	26.8	31.14	0.316-0.649	0.354-0.717
D	Abbott St. (PM 21.57)	US 101 (PM 22.02)	2460-2645	2765-3044	859.1	970.1	36.8	44.72	0.832-0.895	0.936-1.030

Source: AMBAG Model, Version 1.4

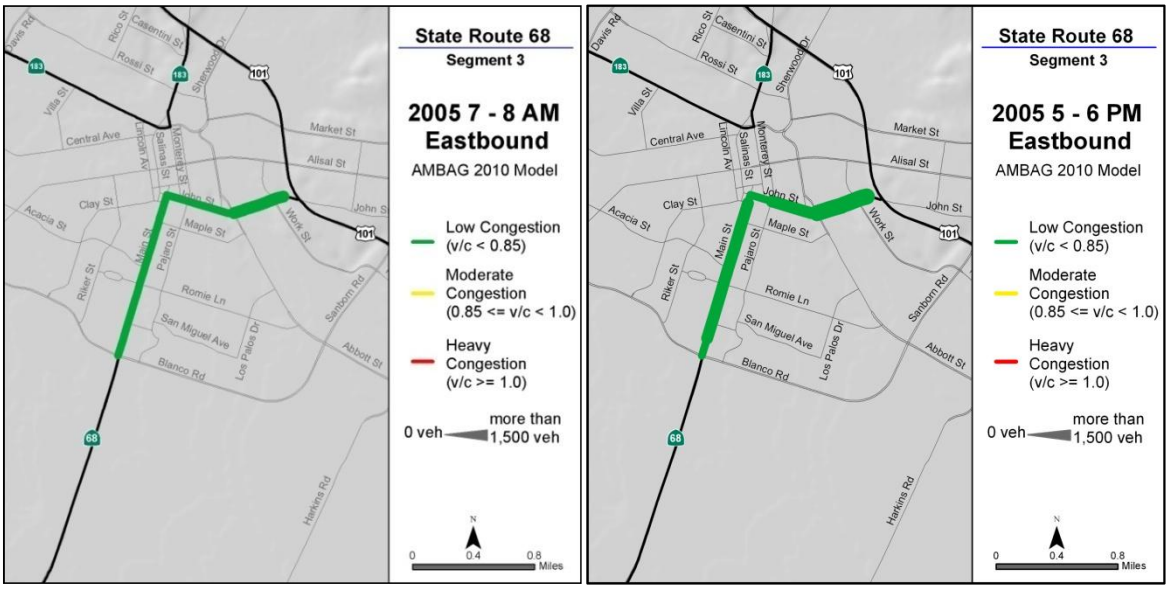
Table 3-26: 7-8 am Westbound User Performance Measures along SR 68 Segment 3

	SR-68 Segment 2		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
	From	To	2005	2035	2005	2035	2005	2035
A	Blanco Rd. (PM 19.97)	Maple St. (PM 20.91)	26.0-28.2	25.7-27.7	2.02	2.06	0.30	0.34
B	Maple St. (PM 20.91)	John/Main St. (PM 21.07)	15.6-27.2	15.3-26.6	0.60	0.62	0.08	0.09
C	John/Main St. (PM 21.07)	Abbott St. (PM 21.57)	18.1-27.5	17.6-26.3	1.19	1.23	0.15	0.19
D	Abbott St. (PM 21.57)	US 101 (PM 22.02)	21.7-28.3	20.0-26.6	0.89	0.96	0.26	0.32

Source: AMBAG Model, Version 1.4

In both 2005 and 2035, SR 68 Segment 3 experiences its worst congestion in the am westbound direction, specifically near Abbot St (PM 21.57) to US 101 (PM 22.02). Congestion is heaviest in 2035 at Work St (PM 21.85), where a short bottleneck extends to US 101 (PM 22.02) and v/c reaches 1.0. Congestion in both 2005 and 2035 continues to decrease as traffic travels westward and into Salinas, where many commuters live or work. Volumes drop to less than 1,000 volumes per hour (vph) near John/Main St, before increasing again as commuters traveling to Monterey Peninsula work their way westward toward Blanco Road (PM 19.97).

On average, it takes a vehicle 5 minutes to traverse Segment 3 in the 2005 and 2035 am westbound direction, with less than 1 minute attributed to delay. Most of the delay occurs at the very beginning and very end of Segment 3, where volumes are highest. It's important to note that the average delay per vehicle is based on average travel times along section of Segment 1 and does not include delay from an operational analysis of intersections along the segment. Speed limits of 35 mph and an urban environment keeps vehicles traveling between 15 and 28 mph, even where congestion is minimal (v/c = 0.3).



Source: AMBAG Model, Version 1.4

Figure 3-26: 7-8 am Eastbound Congestion along SR 68 Segment 3

Table 3-27: 7-8 am Eastbound System Performance Measures along SR 68 Segment 3

	SR-68 Segment 3		Model Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
	From	To	2005	2035	2005	2035	2005	2035	2005	2035
A	Blanco Rd. (PM 19.97)	Maple St. (PM 20.91)	804-926	786-892	779.8	761.0	25.75	25.07	0.290-0.334	0.284-0.322
B	Maple St. (PM 20.91)	John/Main St. (PM 21.07)	535-863	534-841	131.4	128.2	6.29	6.12	0.193-0.311	0.193-0.304
C	John/Main St. (PM 21.07)	Abbott St. (PM 21.57)	529-933	441-825	644.6	306.3	13.13	11.32	0.191-0.336	0.159-0.298
D	Abbott St. (PM 21.57)	US 101 (PM 22.02)	1,228-1,232	1,149-1,151	859.1	396.0	14.27	13.17	0.416-0.444	0.389-0.414

Source: AMBAG Model, Version 1.4

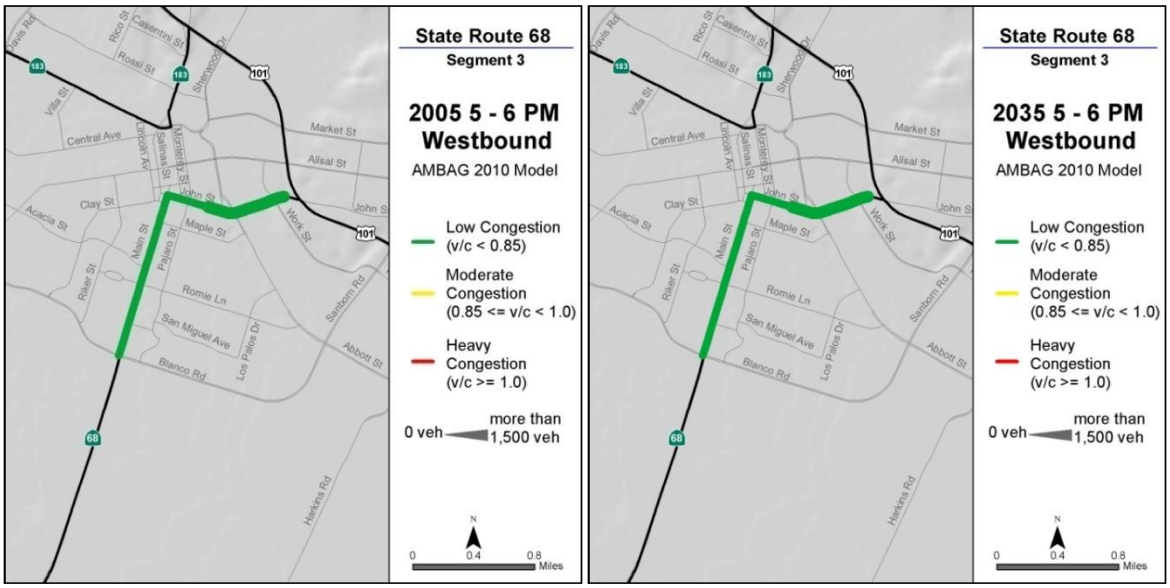
Table 3-28: 7-8 am Eastbound User Performance Measures along SR 68 Segment 3

	SR-68 Segment 3		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
	From	To	2005	2035	2005	2035	2005	2035
A	Blanco Rd. (PM 19.97)	Maple St. (PM 20.91)	30.0-30.5	30.1-30.5	1.81	1.81	0.10	0.09
B	Maple St. (PM 20.91)	John/Main St. (PM 21.07)	17.1-30.4	17.2-30.5	0.55	0.55	0.02	0.02
C	John/Main St. (PM 21.07)	Abbott St. (PM 21.57)	19.0-30.5	19.2-30.8	1.08	1.07	0.04	0.03
D	Abbott St. (PM 21.57)	US 101 (PM 22.02)	28.6-34.1	29.0-34.4	0.70	0.69	0.06	0.06

Source: AMBAG Model, Version 1.4

In both 2005 and 2035, SR 68 Segment 3 experiences light congestion (v/c = 0.4) in the am eastbound direction. The heaviest traffic volume occurs between Abbott St (PM 21.57) and US 101 (PM 22.02), with volumes reaching 1,250 in 2005 and 1,150 in 2035. In the westbound direction, volumes east of John/Main St (PM 21.07) increase significantly from 2005 to 2035. In the eastbound direction, traffic volumes decrease over the same time period. This indicates that in 2035, there are fewer commuters traveling from Monterey Peninsula to Salinas, whereas there is an increase in the number of residents commuting from Salinas and its surrounding areas to the urban core of Salinas and the Monterey Peninsula.

Based on the AMBAG model, it takes a vehicle 4 minutes to traverse Segment 3 in the 2005 and 2035 am eastbound direction, with insignificant delay. It is important to note that the average delay per vehicle is based on average travel times along section of Segment 3 and does not include delay from an operational analysis of intersections along the segment. Realistically, the average travel time should include all intersection delays from the traffic signals. Speed limits of 35 mph and an urban environment keeps vehicles traveling between 17 and 34 mph, even where congestion is minimal (v/c = 0.2).



Source: AMBAG Model, Version 1.4

Figure 3-27: 5-6 pm Westbound Congestion along SR 68 Segment 3

Table 3-29: 5-6 pm Westbound System Performance Measures along SR 68 Segment 3

	SR-68 Segment 3		Model Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
	From	To	2005	2035	2005	2035	2005	2035	2005	2035
A	Blanco Rd. (PM 19.97)	Maple St. (PM 20.91)	758-895	788-899	740.4	760.2	24.33	25.04	0.274-0.323	0.284-0.324
B	Maple St. (PM 20.91)	John/Main St. (PM 21.07)	682-821	697-832	134.1	136.6	6.50	6.65	0.246-0.2959	0.251-0.300
C	John/Main St. (PM 21.07)	Abbott St. (PM 21.57)	537-1055	520-1075	389.8	396.5	14.69	14.94	0.194-0.380	0.187-0.388
D	Abbott St. (PM 21.57)	US 101 (PM 22.02)	1373-1374	1464-1480	473.4	505.5	16.28	17.64	0.465-0.496	0.496-0.528

Source: AMBAG Model, Version 1.4

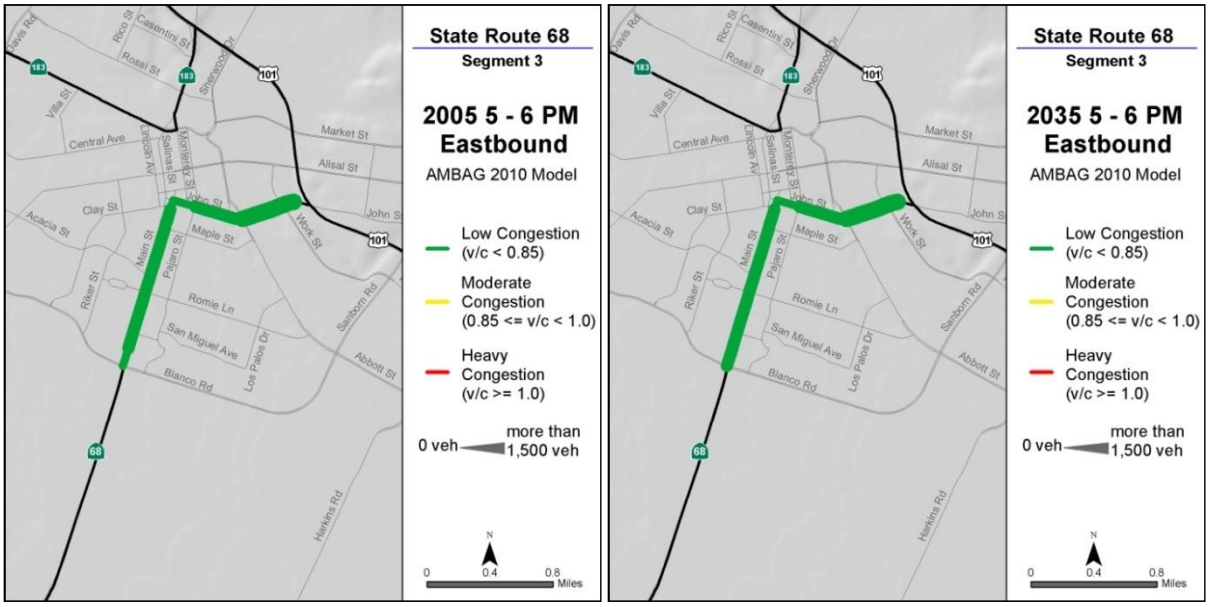
Table 3-30: 5-6 pm Westbound User Performance Measures along SR 68 Segment 3

	SR-68 Segment 3		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
	From	To	2005	2035	2005	2035	2005	2035
A	Blanco Rd. (PM 19.97)	Maple St. (PM 20.91)	30.1-30.6	30.1-30.5	1.81	1.81	0.09	0.09
B	Maple St. (PM 20.91)	John/Main St. (PM 21.07)	17.2-30.5	17.2-30.5	0.55	0.550	0.02	0.02
C	John/Main St. (PM 21.07)	Abbott St. (PM 21.57)	19.0-30.0	18.9-29.9	1.09	1.09	0.06	0.06
D	Abbott St. (PM 21.57)	US 101 (PM 22.02)	27.9-33.6	27.4-33.3	0.71	0.72	0.08	0.09

Source: AMBAG Model, Version 1.4

In both 2005 and 2035, SR 68 Segment 3 experiences light congestion (v/c <= 0.5) in the pm westbound direction. The heaviest traffic volume and growth occurs between Abbott St (PM 21.57) and US 101 (PM 22.02), with volumes reaching 1,350 in 2005 and 1,500 in 2035. Volume growth on all other sections of Segment 3 is tepid.

On average, it takes a vehicle 4 minutes to traverse Segment 3 in the 2005 and 2035 pm westbound direction, with insignificant delays. It is important to note that the average delay per vehicle is based on average travel times along section of Segment 1 and does not include delay from an operational analysis of intersections along the segment. Speed limits of 35 mph and an urban environment keeps vehicles traveling between 17 and 34 mph, even where congestion is minimal (v/c = 0.2).



Source: AMBAG Model, Version 1.4

Figure 3-28: 5-6 pm Eastbound Congestion along SR 68 Segment 3

Table 3-31: 5-6 pm Eastbound System Performance Measures along SR 68 Segment 3

	SR-68 Segment 3		Model Volume		Vehicle Miles Traveled (VMT)		Vehicle Hours Traveled (VHT)		Volume to Capacity (V/C)	
	From	To	2005	2035	2005	2035	2005	2035	2005	2035
A	Blanco Rd. (PM 19.97)	Maple St. (PM 20.91)	804-926	1037-1295	1028.0	1059.1	35.35	36.59	0.356-0.470	0.374-0.467
B	Maple St. (PM 20.91)	John/Main St. (PM 21.07)	535-863	960-1213	193.5	199.6	9.82	10.18	0.336-0.420	0.346-0.438
C	John/Main St. (PM 21.07)	Abbott St. (PM 21.57)	529-933	869-1465	462.0	553.3	17.88	22.24	0.246-0.454	0.313-0.528
D	Abbott St. (PM 21.57)	US 101 (PM 22.02)	1228-1232	2008-2157	607.9	701.3	22.35	27.17	0.592-0.631	0.680-0.730

Source: AMBAG Model, Version 1.4

Table 3-32: 5-6 pm Eastbound User Performance Measures along SR 68 Segment 3

	SR-68 Segment 2		Speed (mph)		Travel Time (Minutes)		Average Delay per Vehicle (Minutes)	
	From	To	2005	2035	2005	2035	2005	2035
A	Blanco Rd. (PM 19.97)	Maple St. (PM 20.91)	28.3-29.7	28.3-29.5	1.89	1.90	0.17	0.18
B	Maple St. (PM 20.91)	John/Main St. (PM 21.07)	16.4-29.2	16.3-29.0	0.57	0.58	0.04	0.05
C	John/Main St. (PM 21.07)	Abbott St. (PM 21.57)	18.8-29.5	18.4-28.5	1.11	1.15	0.08	0.11
D	Abbott St. (PM 21.57)	US 101 (PM 22.02)	25.8-31.9	24.3-30.5	0.76	0.80	0.13	0.17

Source: AMBAG Model, Version 1.4

Congestion is heaviest in 2035 at Work St (PM 21.85), where volumes reach 2,150; however, congestion remains low (v=0.7), and congestion is lower in all other sections of Segment 3. Eastbound traffic from 2005 to 2035 grows much more in the eastbound direction compared to the westbound direction. As mentioned previously, this indicates that in 2035, there are fewer residents that live in the Monterey Peninsula and work in the city of Salinas compared to the number of residents commuting from Salinas and its surrounding areas to the Monterey Peninsula. Many of these commuters are returning home from Monterey Peninsula from 5 – 6 pm.

On average, it takes a vehicle 4 minutes to traverse Segment 3 in the 2005 and 2035 pm eastbound direction, with less than 1 minute attributed to delay. Most of the delay occurs at the very beginning and very end of Segment 3, where volumes are highest. It's important to note that the average delay per vehicle is based on average travel times along section of Segment 1 and does not include delay from an operational analysis of intersections along the segment. Speed limits of 35 mph and an urban environment keeps vehicles traveling between 16 and 32 mph, even where congestion is minimal (v/c = 0.2).

Route Concept

Table 3-33 summarizes the existing facility, route concept, and the strategies to achieve the concept. Segment 3 serves the city of Salinas. This segment is within an urbanized area physical constraints preclude widening it. Proposed new access points will be denied unless measures are implemented that not only mitigate the delay or conflict, but go beyond and provide a net benefit to the motoring public. The route concept would be to maintain a four-lane conventional highway. It is recommended that this segment be considered as a candidate for relinquishment.

Table 3-33: Route Concept for SR 68 Segment 3

Segments	Existing Facility	Route/Ultimate Concept	Strategies to Achieve Route/Ultimate Concept
Segment 3 Blanco Rd. (PM 19.97) to SR 101 (PM 22.02)	Four-lane Conventional Highway	Maintain four-lane conventional highway.	Maintain existing urbanized area with signal control.

Source: System Planning Caltrans District 5

Recommended Strategies

Maintenance, preservation and relinquishment are the recommended strategies for this segment. This segment serves primarily local users, consider relinquishment of this segment to the city.

Table 3-34: Segment Highway Improvement Projects for SR 68 Segment 3

Segment 3
Conceptual: • Maintain four-lane conventional highway and pursue relinquishment.
Planned: • Widen to Four-lanes between Work to Woods Streets on John Street with grade separated overpass (2010 TAMC RTP).
Programmed: • No Programmed Projects

Source: System Planning/Caltrans Status of Projects Central Region District 5 September 201

3.4 Traffic Safety

Several potential elements contribute to the causes of traffic collisions: human factors, the vehicle, and the roadway and its related environment. Areas of higher actual collision rates compared to statewide average collision rates do not necessarily indicate the need for roadway safety improvements as a percentage of the collisions may be directly attributed to the vehicle or human factors. However, when an improvement is identified that is expected to reduce the number and/or severities of collisions, actions are taken which may lead to initiation of a Safety Project. Identifying specific safety improvements is not within the scope of a planning level TCR. However, identifying collision rates by location color the overall recommendations of this study and serve as a stepping stone for future safety analysis.

3.4.1 Mainline Collision Rates

The collision history for the corridor was derived from three years of data (April 1, 2007 to March 31, 2010). The actual collision rates are those that are recorded based on data for a specific route. These are then compared to statewide average collision rates for similar facilities.

Table 3-35: Corridor Collision Rates by Segment

Segments	Postmiles	Actual Collision Rate	Statewide Average Collision Rate
1	000.000-L004.263	**2.00**	1.52
2	R003.948-019.970	0.85	1.05
3	019.971-022.022	1.63	2.10

**Note: Incident rates are per million vehicle miles for a 3-year period from: 04/01/2007 - 03/31/2010*

Source: Traffic Safety Caltrans District 5

As table 3-35 illustrates, Segment 1 is the only segment in the SR 68 corridor that has an actual collision rate that exceeds the statewide average collision rate.

3.4.2 Ramp Collision Rates

The following tables compare actual collision rates to statewide average collision rates for similar intersections and ramp facilities within the SR 68 corridor. The following collision rates are summarized by segments. One of two ramps on segment 1 has a much higher collision rate than the statewide average collision rate for similar facilities.

Table 3-36: Segment 1 Actual and Statewide Average Collision Rates

Ramp	PM	Actual Collision Rate	Statewide Average Collision Rate
West Bound off-ramp to Fremont	R004.140	0.00	0.85
West Bound off-ramp to North Bound 1 Fremont	R004.220	**1.96**	0.30

Source: Traffic Safety Caltrans District 5

In Segment 2, only one out of twelve ramps maintains actual collision rates greater than the statewide average collision rate for similar facilities. These locations are identified in Table 3-37 below.

Table 3-37: Segment 2 Actual and Statewide Average Collision Rates

Ramp	PM	Actual Collision Rate	Statewide Average Collision Rate
East Bound off-ramp to Toro Park	015.660	0.00	1.50
West Bound on-ramp from Toro Park	015.680	0.00	0.50
East Bound on-ramp from Toro Park	015.830	**0.91**	0.50
West Bound off-ramp to Toro Park	015.860	0.00	1.50
West Bound on-ramp from Reservation	R017.030	0.31	0.60
East Bound off-ramp to River Rd.	R017.040	0.77	1.20
West Bound off-ramp to Reservation	R017.350	0.72	1.20
East Bound on-ramp from River Rd.	R017.360	0.00	0.60
East Bound off-ramp to Spreckels	R017.920	0.52	1.20
West Bound on-ramp from Spreckels	R017.940	0.00	0.60
East Bound on-ramp from Spreckels	T018.240	0.60	0.60
West Bound off-ramp to Spreckels	T018.290	0.00	1.20

Source: Traffic Safety Caltrans District 5

3.4.3 Intersection Collision Rates

The following table compares actual intersection collision rates for SR 68 to statewide average collision rates for similar intersections. Only intersections that have a much higher collision rate than the statewide average collision rate will be represented in table 3-38.

Table 3-38: SR 68 Intersection and Statewide Average Collision Rates

Intersection	PM	Actual Collision Rate	Statewide Average Collision Rate
Sunset Dr. and Asilomar	000.224	**0.60**	0.15
17 Mile Dr. N	000.480	**0.71**	0.25

Continuation of Table 3-39: SR 68 Intersection and Statewide Average Collision Rates

Intersection	PM	Actual Collision Rate	Statewide Average Collision Rate
Prescott Lane	001.500	**0.27**	0.25
Piedmont Ave.	001.580	**0.19**	0.15
Bishop Ave.	001.660	**0.19**	0.15
Adobe Ln.	001.750	**0.22**	0.15
Presidio Blvd.	001.990	**0.31**	0.15
SFB Morse Dr.	002.260	**0.31**	0.25
Skyline Forest Dr.	003.370	**0.42**	0.15
Olmstead Airport Rd.	005.570	**0.52**	0.35
Ragsdale Dr.	007.080	**0.37**	0.15
York School Rd.	008.150	**0.77**	0.15
Hidden Hills	009.780	**0.29**	0.15
SPCA Rd., Laguna Seca Recreation	010.900	**0.37**	0.30
Laguna Seca Race Track	011.010	**0.33**	0.10
Laureles Grade Rd.-RT	011.221	**0.76**	0.30
San Benancio Rd.	013.330	**0.39**	0.30
D Hitchcock Rd.	019.190	**0.55**	0.20
Plaza Circle and Nissen	020.110	**0.16**	0.15
Winham Street Clay St.	021.040	**0.21**	0.15
John and Main St.	021.074	**0.36**	0.35
Monterey St.	021.180	**0.28**	0.25
Front St.	021.460	**0.21**	0.15

Source: Traffic Safety Caltrans District 5

This Page Intentionally Left Blank

Chapter 4

This Page Intentionally Left Blank

4 Intermodal Planning

The following section describes existing modes of transportation and the demand management components along the SR 68 corridor.

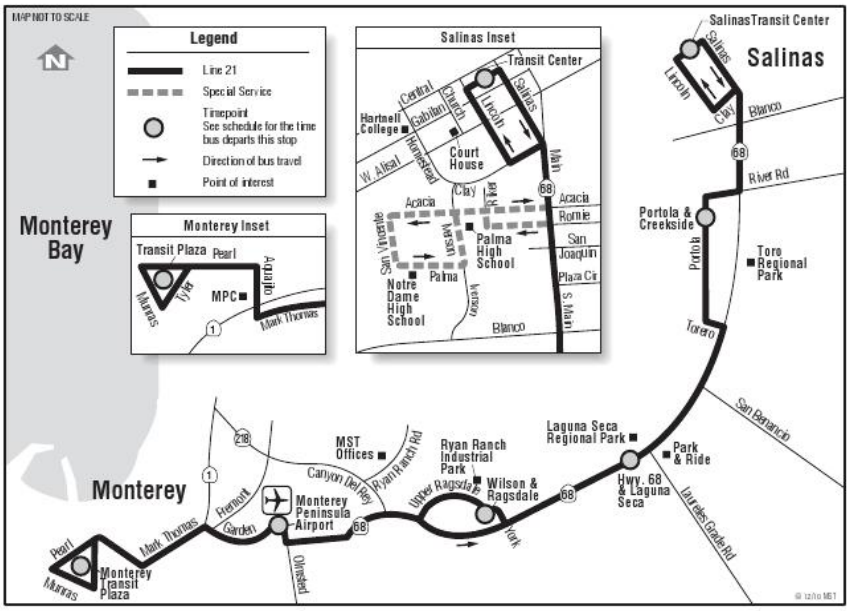
4.1.1 Transit

Monterey-Salinas Transit (MST) is the major bus transit provider in Monterey County and provides 1,322 stops along 58 routes. MST travels as far South as Paso Robles and Big Sur and as far North as Watsonville and San Jose. Most MST routes operate six days a week, with limited service on Sundays and holidays.

Figure 4-1: MST Bus

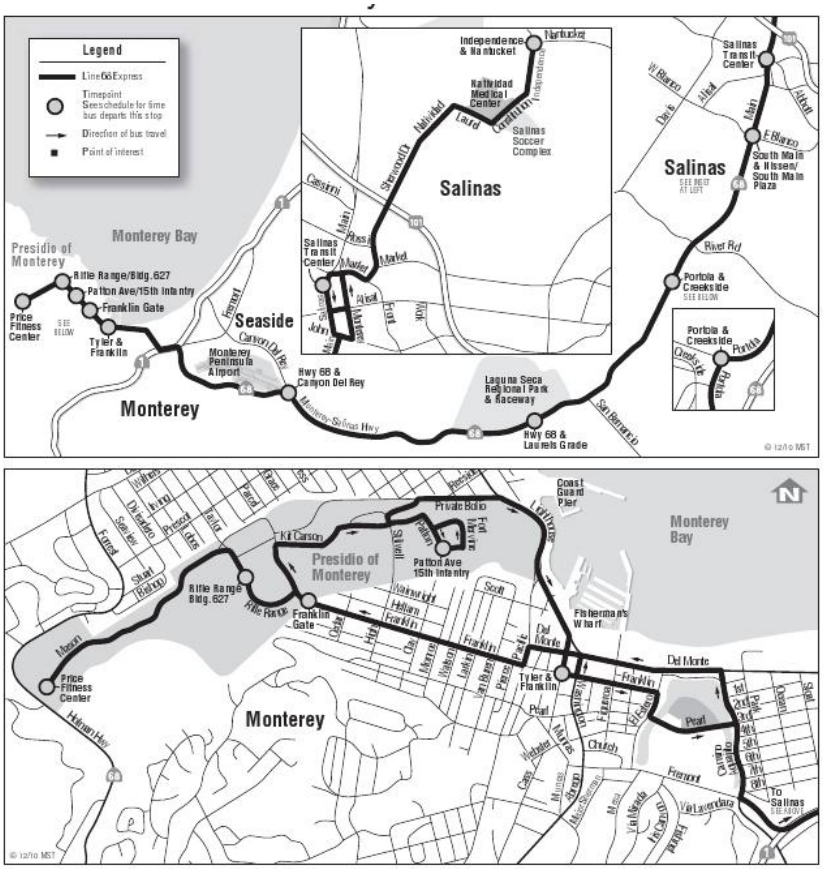
While MST provides several routes to get from the city of Monterey to the city of Salinas, Route 21 and Route 68 are the routes that travel through SR 68. Route 21 and 68 offer one round trip all the way from the city of Monterey to the city of Salinas each weekday, with route 21 offering four shorter trips to the airport or a stop at Wilson and Ragsdale, near Ryan Ranch Industrial Park. The following figures illustrate Route 21 and Route 68 path and bus stops.

MST future plans are to implement a Bus Rapid Transit (BRT) system and technology along several corridors throughout the county. BRT combines the high-quality service of rail transit with the lower-cost and greater flexibility of buses. The Federal Transit Administration (FTA) has granted MST's request to initiate Project Development for the first BRT corridor in Monterey County and has provided $2.77 million in funding. Fremont / Lighthouse Corridor MST's Bus Rapid Transit Project follows a 6.75-mile route from the Monterey-Pacific Grove border through the cities of Monterey and Seaside to the western edge of Sand City.



Source: Monterey-Salinas Transit

Figure 4-2: Salinas-Monterey via Hwy 68 Bus Route 21



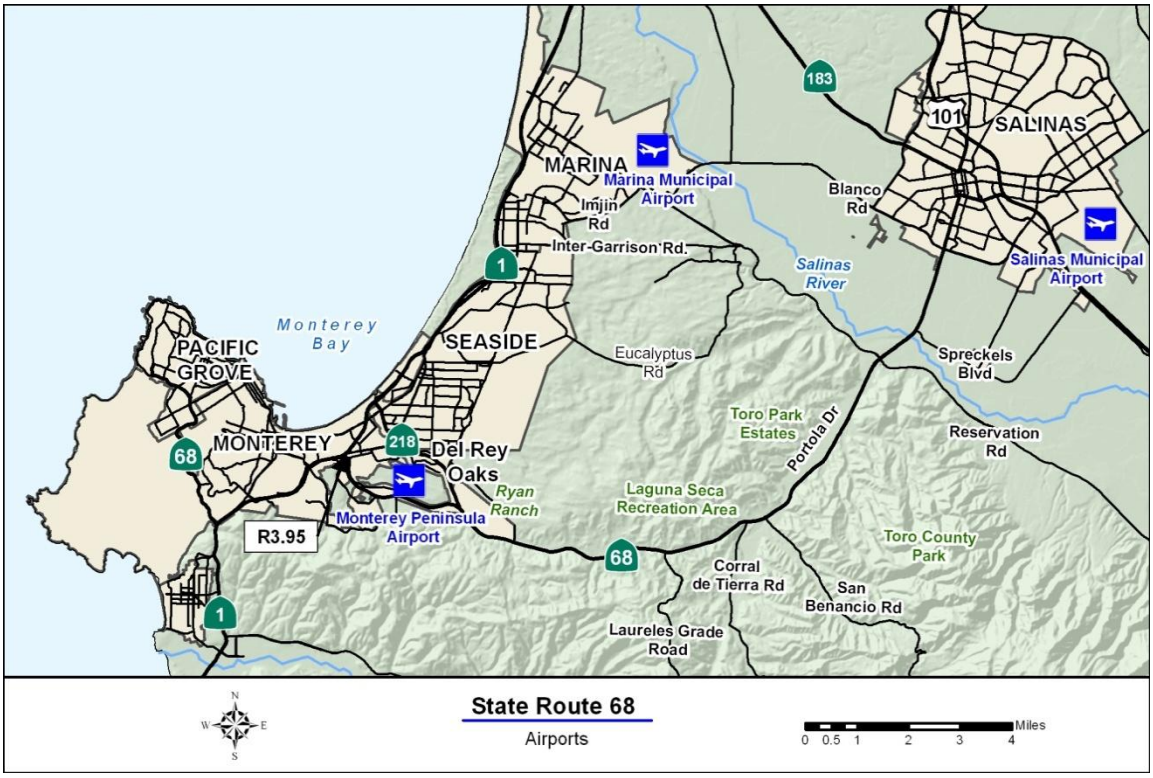
Source: Monterey-Salinas Transit

Figure 4-3: Presidio-Salinas Express Via Hwy 68 Bus Route 68

4.1.2 Aviation

Three airports are located near SR 68 the Monterey Peninsula Regional Airport, the Marina Municipal Airport, and the Salinas Municipal Airport. The Monterey Peninsula Airport District was created in 1936. It is a 498 acre facility, serving as a "Medium Non-Hub" airport with two parallel runways. The Airport District includes portions of the following areas: Monterey, Pacific Grove, Del Monte Forest, Pebble Beach, Carmel-by-the-Sea, greater Carmel, Del Rey Oaks, Seaside, Sand City, the Monterey-Salinas Highway to Laureles Grade, and the west end of Carmel Valley. Monterey Peninsula Airport has more than 40 flights flying in and out daily with regular flights available to San Francisco, Los Angeles, Phoenix, Denver, and Las Vegas.

The Marina Municipal Airport consists of approximately 845.5 acres of property and it has been open for public use since 1995. The airport is dedicated to general aviation, business, light industry, and recreation. The Salinas Municipal Airport is a city-owned public-use airport. The airport opened in 1942 and consists of 763 acres, with 3 runways. It serves single and twin engine aircraft and helicopters, as well as an increasing number of turbo-propeller and turbine-powered business jets. Approximately 96% of all aircraft owners at the Salinas Municipal airport are from the Salinas/Monterey/Watsonville area. The remaining 4% are from the San Francisco Bay Area and other California locations.



Source: Traffic Safety Caltrans District 5

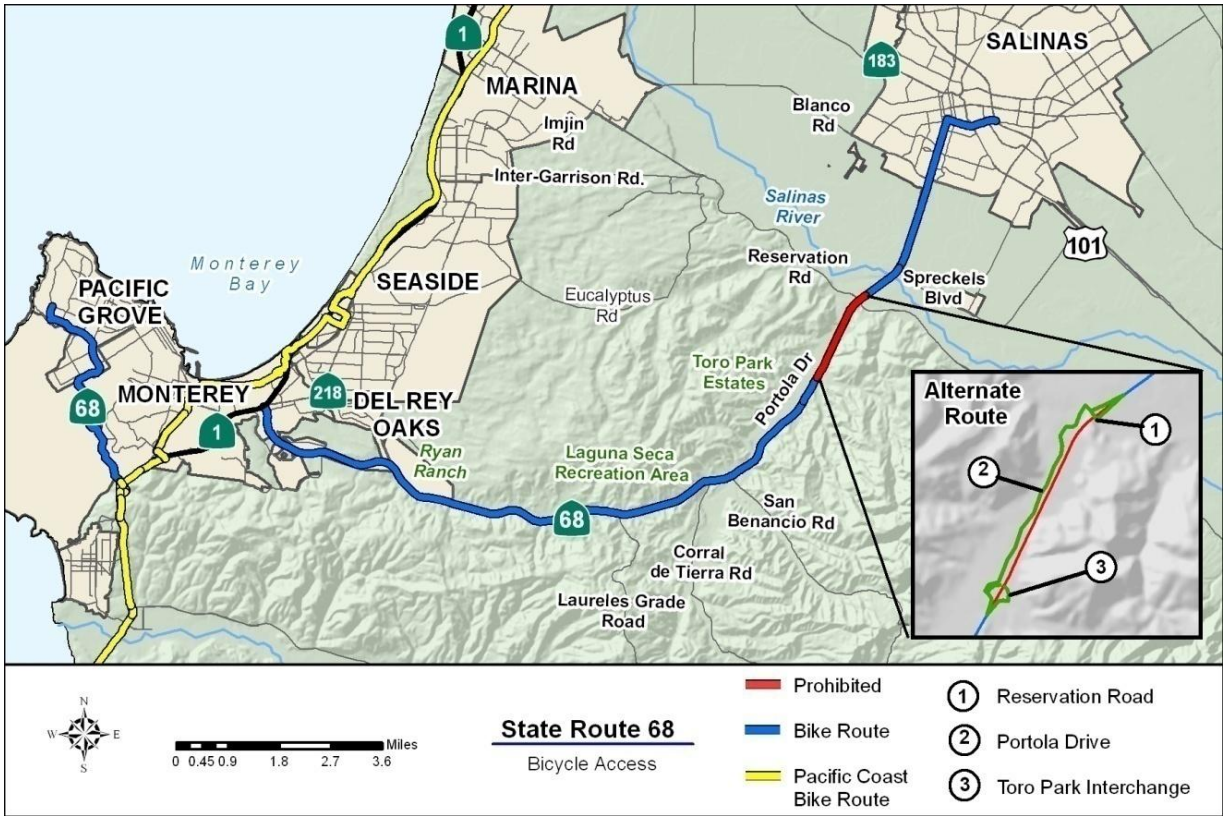
Figure 4-4: Airports

4.1.3 Bicycle and Pedestrian

In California, a person riding a bicycle has all the rights and is subject to all provisions applicable to the driver of a vehicle and as such may operate on any street, road, or highway where they are not specifically prohibited. Bicycles are open to all of SR 68 except for a portion from the Toro Park Interchange to Reservation Road. According to the Caltrans District 5 Bicycle Map, the alternative route is along Portola Drive, which is a residential road in close proximity to SR 68. Portola Drive offers lower vehicular volumes and speeds in comparison to SR 68. When assessing the suitability of roadways for bicycle travel, Caltrans must consider the comfort level for all bicycle ability levels. Along this stretch of the SR 68 corridor, Portola Drive is a more suitable route to accommodate all bicycling ability levels. It should also be mentioned that the Salinas River Bridges are undergoing a widening effort. When completed, the bridges will accommodate standard width shoulders of ten feet. The wider shoulders will provide a more comfortable riding experience for bicyclists across the bridges. Figure 4-6 illustrates the bicycle access around and along SR 68 and identifies the portion that is prohibited to bicyclists (Between Reservation Road and the Toro Park Interchange.) Shoulder widths vary on SR 68, from no shoulder to 10 foot shoulders; with most of the route having 8’ shoulder width.

In 1976, in honor of the Nation's Bicentennial, the American Revolution Bicentennial Commission of California and the California Department of Transportation developed the "Pacific Coast Bicentennial Bike Route." The designated route began on US 101 at the California/Oregon State Line, and ended adjacent to Interstate 5 at the Mexican Border. In the early 1990's, the California State Legislature re-designated this Route the "Pacific Coast Bike Route." Within Caltrans District 5, the route travels through the counties of Santa Barbara, San Luis Obispo, Monterey, and Santa Cruz.

Popular with touring cyclists, the Pacific Coast Bike Route (PCBR) has road and terrain conditions that vary greatly throughout the route, from level grades with wide shoulders, to steep grades with narrow or no shoulder. The PCBR passes through some of California's most beautiful scenery, including vast redwood forests and spectacular ocean views. While the PCBR does not run along SR 68, it does go through Segment 1 and 2 along Highway 1.



Source: Traffic Safety Caltrans District 5

Figure 4-5: Bicycle Routes

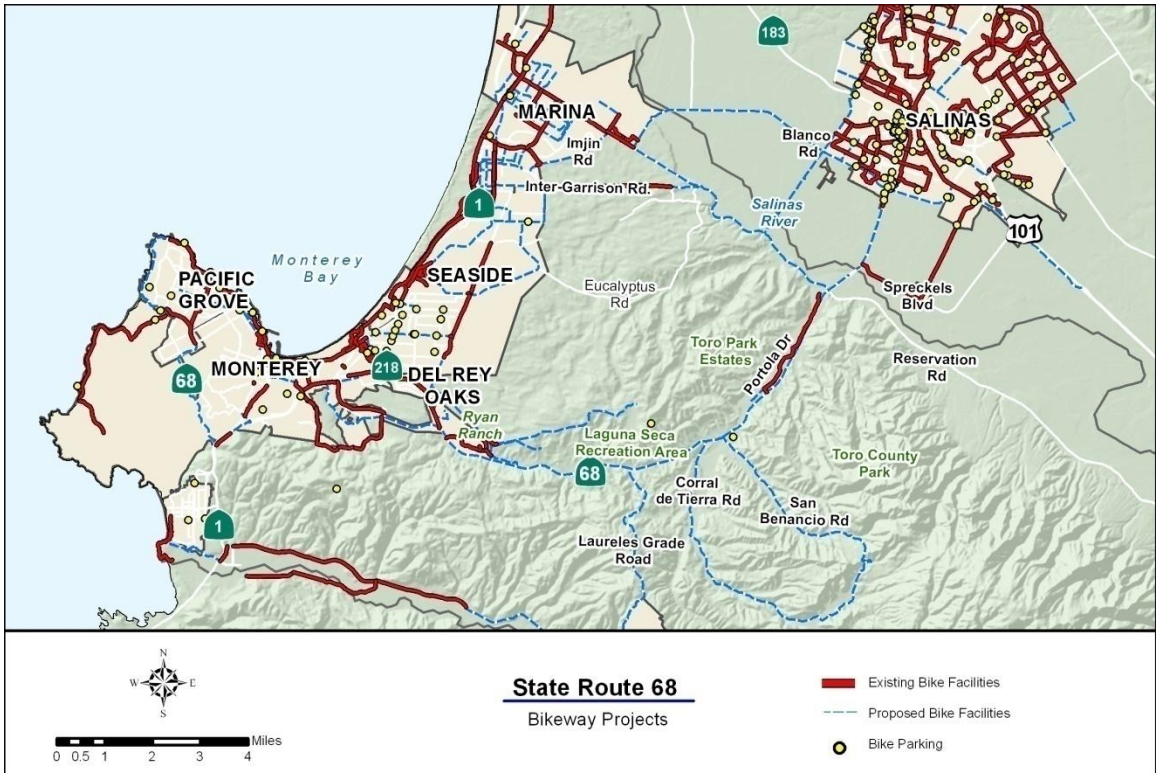
Bicycle Connections and Gaps

The 2011 TAMC Bicycle and Pedestrian Master Plan identify connections to SR 68 that would provide connectivity within the corridor. Other public agencies along the corridor with bicycle transportation plans include the city of Pacific Grove, city of Monterey, and the city of Salinas. Figure 4-7 illustrates existing and proposed bike facilities that are near or within the SR 68 corridor and table 4-1 presents a summarized detailed list of all proposed bikeway projects in the area and the priority for implementation.

Table 4-1: Bikeway Project Ranking

Tier	Rank (TAMC)	Project	Class	Start	End	Miles	Implementing Agency
1	2	Canyon del Rey Blvd.	2	General Jim	Hwy 68	0.76	Del Rey Oaks
1	4	Blanco Rd.	2	Reservation Rd.	Davis Rd.	5.36	County
1	8	Hwy 68	2	Josselyn Canyon Rd.	San Benancio Rd.	8.17	Caltrans
1	13	Hwy 68	2	San Benancio Rd.	Salinas city limit	6.05	County
1	15	Hwy 1 Ramp and Aguajito Rd. Signage	3	Hwy 1	Hwy 1	3.70	County
1	16	Hwy 68 at Salinas River Bridge widening	1	Salinas River	Salinas River State Beach	0.25	Caltrans
1	17	Ocean View Ave.	2	Asilomar Blvd.	17 Mile Dr.	2.31	Pacific Grove
2	31	Hwy 68	2	Viejo Rd.	Presidio Blvd.	2.32	County
2	33	Hwy 68	2	Prescott Ln.	Presidio Blvd.	0.48	Caltrans
2	58	Reservation Rd. Path	1	Reservation Rd.	Creekside Terrace	0.22	County
2	83	John St.	3	Abbott St.	Wood St.	0.63	Salinas
2	94	Pear-Jefferson-Johnson-Skyline Route	3	Camino El Estero	Hwy 68	2.95	Monterey
2	99	David Ave.	3	Cannery Row	Hwy 68	1.32	Monterey
2	102	17 Mile Dr.	3	Hwy 68	840' S of Hwy 68	0.16	Pacific Grove
2	112	Sinex Ave.	3	Asilomar Blvd.	19th St.	0.90	Pacific Grove
2	127	Josselyn Canyon Rd.	2	Hwy 68	Mark Thomas Rd.	1.47	Monterey
2	129	Ryan Ranch Rd.	2	Canyon Del Rey Blvd.	End of Ryan Ranch	0.42	Del Rey Oaks
2	130	York Rd.	2	Hwy 68	South Boundary Rd.	0.37	Monterey
2	138	Ryan Ranch Park Path	1	Park Rd	Harris Ct.	0.32	Monterey
2	179	Olmstead Rd.	2	Hwy 68	Garden Rd.	0.10	Monterey
2	202	Reservation Rd.	2	Blanco Rd.	Hwy 68	5.51	County
2	210	Laureles Grade Rd.	2	Hwy 68	Carmel Valley Rd.	5.86	County
2	212	San Benancio-Corral de Tierra Rd. Loop	2	Hwy 68	Hwy 68	12.34	County
2	231	West of State Hwy 68	1	Spreckels Blvd.	Reservation Rd.	0.89	Caltrans
2	272	19th St-Park St	3	Jewell Ave.	Hwy 68	0.99	Pacific Grove
3	316	Portola Dr.	2	Torero Dr.	Muleta Dr.	0.38	County

Source: TAMC Bicycle and Pedestrian Master Plan 201



Source: TAMC & System Planning Caltrans District 5

Figure 4-6: Bikeway Projects

4.2 Transportation Demand Management

Transportation Demand Management (TDM) encompasses a variety of policies and strategies to reduce or shift automotive travel need and therefore reduce peak hour road usage. The focus is to reduce congestion by promoting transportation options such as telecommuting, vanpools, carpools, ridesharing, park and ride lots, alternate work schedules, and route selection. The Department's role is different in TDM implementation, as most of the resources involved are the responsibility of other agencies. While the Department can model some of the practices (flexible work hours, rideshare options) most of the Departments actions are to encourage, educate and facilitate others to modify the demand on the highway system. The Department supports local agency efforts to expand and establish new park-and-ride lots that are strategically placed at locations that are easily accessible and serve as transit hubs. Public transit providers should also be encouraged to serve existing park-and-ride lots. Most of the TDM practices exist now and are affecting SR 68 traffic. Ridesharing, park and ride lots, flex work, telework, bike/pedestrian/transit modes and employer-based versions are examples of ongoing TDM that mitigate peak hour traffic.

4.2.1 Commuter Programs

AMBAG has a program for providing TDM services, focused on carpooling. Here are the services offered by *Commuter Alternatives*, operated by AMBAG using their website.

Carpool Match—this is a computerized match program, self-operated, and encompassing the SR 68 corridor as well as a much larger database which includes Monterey Bay Area and the major metropolitan cities of the Bay Area.
Vanpool Match—using the match program, Commute Alternatives provides matches, information and assistance with setting up vanpools.

Telecommute Information—Commute Alternatives provides guides to setting up and operating work-at-home offices, along with information for employers on the advantages of telecommuting.

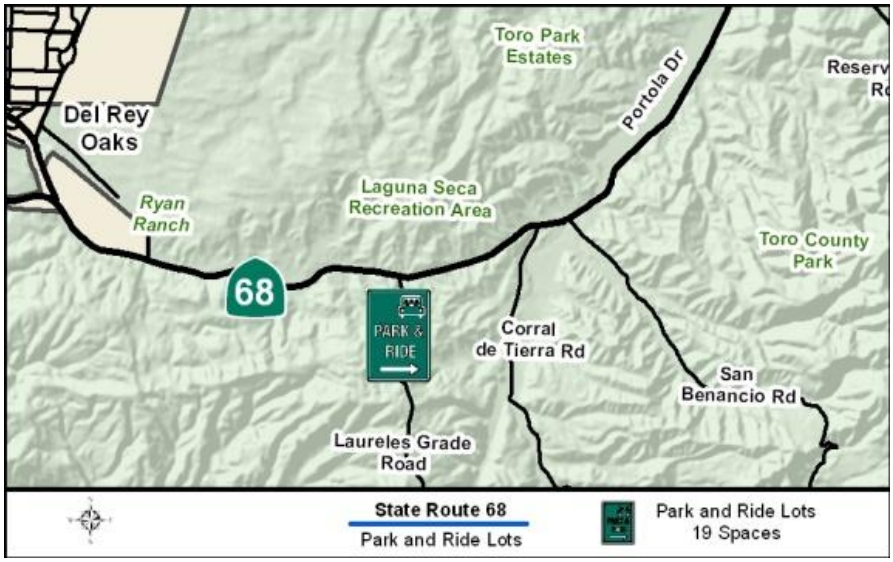
Tax Incentives Information—the agency has provided a matrix showing the benefits allowed by IRS for transit use, vanpool use, qualified parking agreements and qualified bicycle use.

Transit—information and linkages that promote transit usage are available on the web link. Interregional connections, both public and private, are covered, as well as AMTRAK and Caltrain.

Biking and Walking—tips and general information is provided on the benefits of these modes of transportation. http://www.dot.ca.gov/dist05/commuter_info/

4.2.2 Park-and-Ride Facilities

Park and ride facilities are car parks with connections to public transportation that allow people to leave their vehicle parked throughout the day and retrieved at the end of the day when the owner returns. Park and ride facilities are generally located in the suburbs or on the outer edges of a large city. Monterey County has designated one Park-and-Ride facility along SR 68 near Monterey at Laureles Grade Road with a serving capacity of 19 spaces. The park and ride facility is not owned or maintained by Caltrans.



Source: System Planning Caltrans District 5

Figure 4-7: Park and Ride Lot

This Page Intentionally Left Blank

Chapter 5

This Page Intentionally Left Blank

5 Recommendations for Route and Ultimate Concept

The primary purpose of the SR 68 TCR is to develop strategies to manage the corridor and sustain existing transportation investments. Within the 20 year planning horizon, the following management strategies should be pursued to manage SR 68.

5.1 Route Concept

Table 5.1 identifies SR 68 segments, the existing facility, route concept, and the strategies to achieve the concept.

Table 5-1: Segment Considerations and Route Concept for 2030

Segments	Existing Facility	Route/Ultimate Concept	Strategies to Achieve Route/Ultimate Concept
Segment 1 Sinex Ave. (PM 0.00) to SR 1 (PM L 4.26)	Two-Lane Conventional Highway	Maintain a two-lane conventional highway.	Maintain existing urbanized area with intersection controls and when appropriate or as land use development consider operational and capacity improvements.
Segment 2 SR 1 (PM L 4.26) to Blanco Rd. (PM 19.97)	Two to Four-Lane Conventional Highway/Freeway	Four-lane access control conventional highway with continuous left-turn channelization or access control of new alignment.	Evaluate capacity improving projects within the corridor such as: Widen existing alignment to a four-lane facility with contours left turn channelization or bypass alignment four-lane, access controlled.
Segment 3 Blanco Rd. (PM 19.97) to SR 101 (PM 22.02)	Four-Lane Conventional Highway	Maintain four-lane conventional highway.	Maintain existing urbanized area with signal control.

Source: System Planning Caltrans District 5

Strategies to Achieve Route Concept Project

As analyzed in Chapter 3, the analysis of SR 68 shows that Segment 2 has greater demand due to being a primary east to west route, high growth, peak hour commute periods, and a heavy recreational traffic. The TCR recommends that capacity improvements be evaluated within the corridor. Current options for Segment 2 are to evaluate widening the existing facility to four-lanes with a continuous left turn channelization and to evaluate a four-lane with access control facility on new alignment.

Segment 1 and 3 serve the city of Pacific Grove, city of Monterey, and the city of Salinas. These three cities are significantly urbanized areas; therefore, the possibility of widening the roadways in Segments 1 and 3 is precluded. As such, the concept for Segment 1 and 3 is to leave the roadway as a two-or-four-lane conventional highway, provide safety by continuing to improve pedestrian and bicycle mobility, and to work with the local agencies to facilitate relinquishment. Operational improvements at Ragsdale and 218, Laureles Grade, San Benancio, and CHOMP, as well as the hot mix asphalt on Segment 2, have all contributed to improve mobility in all three segments. One of the ultimate concept options of widening

SR 68 along existing alignment will be consistent with these improvements. Additional system corridor wide analysis would be required to determine possible scenarios for expansion. In Segment 2, existing operational deficiencies on SR 68, will require that proposed new access points will be denied unless measures are implemented that not only mitigate the delay or conflict, but go beyond and provide a net benefit to the motoring public. Such mitigation could include: significant highway widening to address the control delay of a new signal; or, closing two or more existing driveways in exchange for one new connection.

Maintenance and Preservation

The efficiency and safety of a highway without access control depends greatly upon the amount and character of roadside interferences, characterized by vehicle movements to and from businesses, residences, or other development along the highway. Abutting property owners have rights of access, but Caltrans has the authority to regulate and control the location, design, and operation of access driveways and other roadside elements. Interference from indiscriminate roadside development and uncontrolled driveway connections results in lowered capacity, increased conflict, and safety concerns.

Continue cost-effective maintenance of the roadway to ensure safe and comfortable used for the corridor. This would include maintenance and preservation designed to get full return on system investments, as well as reduce traveler costs and delay. Work in this area would include continued identification of pavement needs through the pavement condition survey and addressing those needs through the State Highway Operation and Protection Program (SHOPP).

Access Management

In order to improve operations and safety along SR 68, new at grade access would be limited and consolidation of at grade access would be considered. Improvements to local connectivity will be done by connecting the local roads to the network. Proposed new access points will be denied unless measures are implemented that not only mitigate the delay or conflict, but go beyond and provide a net benefit to the motoring public. Such mitigation could include: significant highway widening to address the control delay of a new signal; or, closing two or more existing driveways in exchange for one new connection.

Rail & Transit

The Department in partnership with TAMC will work together to support the improvement of rail and transit service. This would include pursuing efficient, effective and potential future expanded rail service. Regional agencies in coordination with the Department should continue to support the operation and expansion of this service when warranted by demand and projections. Continued coordination of compatible fare collection technology systems that allow customers to more seamlessly transfer from one transit provider to another, as well as other communication systems between transit providers in the corridor is encouraged.

Land Use & Transportation Connection

The way communities are planned and designed impacts travel behavior. Land use and transportation must be more closely linked to reduce the impact of sprawl and consumption of land, address the imbalance between jobs and housing, limit the increase in travel demand, and minimize the need for major highway capacity improvements. Transportation projects that support sustainable communities and intermodal transportation including multimodal, frontage road, and mixed use improvements, are encouraged. To achieve this strategy, local agencies partner with the Department and actively seek our participation in their development review process.

Modal Options

The focus is to provide viable transportation options for all users. Greater opportunity to use other transportation modes will reduce demand on SR 68. The Department in partnership with TAMC and AMBAG support the integration of transit, bicycle, and pedestrian transportation on frontage roads, parallel routes, and adjacent paths into a coordinated multimodal transportation system. Improving the carrying capacity for bicycles on trains and buses is also recommended to encourage the integration of modes. Multimodal stations should be strategically placed in locations accessible to all modes of transportation. The Department looks to its local partners to coordinate multimodal strategies.

Incident Management

Collisions and incidents can be a major source of delay along a corridor. Reducing the time required to clear these collisions and incidents and restore free flow conditions within the corridor lessens delay and diversion of traffic onto the local arterials. The need for Freeway Service Patrol (FSP) is determined by congestion in an area. As congestion increases, there will be opportunities for TAMC and AMBAG in partnership with the Department to investigate FSP along the corridor.

Operational Improvements

The focus is to pursue operational improvements that maximize efficiency of the system, reduce delay, and preserve and enhance existing services. These include but are not limited to improving interchanges and upgrading at-grade intersections. Other improvements could include: intersection improvements, auxiliary lanes, bikeways, and sidewalks. Determining specific operational improvements for the SR 68 corridor would be under the scope of a future project specific study.

Parallel Road Network Development

The focus is to increase the capacity and connection of the parallel road network to reduce local traffic demand on SR 68. As communities surrounding the corridor continue to grow and develop, parallel local transportation systems will need to be improved and expanded to accommodate local travel demand to minimize dependency on SR 68 for local trips.

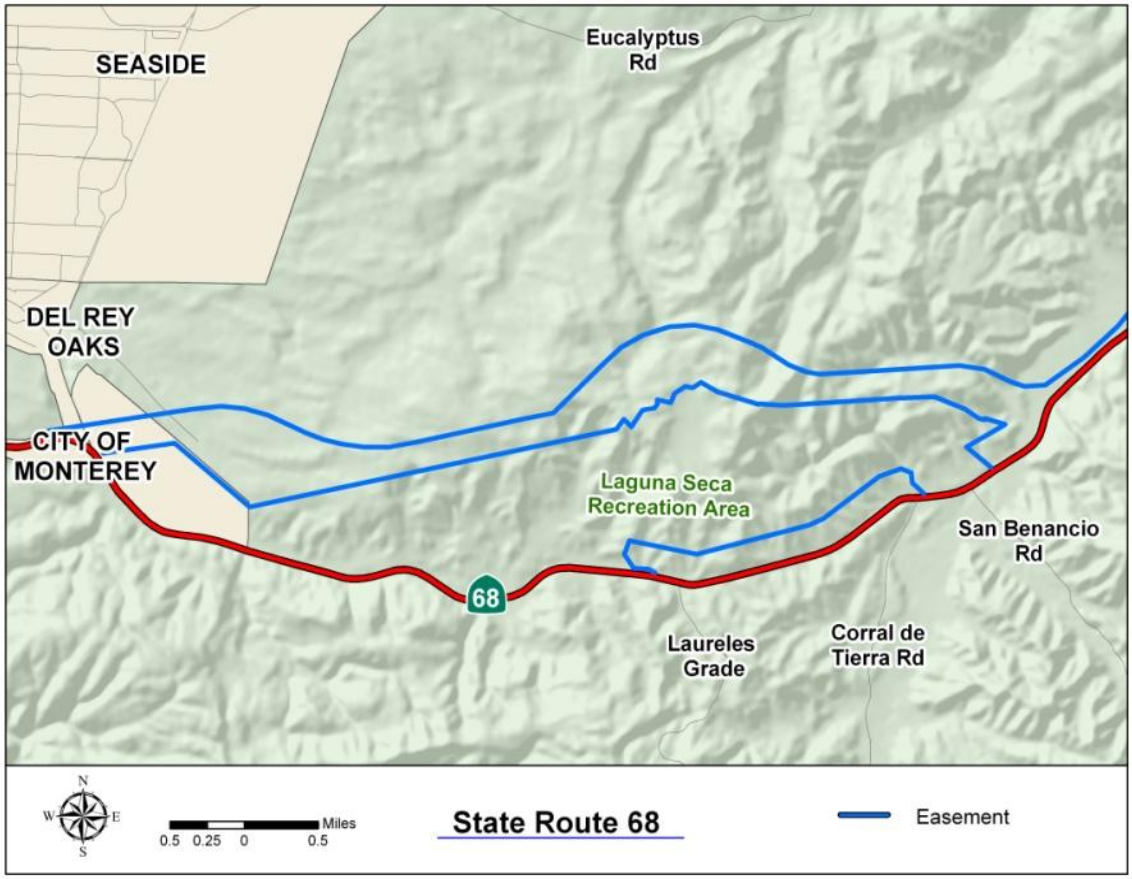
System Expansion

The analysis of SR 68 shows that Segment 2 has greater demand due to being a primary east to west route, high growth, peak hour commute periods, and a heavy recreational traffic. The TCR recommends that capacity improvements be evaluated within the corridor. Current options for Segment 2 are to evaluate widening the existing facility to four-lanes with a continuous left turn channelization and to evaluate a four-lane with access control bypass alignment.

The AMBAG model currently predicts that there will be negative growth on Segment 2 due to a capacity increase project identified in the model between the city of Salinas and San Benancio Road. In the future, heavy congestion is expected to continue between San Benancio Road and junction of SR 68/SR 1. The Department is supportive of the system expansion as assumed in the model and had identified a deficiency west of San Benancio Road that would require additional capacity. This deficiency was also identified in the TAMC Fee program.

Additional system analysis will be required to determine appropriate scenarios for improvement along Segment 2. The system analysis should take into account SR 68's relationship to SR 1, 156, US 101, and the local road network adjacent to the corridor. The AMBAG model also assumes local roadway

improvements by 2035 that would contribute to congestion relief along the corridor (refer to figure 3-16: 2035 AMBAG roadway improvements). The Department holds an easement adjacent to SR 68 that the original intended purpose was to study a controlled access bypass. Any system analysis would need to consider a bypass as a scenario for long range improvements to the corridor.



Source: System Planning Caltrans District 5

Figure 5-1: Easement

Segments Highway Improvement Projects

The following summary provides the needed improvement projects, which appear in of three categories-Planned, Programmed, or Conceptual

A Planned Improvement or Action is a project in a long term financially constrained plan such as an approved RTP or MTP or Capital Improvement Plan.

A Programmed Improvement or Action is a project in a near-term Programming Document identifying funding amounts by year, such as the State Transportation Improvement Program or the State highway Operations and protection Program.

A Conceptual Improvement or Action is a project that is needed to maintain mobility or serve multimodal users, but is not currently included in a financially constrained plan and is not currently programmed.

Table 5-2: Segments Conceptual, Planned, and Programmed Considerations for SR 68

Segment 1	Segment 2	Segment 3
Conceptual: • Maintain a two-lane conventional highway and pursue relinquishment.	Conceptual: • Four-lane access control conventional highway with continuous left-turn channelization or access bypass alignment controlled.	Conceptual: • Maintain two-lane conventional highway and pursue relinquishment.
Planned: • Wide Holman 68 to 4-lanes from CHOMP to Hwy 1 and improve Hwy 68- Hwy 1 interchange operations (2010 TAMC RTP).	Planned: • Widen SR 68 from existing 4 lane section west to Corral de Tierra (2010 TAMC RTP). • Construct 4-lane bypass along Fort Ord ROW or widen existing roadway to 4-lanes (MON-68-4.0/15.0) (2010 TAMC RTP).	Planned: • No Planned Projects
Programmed: • From 0.2 KM west of CHOMP entrance to SR 1/68 separation. Widening & Intersection Improvements (oversight)	Programmed: • Corral De Tierra intersección improvement. Construct Dual WB Left Turn Lanes • Near Salinas at Salinas River bridge No. 44-0040 R/L Bridge Widening	Programmed: • No Programmed Projects

Source: System Planning/Caltrans Status of Projects Central Region District 5 September 2012

This Page Intentionally Left Blank

Sources Consulted

The Long Range Metropolitan Transportation Plan for the Monterey Bay Area. (2010). Monterey Bay Area Mobility 2035. Retrieved June 16, 2011 from:
http://www.ambag.org/pdf/monterey_bay_area_mobility_2035.pdf

Big Sur Land Trust. (2011). Study Shows Movement Paths, Habitat Connectivity for Wildlife in Highway 68 Corridor. Retrieved August 31, 2011.
http://www.bigsurlandtrust.org/news/show/15-study-shows-movement-paths-habitat-connectivity-for-wildlife-in-highway-68-corridor

California Coastal Commission. (2009). Program Overview. Retrieved April 6, 2011, from the CA. Gov:
http://www.coastal.ca.gov/whoweare.html

California Department of Transportation. (2011). Truck network Map. Retrieved April 8, 2011, from CA. Gov:
http://www.dot.ca.gov/hq/traffops/trucks/truckmap/index.htm

California Department of Transportation. (2011). California Corridor Mobility Increasing Efficiency, Improving Mobility. Retrieved June 14,, 2011, from CA. Gov:
http://www.dot.ca.gov/hq/tpp/corridor-mobility/d5-page.html

California Department of Transportation. (2007). California Transportation Plans 2030 Addendum. Retrieved June 14, 2011, from CA. Gov: http://www.dot.ca.gov/hq/tpp/offices/osp/ctp2030.html

California Department of Transportation. (2007). Freight Planning Branch. Retrieved June 14, 2011, from CA. Gov: http://www.dot.ca.gov/hq/tpp/offices/ogm/

California Department of Transportation. (2007). Interregional Transportation Strategic Plan. Retrieved June 14, 2011, from CA. Gov: http://www.dot.ca.gov/hq/tpp/offices/oasp/itsp.html

California Herps. (2011). A Guide to Amphibians and Reptiles in California. Retrieved May 24, 2011:
http://www.californiaherps.com/index.html

California Wildlife Habitat Relationships System. (2005). Annual Grassland. Retrieved May 24, 2011, From the California department of Fish and Game:
http://www.dfg.ca.gov/biogeodata/cwhr/pdfs/AGS.pdf

California Reptile & Invertebrate Society. (2011). Retrieved May 24, 2011, from CRIS:
www.calris.org/forums/thread-view.asp?tid=1419

City of Monterey. (2005). General Plan. Retrieved June 16, 2011, from:
http://www.monterey.org/enus/departments/planspublicworks/planning/developmentregulations/generalplan.aspx

California Native Plant Society. (2010). Inventory of Rare and Endangered Plants. Retrieved August 2, 2011, from: http://www.rareplants.cnps.org/glossary.html

City of Pacific Grove. (1994). General Plan. Retrieved June 16, 2011, from: http://www.ci.pg.ca.us/cdd/generalplan.htm

City of Salinas. (2002). General Plan. Retrieved June 16, 2011, from: http://www.ci.salinas.ca.us/documents.cfm

City of Seaside. (2003). General Plan. Retrieved June 16, 2011, from: http://www.ci.seaside.ca.us/index.aspx?page=191#General%20Plan

County of Monterey. (2010). General Plan *Draft*. Retrieved June 16, 2011, from: http://www.co.monterey.ca.us/planning/gpu/2010_Draft_Monterey_Co_General_Plan/2010_Draft_Monterey_Co_General_Plan.htm

Commute Alternatives. (2008). Park-and-Ride Lots. Retrieved April 7, 2011, from Association of Monterey Bay Area Governments: http://www.commutealternatives.info/park_and_ride_lots

Cradle of California History. (2007). Retrieves August 25, 2011, from the County of Monterey: http://www.cagenweb.com/monterey/

Division of Rail. (2006). California State Rail Plan. Retrieved June 14, 2011, from: http://www.dot.ca.gov/rail/go/dor/california-state-rail-plan/index.cfm

Interesting Tidbits About One of the Best Places on Earth to Live. (2009). Retrieved May 4, 2011, from the Monterey Peninsula Factoids: http://4.bp.blogspot.com/_s1I4zOIUr9w/ShdP_jh4ksI/AAAAAAAAAb4/ZQbVhJNKTFE/s400/Salinas+Valley+lettuce+field.jpg

Monterey Bay Unified Air Pollution Control District. (2011). Retrieved August 25, 2011, from MBUAPCD: http://www.mbuapcd.org/

Monterey City. (2005). Retrieved March 20, 2011, from the City of Monterey: http://www.monterey.org/generalplan/

Monterey County. (2009). Monterey County Crop Report. Retrieved March 20, 2011, from the County of Monterey: http://ag.co.monterey.ca.us/assets/resources/assets/18/CropReport2009.pdf?1288114803

Monterey Peninsula Chamber of Commerce. (2011). Community Profiles. Retrieved July 6, 2011, from the Chamber of Commerce: http://www.mpcc.com/about-peninsula/communities.php

Monterey-Salinas Transit. (2010). Retrieved August 11, 2011, from MST Website: http://www.mst.org/

Office of Protected Resources. (2011). Retrieved May 24, 2011, from NOAA Fisheries: http://www.nmfs.noaa.gov/pr/

Salinas City Economic Development Department. (2009). Salinas Valley Economic Development Strategic Vision and Recommended Action Plan. Retrieved March 15, 2011, from the City of Salinas: http://www.ci.salinas.ca.us/services/economic/pdf/09-10_Economic_Development_Strategic_Plan.pdf
Southern California Camping. (1997) Field Guide to Plants and Animals. Retrieved May 24, 2011: http://www.socalcamping.com/fieldguide/amphibian/redleggedfrog.html

Transportation Agency for Monterey County (TAMC). (2005). General Bikeways Plan for the County and Cities of Monterey County. Retrieved May 20, 2011, From TAMC: http://www.tamcmonterey.org/programs/bikeped/pdf/2005_TAMC_BikewaysPlan_correction.pdf

Transportation Agency for Monterey County (TAMC). (2011). Draft Bicycle and Pedestrian Master Plan. Retrieved August 10, 2011, From TAMC: http://www.tamcmonterey.org/programs/bikeped/index.html

Transportation Agency for Monterey County (TAMC). (2010) Regional Transportation Plan. Retrieved March 21, 2011, From TAMC: http://www.tamcmonterey.org/programs/rtp/pdf/2010_rtp/RTP_04_Chapter_2%20_Needs_Discussion.pdf

Update to the California Transportation Plan 2025 Strategic Growth Plan. (2005) Go California-Mobility Action Plan. Retrieved March 21, 2011, From Caltrans: http://www.dot.ca.gov/hq/tpp/offices/osp/ctp2025_files/ctp01.pdf

U.S. Census Bureau. (2010). *Main Page*. Retrieved July 5, 2011, from American Fact Finder: http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

This Page Intentionally Left Blank

Appendix A **List of Preparers**

The following people contributed directly and significantly to the production of this document and the project in general and were instrumental in managing the project through to the preparation of this document.

Rider, Brandy – Senior Transportation Planner

Thirteen years of experience in preparing TCRs, CSMPs, and environmental documents for CEQA/NEPA. Responsible for supervision and review of this document.

Espino, Claudia – PE Senior Transportation Engineer

Seventeen years of experience in Project Development in addition to seven years in Advanced Planning and Technical Support. Responsibilities include overseeing the technical input of this TCR.

Berkman, Jeff - Transportation Modeler

Eight years of experience in transportation demand modeling
Responsible for analyzing existing and future traffic conditions in Chapter 3.

Monroy-Ochoa, Orchid – Associate Transportation Planner

Three years of experience in preparing concept reports and TCRs.
Responsible for preparation and management of TCR.

Appendix B **Acronyms**

AHO	Affordable Housing Overlay
AMBAG	Association of Monterey Bay Area Governments
ARB	Air Resources Board
BRT	Bus Rapid Transit
BSLT	Big Sur Land Trust
CCA	California Coastal Act
CCAA	California Clean Air Act
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CHC	California Highway Commission
CHOMP	Community Hospital of the Monterey Peninsula
CNDBB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CTP	California Transportation Plan
DSMP	District System Management Plan
EPA	Environmental Protection Agency
FCAA	Federal Clean Air Act
FHWA	Federal Highway Administration
FORA	Fort Ord Reuse Area
FPPA	Farmland Protection Policy Act
FSZ	Farmland Security Zones
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Programs
GHG	Greenhouse Gases
GMAP	Goods Movement Action Plan
IP	Implementation Plan
IPCC	Intergovernmental Panel on Climate Change
ISTEA	Intermodal Surface Transportation Efficiency Act
ITSP	Interregional Transportation Strategic Plan
LCP	Local Coastal Programs
LIP	Land Implementation Program
LOS	Level of Service
LUP	Land Use Program
MBUAPCD	Monterey Bay Unified Air

	Pollution Control District
MPOs	Metropolitan Planning Organizations
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards
NCCAB	North Central Coast Air Basin
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHS	National Highway System
OPR	Office of Planning and Research
PCBR	Pacific Coast Bike Route
RTP	Regional Transportation Plan
RTPAs	Regional Transportation Planning Agencies
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SCS	Sustainable Communities Strategy
SIP	State Implementation Plan
SR	State Route
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
STRAHNET	Strategic Highway Network
TAMC	Transportation Agency for Monterey County
TCR	Transportation Concept Report
TDM	Transportation Demand Management
TSDP	Transportation System Development Plan
U.S. EPA	United States Environmental Protection Agency
U.S. FWS	U.S. Fish and Wildlife Service
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled
VPH	Volumes Per Hour

Appendix C **Glossary**

Aa

Access Control: Is the condition where the right of owners or occupants of abutting land or other persons to access a highway is fully or partially controlled by public authority.

Access Management: Involves managing where vehicles enter the highway to improve highway operations and reduce accidents.

Access Point: Location where vehicles can enter or exit a highway.

Adoption: California Transportation Commission (CTC) establishment of a specific highway route location.

Air Basin: An area or territory that contains similar meteorological and geographical conditions. In California, the Air Resources Board (ARB) has established nine air basins.

All-Way Stop Control: An intersection with stop signs at all approaches.

Annual Average Daily Traffic (AADT): Daily traffic that is averaged over a calendar year or fiscal year.

Arterial: A class of street that primarily serves through-traffic and major traffic movements.

Arterial Highway: A general term denoting a highway primarily used by through traffic usually on a continuous route.

Auxiliary Lane: The portion of the roadway for weaving, truck climbing, speed change, or other purposes supplementary to through traffic movement.

Average Daily Traffic (ADT): The average number of vehicles passing a specified point during a 24-hour period. Is frequently used in relation to the "peak-month" average daily traffic.

Average Lane Width: The average width of a travel lane. It is a weighted average of all lane widths found in the facility segment under consideration.

Average Median Width: The weighted average of all median widths found in the facility segment under consideration.

Average Travel Speed (ATS): A performance measure used to estimate level of service on a two-lane highway. The facility length divided by the average travel time of all vehicles traversing the facility, including all stopped delay times.

Average Shoulder Width: The weighted average of all shoulder widths found in the facility segment under consideration.

Bb

Bypass: An arterial highway that permits traffic to avoid part or all of an urban area.

Bike Route Class: Classification of a bicycle facility. There are three classes: Class I (bicycle facility separate from roadway),
Class II (designated bicycle facility adjacent to roadway), Class III (non-designated but open to bicycles).

Cc

California Environmental Quality Act (CEQA): 1970 State legislation that requires that State agencies regulate activities with major consideration for environmental protection.

California Transportation Investment System Tool (CTIS): A tool that visually displays, using GIS software, where transportation investment is currently underway (programmed) and where it is planned over the next 20 years.

Caltrans or Department: California Department of Transportation.

Capacity: The maximum number of vehicles or persons that can pass a point on a roadway during a specified time period (usually one hour) under prevailing roadway, traffic and control conditions.

Capacity Expansion: New facilities and operational improvements, which add through lanes.

Carbon Monoxide (CO): A product of incomplete burning of fuel, produced by motor vehicles (the primary source), home heating, and, to a lesser extent, industrial activities.

Carpool: A group of people who share automobile transportation to designated destinations, usually alternating drivers and vehicles.

Changeable Message Signs (CMS): Electronic signs that can change the message it displays. Often used on highways to warn and redirect traffic. Also referred to as variable or electronic message signs.

Channelization: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands or other suitable means to facilitate the safe and orderly movement of both vehicles and pedestrians.

Clear Recovery Zone: An area clear of fixed objects adjacent to the roadway to provide a recovery zone for vehicles that have left the traveled way. A minimum clear recovery area of 20 feet on conventional highways and 30 feet on freeways and high speed expressways is desirable.

Climbing Lane: A lane added on an uphill grade for use by trucks, recreational vehicles and other heavy vehicles with speeds significantly reduced by grade.

Closed Circuit Television (CCTV): This ITS technology allows a camera to display remote verification of road and weather conditions, traffic conditions and incidents. This CCTV camera will have compatibility with other communication technologies, such as, cable TV, kiosks and the Internet.

Collector: A roadway providing land access and traffic circulation within residential, commercial and industrial areas.

Coincident: Occurring at the same time; in agreement. A highway made be signed coincident with another highway (Example: SR 89/SR 70).

Concept: A strategy for future improvements that will reduce congestion or maintain the existing level of service on a specific route.

Continuous left-turn lane: A lane that simultaneously serves left turning vehicles traveling in opposite directions.

Conformity: Process to assess the compliance of any Federally funded or approved transportation plan, program, or project with air quality implementation plans. The conformity process is defined by the Clean Air Act.

Congestion: Defined as, reduced speeds of less than 35 miles per hour for longer than 15 minutes.

Controlled Access Highway: In situations where the Director or the California Transportation Commission (CTC) has determined it advisable, a facility may be designated a "controlled access highway" in lieu of the designation "freeway". All statutory provisions pertaining to freeways and expressways apply to controlled access highways.

Conventional Highway: A highway without control of access, which may or may not be divided. Grade separations at intersections or access control may be used when justified at spot locations.

Corridor: A set of essentially parallel transportation facilities for moving people and goods between two points.

Crawl Speed: The maximum sustained speed that can be maintained by a specified type of vehicle on a constant upgrade of a given percent.

Dd

Daily Vehicle Miles of Travel: An estimate of Annual Vehicle Miles of Travel is the product of AADT X Segment Length X 365 days.

Deceleration Lane: A short auxiliary lane that allows right-turning vehicles to slow prior to turning.

Delay: The time lost while traffic is impeded by some element over which the driver has no control.

Density: The number of vehicles per mile (or per lane per mile) on the traveled way at a given instant.

Design Exception: Written record that documents the engineering decisions leading to the exception

from a design standard. Exceptions are possible for both mandatory and advisory design standards.

Design Speed: A speed selected to establish specific minimum geometric (horizontal, vertical, site distance) design elements for a particular section of highway.

District: Department of Transportation Districts.

District System Management Plan: The District System Management Plan (DSMP) is a long-range (20 year) strategic and policy planning document that presents the long range goals, policies and programs the district intends to follow in maintaining, managing, and developing the transportation system. It serves as a resource for informing federal, state, regional and local agencies, and the public and private sector of the plans the district intends to follow in its partnership role with local and regional agencies.

Divided Highway: A highway with separated roadbeds for traffic in opposing directions.

Ee

Easement: A right to use or control the property of another for designated purposes.

Encroachment: Occupancy of project right-of-way by non-project structures or objects of any kind or character.

Environmental Impact Report (EIR): A detailed statement setting forth the environmental effects and considerations pertaining to a project as specified in California Environmental Quality Act (CEQA), and may mean either a Draft or a Final EIR.

Environmental Impact Statement (EIS): An environmental impact document prepared pursuant to the National Environmental Policy Act (NEPA) of 1969. The Federal government uses the term EIS in the place of the environmental impact report (EIR), which is used in CEQA.

Environmental Scoping Tool: A tool that visually displays, using GIS software, where habitats, species and hazardous sites are currently located.

Exclusive Turn Lane: A storage area designated to only accommodate left or right turning vehicles.

Expressway: An arterial highway with at least partial control of access, which may or may not be divided or have grade separations at intersections.

Ff

Facility Concept: General term used to describe the number of lanes and degree of access control on a State Route or Freeway. The term can be used to describe the existing facility or the future facility that will be required to handle projected traffic volumes within adopted level of service standards.

Fatal Plus Injury Actual: Contains specific data for accidents that are State highway related. Each accident record contains a ramp, intersection or highway post-mile address that ties it to the highway database.

Fatal Plus Injury Average: The Statewide Average Accident Rate (SWA) is based on a rated segment. The accident-rating factor (ARF) indicates how the existing segment compares to other segments on the State Highway System. The ARF is a comparison of then segment's accident rate to the statewide average accident rate for roads of the same type and having similar characteristics. Accident severity as well as accident frequency is considered in calculating the ARF.

Fatal Plus Injury per Million Vehicle Miles: The fatality rate of those killed in vehicles plus the injury rare of those injured in vehicles.

Federal Highway Administration (FHWA): An agency of the US Department of Transportation that funds highway planning programs.

Federal Transit Administration (FTA): An agency of the US Department of Transportation that funds transit planning and deployment programs.

Fiscal Year (FY): For California, the FY is the accounting period beginning July 1 and ending June 30. For Federal budget and accounting purposes the FY period begins October 1 and ends September 30.

Focus Routes: These routes are a subset of the 34 High Emphasis IRRS routes. They represent the ten corridors that should be the highest priority for

completion to minimum facility standards in order to serve higher volume interregional trip movements.

Free Flow Speed: The average speed of vehicles on a given facility, measured under low-volume conditions, when drivers tend to drive at their desired speed and are not constrained by delay from traffic control devices.

Freeway: A divided arterial highway with full control of access and with grade separations at intersections. A freeway, as defined by statute, is also a highway in respect to which: (1) the owners of abutting lands have no right or easement of access to or from their abutting lands; or (2) such owners have only limited or restricted right or easement of access. This statutory definition also includes expressways.

Freeway and Express System (F&E): The Statewide system of highways declared by the Legislature to be essential to the future development of California. The F&E System has been constructed with a large investment of funds for the ability of control access, in order to ensure the safety and operational integrity of the highways.

Freeway-to-freeway Connection: A single or multilane connection between freeways.

Frontage Street or Road: A local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas and for control of access.

Functional Classification: Guided by Federal legislation, refers to a process by which streets and highways are grouped into classes or systems, according to the character of the service that is provided, i.e., Principal Arterials, Minor Arterials and Major Collectors).

Gg

Gap: The time, in seconds, for the front bumper of the second of two successive vehicles to reach the starting point of the front bumper of the first.

Geometric Design: Geometric design is the arrangement of the visible elements of a road, such as alignment, grades, sight distances, widths, slopes, etc.

Goods Movement: The general term referring to the flow of commodities, modal goods movement systems and goods movement institutions.

Grade (profile): The average change in elevation of the highway surface within the segment under study. As used in highway capacity analysis, grade is expressed as level, rolling or a percentage (specific grade). Grade and terrain are not interchangeable terms. For example, a highway may pass through rolling terrain yet have a level grade due to design and construction features

Level: A combination of horizontal and vertical alignments that permits heavy vehicles to maintain approximately the same speed as passenger cars; this may include short grades of no more than 1 to 2 percent.

Rolling: A combination of horizontal and vertical alignments causing heavy vehicles to reduce their speed substantially below that of passenger cars but not to operate at crawl speeds for a significant period of time or at frequent intervals. Generally, rolling terrain has short grades of no more than 4 percent and average grades of less than 3 percent.

Specific grade: Any upgrade of 3 percent or greater that extends for 0.6 mile or more. Trucks will operate at or near crawl speeds due to the horizontal and vertical features of the highway. If the grade varies, it is analyzed as a single, composite (weighted average).

Grade Separation: A crossing of two highways or a highway and a railroad at different levels.

Hh

Headway (Highway): The time in seconds between consecutive vehicles moving past a point, in a given lane, measured front to front.

High Emphasis Routes: High Emphasis routes that are characterized as being the most critical Interregional Road System (IRRS) routes. More importantly, these routes are critical to interregional travel and the state as a whole.

High Occupancy Vehicle (HOV): Term for multi-occupant highway vehicles such as buses, jitneys, vans and carpools.

Highway: Term applies to roads, streets, and parkways, and also includes right-of-way, bridges, railroad crossings, tunnels, drainage structures, signs, guard rails, and protective structures in connection with highways.

Highway Advisory Radio (HAR): An ITS technology that provides valuable information to travelers through prerecorded messages that contain traffic information, road conditions, chain requirements and road closures, etc. Transmission is generally accomplished through low-powered AM broadcast.

Highway Capacity Manual (HCM): Updated in 2000 by the Transportation Research Board of the National Research Council, the HCM presents various methodologies for analyzing the operation (Level-of-Service) of transportation systems.

Highway Classification: For purposes of capacity analysis, separation of two-lane highways into Class I, II or III. Class I includes major interregional routes, Class II includes smaller links in the system and Class III includes segments of two-lane highway in smaller developed areas or communities.

Highway Planting: Vegetation placed for aesthetic, safety, environmental mitigation, or erosion control purposes, including necessary irrigation systems, inert materials, mulches and appurtenances.

Highway Trust Fund: Federal user fees on gasoline, etc. go into this fund. Used to reimburse states for Federal-aid projects.

High Occupancy Vehicle (HOV) Lane: Preferential or exclusive lane for high occupancy vehicles.

Hydrocarbons (HC): Incompletely burned or evaporated fuel or solvents, produced by mobile sources and industrial sources.

Ii

Incident Management: Technologies that allow transportation managers to identify and respond quickly to incidents on the highway system.

Initial Study: A preliminary analysis prepared by the lead agency to determine whether an environmental impact report (EIR) or negative declaration must be prepared pursuant to the California Environment Quality Act (CEQA).

Intelligent Transportation Systems (ITS): Use of advanced sensor, computer, and electronic systems to increase the safety and efficiency of the transportation system.

Interchange: A system of interconnecting roadways in conjunction with one or more grade separations providing for the interchange of traffic between two or more roadways on different levels.

Intermodal: The ability to connect, and make connections between modes of transportation.

Intermodal Corridor of Economic Significance (ICES): Significant National Highway System Corridors that link intermodal facilities most directly, conveniently and efficiently to intrastate, interstate, and international markets.

Intermodal Transportation Management System (ITMS): ITMS is an integral and fundamental tool used in system planning and advanced planning activities. The ITMS provides an interactive, intermodal and multimodal, quick response transportation planning analysis tool for use in system planning and jointly with regional agencies.

Internal Plan Data:

Interregional Road System (IRRS): A series of interregional state highway routes, outside the urbanized areas, that provides access to, and links between, the State's economic centers, major recreational areas and urban and rural regions.

Interregional Transportation Strategic Plan (ITSP): The ITSP identifies six key objectives for implementing the Interregional Improvement Program and strategies and actions to focus improvements and investments. This document also addresses development of the interregional road system and intercity rail in California, and defines a strategy that extends beyond the 1998 State Transportation Improvement Program (STIP).

Intersection: The general area where two or more roadways join or cross, which include roadside facilities for traffic movements in that area.

Interstate Highway System: The system of highways that connects the principal metropolitan areas, cities, and industrial centers of the United States. The Interstate System also connects the US to internationally significant routes in Mexico and Canada.

Island: A defined area between traffic lanes for control of vehicle movements or for pedestrian refuge. Within an intersection a median or an outer separation is considered an island.

Kk

Kilometer Post (KP): Using kilometers and counties, the KP system identifies specific and unique locations in the California highway system.

Ll

Lane Numbering: On a multilane roadway, the traffic lanes available for through traffic traveling in one direction are numbered from left to right when facing in the direction of traffic flow.

Left turn lane: A storage area designated to only accommodate left turning vehicles.

Level-of-Service (LOS): A rating using qualitative measures that characterize operational conditions within a traffic stream and perception of those measures by motorists and passengers.

Level terrain: A combination of horizontal and vertical alignments that permits heavy vehicles to maintain approximately the same speed as passenger cars; this generally includes short grades of no more than 1 to 2 percent.

Lifeline Route: A route on the State Highway System that is deemed so critical to emergency response/life safety activities of a region or the state. It must remain open immediately following a major earthquake, or for which preplanning for detour and/or expeditious repair and reopening can guarantee the through movement of emergency equipment and supplies.

Local Street or Local Road: A street or road primarily for access to residences, businesses, or other abutting property.

Local Transportation Commission (LTC): A designated transportation planning agency for a county which is not within the jurisdiction of a statutorily created Regional Transportation Planning Agency or a Council of Governments.

Mm

Maintained Miles: The length of a facility that is preserved and kept in the safe and usable condition to which it has been improved.

Maintain Only: Designation for routes where level-of-service is not an appropriate measure of system performance, with only maintenance and safety projects anticipated. A route may be classified as "Maintain Only" when it meets one or more of the following criteria:

- Low Average Annual Daily Traffic (typically less than 2,500)
- Not on the Interregional Road System
- Route purpose is primarily for basic access/local circulation rather than interregional travel
- Significant and/or sensitive environmental resources are in close proximity
- High degree of traffic control (stop control and/or signalization)

Median: The portion of a divided highway separating the traveled ways for traffic in opposite directions.

Median Lane*:* A speed change lane within the median to accommodate left turning vehicles.

Memorandum of Understanding (MOU): Formal structure for interagency cooperation.

Merging: The converging of separate streams of traffic into a single stream.

Metropolitan Planning Organization (MPO): By federal provision, the Governor designates this organization by principal elected officials of general-purpose local governments. MPOs are established to create a forum for cooperative decision-making.

Each MPO represents an urbanized area with a population of over 50,000 people.

Minimum Turning Radius: The radius of the path of the outer front wheel of a vehicle making its sharpest turn.

Mixed Flow: Traffic movement having automobiles, trucks, buses and motorcycles sharing traffic lanes.

Mode: Types of transportation: auto, bus, rail, etc.

Mountainous terrain: A combination of horizontal and vertical alignments causing heavy vehicles to operate at crawl speeds for significant distances or at frequent intervals.

Multimodal: The availability of transportation options using different modes within a system or corridor.

Multiple Lanes: Freeways and conventional highways are sometimes defined by the total number of through traffic lanes in both directions. Thus, an 8-lane freeway has 4 through traffic lanes in each direction. Likewise, a 4-lane conventional highway has 2 through traffic lanes in each direction.

Nn

National Environmental Policy Act (NEPA): 1969 legislation requiring all Federal agencies to prepare an environmental impact statement evaluating proposed Federal actions which may significantly affect the environment.

National Highway System (NHS): ISTEA established a 155,000-mile NHS to provide an interconnected system of principle arterial routes to serve major travel destinations and population centers, international border crossings, as well as ports, airports, public transportation facilities and other intermodal transportation facilities. The NHS must also meet national defense requirements and serve interstate and interregional travel.

National Network (NN) for Trucks: This network is comprised of the National System of Interstate and Defense Highways, examples are I-10, I-5 and I-80. STAA Trucks are allowed on the NN.

Nitrogen Oxides (NO_x): Products of high-compression internal combustion engines, power plants and other large burners.

Non-Motorized Transportation Facility: That combination of vehicles and ways generally including bikeways bicycles, sidewalks, bridle paths and horses which permit the transport of people.

Oo

Outer Separation: The portion of an arterial highway between the traveled ways of a roadway for through traffic and a frontage street or road.

Pp

Particulate Matter (PM_{10}): Mostly carbon particles much like soot; however, fine particles of dust, metals, asbestos and suspended droplets are also found. Produced by industry, motor vehicles and natural processes. Fugitive dust comes from such sources as agricultural tilling, construction, mining and quarrying, paved and unpaved road and wind erosion.

Passing Lane: A lane added to improve passing opportunities in one direction of travel on a two-lane highway.

Peak: 1. The period during which the maximum amount of travel occurs. It may be specified as the morning (a.m.) or afternoon or evening (p.m.) peak. 2. The period during which the demands for transportation services is the heaviest.

Peak Period Directional Split: During the peak period, the directional distribution of traffic.

Platoon: A group of vehicles traveling together as a group, either voluntarily or involuntarily because of signal control, geometrics, lack of passing opportunities or other factors.

Post-Mile (PM): Using miles and counties, the PM system identifies specific and unique locations in the California highway system.

Percent Time Spent Following (PTSF): A performance measure used to estimate level of service on a two-lane highway. It is the average

percentage of travel time that vehicles must travel in platoons behind slower vehicles due to the inability to pass.

Prescriptive: Type of easement that comes into existence without formal action because of long term historical use in a corridor. A prescriptive right cannot be established over land owned by a governmental entity.

Programming: Process of scheduling high-priority projects for development and implementation.

Project Initiation Document (PID): A report that documents agreement on the design concept, design scope, schedule and estimated cost of a project so that the project can be included in a future programming document. Reports include, among others, the PSR, PSSR, Combined PSR/PR, PEER and the NBSSR.

Project Documents:

Project Report: Report summarizing the feasibility of needs, alternatives, costs, etc., of a proposed transportation project affecting state transportation facilities. Often project reports consist of a Transmittal Letter and a draft environmental document.

Public Participation: The active and meaningful involvement of the public in the development of transportation plans and programs.

Public Transportation: Transportation service to the public on a regular basis using vehicles that transport more than one person for compensation, usually but not exclusively over a set route or routes from one fixed point or another. Routes and schedules may be determined through a cooperative arrangement.

Rr

Ramp: A connecting roadway between a freeway or expressway and another highway, road, or roadside area.

Ramp Metering: A traffic management strategy which utilizes a system of traffic signals on freeway entrance and connector ramps to regulate the volume of traffic entering a freeway corridor. This is to maximize the efficiency of the freeway and thereby minimize the total delay in the transportation corridor.

Recission: California Transportation Commission (CTC) cancellation of a previously adopted highway route location.

Region (Transportation Planning): A geographical area assigned to a Regional Transportation Planning Agency (RTPA) responsible for regional transportation planning.

Regional Transportation Plan (RTP): State-mandated documents to be developed biennially by all region transportation planning agencies (RTPAs). They consist of policy, action and financial elements.

Regional Transportation Planning Agency (RTPA): Created by AB 69 to prepare regional transportation plans and designated by the Business, Transportation and Housing (BT&H) secretary to receive and allocate transportation funds. RTPAs can be Councils of Government (COGs), Local Transportation Commissions (LTCs), Metropolitan Planning Organizations (MPOs), or statutorily-created agencies.

Rehabilitation: Activities which preserve the quality and structural integrity of a roadway by supplementing normal maintenance activities.

Relinquishment: A transfer of the State's right, title, and interest in and to a highway, or portion thereof, to a city or county.

Remote Atmospheric Weather System (RAWS): This ITS system collects atmospheric forecasting data to analyze weather patterns.

Resurfacing: A supplemental surface or replacement placed on an existing pavement to restore its riding qualities or increase its strength.

Ridesharing: Transportation system management (TSM) technique providing the systems and management to facilitate carpooling, vanpooling, buspooling and increasing transit usage.

Right-of-Way: Real estate acquired for transportation purposes, which includes the facility itself (highway, fixed guideway, etc.) as well as associated uses (maintenance structures, drainage systems, roadside landscaping, etc.)

Roadbed: That portion of the roadway extending from curb line to curb line or shoulder line to shoulder line. Divided highways are considered to have two roadbeds.

Roadside: A general term denoting the area adjoining the outer edge of the roadbed. Areas between the roadbeds of a divided highway may also be considered roadside.

Roadway: That portion of the highway included between the outside lines of the sidewalks, or curbs and gutters, or side ditches including also the appertaining structures, and all slopes, ditches, channels, waterways, and other features necessary for proper drainage and protection.

Road Weather Information Systems (RWIS): This ITS system collects pavement temperature, visibility, wind speed and direction and precipitation data and presents the data in a useable format to transportation system operators, potentially for the travelling public.

Rolling terrain: A combination of horizontal and vertical alignments causing heavy vehicles to reduce their speed substantially below that of passenger cars but not to operate at crawl speeds for a significant amount of time.

Ss

SAFETEA-LU: Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. SAFETEA-LU is the federal transportation act signed into law in August 2005.

Safety Index: The traffic Safety Index is a tool for evaluating safety benefits which provides a measure of the accident dollars saved by the motorist expressed as a percentage of the sum of right-of-way (R/W) and construction costs.

Safety Roadside Rest: A roadside area provided for motorists to stop and rest for short periods. It includes paved parking areas, drinking water, toilets, tables, benches, telephones, information panels, and may include other facilities for motorists.

Scenic Corridor: A band of land which is visible from and generally adjacent to, but outside of, the highway right of way having scenic, historical, or other aesthetic characteristics.

Scenic Highway: An officially designated portion of the State Highway System traversing areas of outstanding scenic beauty and/or historic character. Designations include: All-American Road, National Scenic Byway, U.S. Forest Service Byway, Historic Highway and State Scenic Highway.

Segment: A portion of highway identified for analysis that is homogenous in nature.

Separate Turning Lane: An auxiliary lane for traffic in one direction, which has been physically separated from the intersection area by a traffic island.

Shoulder: The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of base and surface courses.

Signalized Intersection: A place where two roadways cross and have a signal controlling traffic movements.

Skew Angle: The complement of the acute angles between two centerlines which cross.

Spacing: The distance between consecutive vehicles, in a given lane, measured front to front.

Speed Change Lane: An auxiliary lane, including tapered areas, primarily for the acceleration or deceleration of vehicles entering or leaving the through traffic lanes.

State Freeway and Expressway System: The Statewide system of highways declared by the Legislature to be essential to the future development of California.

State Highway Operation and Protection Program: A four-year program limited to projects related to state highway safety and rehabilitation.

State Implementation Plan (SIP): Plan required by the Federal Clean Air Act of 1970 to attain and maintain national ambient air quality standards.

State Routes: State highways within the State, other than Interstate and US routes, which serve intrastate

and interstate travel. These highways can be freeways, expressways or conventional highways.

State Title: Property purchased by the State and held in fee title.

State Transportation Improvement Program (STIP): Biennial document, adopted by the California Transportation Commission (CTC), which provides the schedule of projects for develop over the upcoming five years.

Strategic Highway Network (STRAHNET): A network of highways important to the United States strategic defense policy and which provides defense access, continuity, and emergency capabilities for the movement of personnel, materials and equipment in both peace time and war time.

Surface Transportation Assistance Act Network (STAA): The National Network (NN), Terminal Access (TA) and Service Access Route make up this network. These routes allow STAA trucks.

Surface Transportation Assistance Act (STAA) Trucks: This act required states to allow larger trucks on the National Network (NN) which is comprised of the Interstate State plus the non-Interstate System Federal-aid Primary System. "Larger trucks" includes (1) doubles with 28.5-foot trailers, (2) singles with 48-foot semi-trailers and unlimited kingpin-to-rear axle (KRPA) distance, (3) unlimited length for both vehicle combinations, and (3) width up to 102 inches.

Tt

Telecommuting: The substitution, either partially or completely, of transportation to a conventional office through the use of computer and telecommunications technologies (telephones, personal computers, modems, facsimile machines, electronic mail, etc.)

Terminal Access (TA) Routes: Terminal Access routes are portions of State routes, local roads,that can accommodate STAA trucks. TA route allow STAA trucks to (1) travel between NN routes, (2) reach a truck's operating facility, or (3) reach a facility where freight originates, terminates, or is handled in the transportation process.

Topography: The surface features of the land that a highway passes through (i.e. the topographic features of the surrounding land). For the purposes of a Transportation Concept Report, terrain is classified into one of three categories: flat, rolling or mountainous. The terms "terrain" and "grade" are not interchangeable (see "Grade").

Flat: The land surrounding the highway is level or nearly level. The most typical example of flat terrain is a valley.

Rolling: Land in the vicinity of the highway is composed of low hills, dips and rolls, or other types of undulations. Rolling terrain is found in many locations, including the foothills surrounding the Central Valley of California.

Mountainous: Terrain with extensive, steep slopes (often in excess of 6 percent) that may rise sharply on one side of the highway while dropping away rapidly on the other.

Three C Process (3C): "Continuing, cooperative and comprehensive" planning process. Required of metropolitan planning organizations (MPOs) as a condition for receiving federal capital or operation assistance.

Traffic Accident Surveillance and Analysis System (TASAS): A system that provides a detailed list and/or summary of accidents that have occurred on highways, ramps, or intersections in the State Highway System, Accidents can be selected by location, highway characteristics, accidents data codes or any combinations of these.

Traffic Conditions: Any characteristics of the traffic stream that may affect capacity or operation, including the percentage composition of the traffic stream by vehicle type and driver characteristics (such as the differences between weekday commutes and recreational drivers).

Traffic Lane: The portion of the traveled way for the movement of a single line of vehicles.

Traffic Markings: All lines, words, or symbols (except signs) officially placed within the roadway to regulate, warn, or guide traffic.

Traffic Sign: A device mounted on a fixed or portable support, conveying a message or symbol to regulate, warn, or guide traffic.

Traffic Signal: A traffic control device regulating the flow of traffic with green, yellow and red phases.

Transit: Generally refers to passenger service provided to the general public along established routes with fixed or variable schedules at published fares. Relate terms include: public transit, mass transit, public transportation, urban transit and paratransit.

Transportation Concept Report (TCR): Planning document that identifies current operating conditions, future deficiencies, route concept, concept level of service (LOS) and conceptual improvements for a route or corridor.

Transportation Control Measure (TCM): A measure intended to reduce pollutant emissions from motor vehicles. Examples of TCMs include programs to encourage ridesharing or public transit usage, city or county trip reduction ordinances and the use of cleaner burning fuels in motor vehicles.

Transportation Demand Management (TDM): "Demand-based" techniques for reducing traffic congestion, such as ridesharing programs and flexible work schedules enabling employees to commute to and from work outside of the peak hours.

Transportation Equity Act for the 21st Century (TEA21): As an addition to Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, TEA21, which was enacted June 9, 1998, authorizes highway, highway safety, transit and other surface transportation programs for the following 6 years.

Transportation Improvement Program (TIP): Federally required annual schedule of projects for transportation development for the upcoming five years. A project must be in the appropriate regional-Federal TIP to receive Federal or CTC funding.

Transportation Management Center (TMC): A focal point that can monitor traffic and road conditions, as well as train and transit schedules, and airports and shipping advisories. From here, information about accidents, road closures and emergency notification is relayed to travelers.

Transportation Permits: The Department of Transportation has the discretionary authority to issue special permits for the movement of vehicles/loads exceeding statutory limitations on the size, weight and loading of vehicles contained on Division 15 of the California Vehicle Code. Requests for such special permits require the completion of an application for a Transportation Permit from the office Traffic Operations-Transportation Permits. Route Classes for length are labeled yellow, green, blue, brown and red. Route Classes for weight are labeled purple, orange and green. See http://www.dot.ca.gov/hq/traffops/permits/ for more information.

Transportation Stakeholder: In transportation, stakeholders include FHWA, CTC, RTPAs, transportation departments, transportation commissions, cities and counties, Native American Tribal Governments, economic development and business interests, resource agencies, transportation interest groups, the public and the Legislature.

Transportation System Development Program (TSDP): A TSDP identifies a reasonable, comprehensive and effective range of transportation improvements on state highways. It is the Department's statement of priorities for improvements in negotiating and joint planning with regional agencies.

Transportation System Management (TSM): TSM is 1) a process oriented approach to solving transportation problems considering both long and short range implications; and 2) a services and operations process oriented in which low capital, environmentally-responsive, efficiency-maximizing improvements are implemented on existing facilities.

Travel Way: The portion of the roadway for the movement of vehicles, exclusive of shoulders.

Troposphere Ozone: Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels, solvents, petroleum processing and storage and pesticides.

Two Way Stop Control: Traffic control at an intersection where the minor approaches are controlled by stop signs but the major street is not.

Typical Section: Depiction of the basic (or typical) design elements/features for an existing or planned facility. Typical sections can be prepared for a variety of facilities, including: highway sections, lane transition areas, medians, interchanges, pavement structural sections, bike paths and drainage systems.

Uu

US Department of Transportation: The principal direct Federal funding agency for transportation facilities and programs. Includes the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Federal Railroad Administration (FRA), and other.

US Route: A network of highways of statewide and national importance. These highways can be freeways, expressways or conventional highways.

Vv

Vehicle Miles Traveled (VMT): Used in trend analysis and forecasts. (1) On highways, a measurement of the total miles traveled in all vehicles in the area for a specific time period. It is calculated by the number of vehicles multiplied by the miles traveled in a given area or on a given highway during the time period. (2) In transit, the number of vehicle miles operated on a given router or line or network during a specific time period.

Vehicle Occupancy: The number of people aboard a vehicle at a given time; also known as auto or automobile occupancy when the reference is to automobile travel only.

Vista Point: A paved area beyond the shoulder, which permits travelers to safely exit the highway to stop and view a scenic area. In addition to parking areas, trash receptacles, interpretive displays, and in some cases rest rooms, drinking water and telephones may be provided.

Volume: The number of vehicles passing a given point during a specified period of time.

Volume/Capacity Ratio (V/C Ratio): The ratio of flow rate to capacity for a transportation facility.

Ww

Weaving:. The crossing of traffic streams, moving in the same general direction, accomplished by merging and diverging.

Weaving Section: A length of roadway over which traffic streams cross paths through lane-changing maneuvers, at one end of which two one-way roadways merge and at the other end of which they separate.

Weigh-in Motion (WIM): Technology that determines a vehicle's weight without requiring it to stop on a scale.

Appendix D **Modeling Assumptions**

INTRODUCTION

This memorandum is prepared as part of the Transportation Concept Report (TCR) for SR 68 in Monterey County.

The objective of this memo is to identify the assumptions made as part of the development of baseline and forecasted peak volumes and capacity analysis along the SR 68 corridor.

HISTORICAL VOLUME ASSUMPTIONS

- Historical Annual Average Daily Traffic (AADT) is a measure of the average daily traffic volumes over an entire year. The calculation includes both weekday and weekend traffic. More information regarding the methodology for calculating AADT can be found on the following website: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/

- Variability in traffic volumes along a segment was addressed using calculated weighted averages based on length between count stations.

- AMBAG model growth rates were used to forecast volumes for SR 68 segments in Monterey County. We used the AMBAG model capacity assumptions for volume-to-capacity calculations.

REGIONAL MODEL ASSUMPTIONS

- Regional Model outputs reflect traffic patterns during a typical Tuesday thru Thursday.

- PM and AM Peak period volumes were analyzed.

- The directional capacity used for SR 68 was taken from the regional models - AMBAG to calculate the Volume to Capacity (V/C) ratio. The use of 85% of the capacity of the facility (V/C of 0.85) to define where peak hour flows become unstable and the system begins to breakdown is based on the 1994 Highway Capacity Manual (HCM). It outlines the threshold between Level of Service “E” and “F” is at a v/c ratio of 0.85 (Source: 1994 HCM, Table 3-1, Pg. 3-9)

- The regional model analyzes mainline volumes at a macro level, it has not been validated or calibrated to a project level and therefore should not be used in a micro-level analysis such as calculating turning movement volumes and intersection level of service which would be included in traffic study operational analysis. The regional model is used as a basis to develop inputs for the micro level analysis.

- Speed and travel times are based on regional model outputs, not direct measurements.

- The data used in the evaluation of traffic volumes and capacities are typical values based on averages over time and represented in traffic forecasting tools. As such, the conditions indicated in the evaluation may not always reflect the experiences of travelers at any particular place at any specific time. For example, localized capacity restrictions (e.g. bottlenecks at a given interchange) are not well represented in regional traffic models. In addition, incidents on the road such as accidents and vehicle breakdowns (non-recurring congestion) are not represented in regional traffic models. The result of these limitations of the methodology and data used in

this analysis is that many times the volume to capacity ratio or average speed shown in the evaluation may be more optimistic than what would actually be experienced on the roadway under the forecasted conditions.

Land Use Related

- The regional traffic models' base and future forecasts are built upon land use estimates from Regional Growth Forecasts (RGF) and Census Data. The RGF bases its forecasts from general plans. Thus, if the latest general plans do not address land use needs created by specific developments, then the increased travel demand created by these proposed developments will not show up in the regional traffic model.

- When a proposed development exceeds the amount designated in a General Plan land use element, an amendment to the General Plan is required; this change is not immediately incorporated in the regional model until new future-year land use scenarios are developed for input into the regional travel model; typically during an Regional Transportation Plan (RTP) or Sustainable Community Strategy (SCS) update. For this reason, the magnitude of some future proposed large development projects may not be factored into the regional model forecast analysis.

- Each regional travel demand model is made up of Traffic Analysis Zones (TAZs). The land use in each TAZ includes census demographic data as well as the land use data forecasted from the RGF. The land use data in each Traffic Analysis Zone, which could be households, employment, shopping, schools, or a combination of land uses, will generate trips, which are then distributed to and from other Traffic Analysis Zones.

PERFORMANCE MEASURES

- Annual Average Daily Traffic (AADT) – AADT are historical volumes that are collected and processed by the Traffic Data Branch at Caltrans' headquarters. AADT is the estimated total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. More information regarding traffic and vehicle data can be found on the following website: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/

- Model Daily Volumes – These volumes represent a typical weekday (Tuesday through Thursday)

- Model PM and AM Peak Hour Volumes – These volumes represent a typical weekday peak hour (Tuesday through Thursday)

- V/C – PM Peak Hour model volume divided by model hourly capacity by direction.

- VMT – Model PM Peak Hour Volume multiplies by the distance traveled.

Appendix E **Plans and Legislations**

California Transportation Plan (CTP)

The CTP is a statewide, long-range transportation policy plan that provides for the movement of people, goods, services, and information. The CTP offers a blueprint to guide future transportation decisions and investments that will ensure California's ability to compete globally, provide safe and effective mobility for all person, better link transportation and land use decision, improve air quality, and reduce oil energy consumption.

Transportation System Development Plan (TSDP)

The TSDP is a listing of the Departments' recommended capacity-increasing improvements on State highways. The purpose of the TSDP is to identify a comprehensive, reasonable and effective range of transportation improvements in modal categories to improve interregional and regional mobility and intermodal transfer of people and goods on State highways and major travel corridors. The following table identifies the TSDP 2002 capacity-increasing improvements for SR 68. Since the development of the TSDP many of the following projects may have been initiated. Please refer to Table 1-1 for further information.

Goods Movement Action Plan (GMAP)

The GMAP, a key component of the Strategic Growth Plan, will guide the allocation of $3.1 billion of the $19.9 billion approved by voters in the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 (Proposition 1B). The GMAP identifies solutions for California's four goods movement corridors to reduce congestion and accommodate the expansion of trade between California and the rest of the nation and the world.

California State Rail Plan

The State Rail Plan is an examination of passenger and freight rail transportation in California prepared in accordance with Government Code Section 14036. The goals of the intercity passenger rail in California are to provide an alternative mode of transportation, provide congestion relief, improve air quality, conserve fuel, and contribute to improved land use practices.

California Strategic Grown Plan

In 2006, former Governor Schwarzenegger and the Legislature initiated the first phase of a comprehensive Strategic Growth Plan to address California's critical infrastructure needs over the next 20 years. California faces over $500 billion in infrastructure needs to meet the demands of a population expected to increase by 23 percent over the next two decades. In November 2006, the voters approved the first installment of the 20-year vision to rebuild California by authorizing a series of general obligation bonds totaling $42.7 billion.

http://www.bondaccountability.ca.gov/Strategic_Growth_Plan/

State Transportation Improvement Program (STIP)

The STIP is a five-year listing of projects which is adopted by the California Transportation Commission (CTC). The STIP plans for future allocations of certain state transportation funds for state highway improvements, intercity rail, and regional highway and transit improvements. State law requires the CTC to update the STIP biennially, in even-numbered years, with the new STIP adding two new years to prior programming commitments.

http://www.catc.ca.gov/programs/stip.htm

State Highway Operation and Protection Program (SHOPP)

The 2010 SHOPP is a four-year program of projects that have the purpose of collision reduction, major damage restoration, bridge preservation, roadway preservation, roadside preservation, mobility enhancement and preservation of other transportation facilities related to the state highway system.

http://www.dot.ca.gov/hq/transprog/shopp.htm

Regarding SR 68, the *2010 Monterey County Regional Transportation Plan (RTP)*, adopted by TAMC in May of 2010 provides the following:

"*In addition to recreational traffic, this facility carries local and interregional truck traffic, agricultural traffic, and commuter traffic. As such, improvements to Highway 156 are considered to be vital to the county economy, especially to the $2 billion tourism-based economy of the Monterey Peninsula, and have been classified as a regional priority by the Agency.*"

Applicable regional planning documents that provide the policy foundation for this concept report include:

Corridor System Management Plan: US 101 Santa Barbara and San Luis Obispo Counties

The CSMP outlines a foundation to support partnership based, integrated corridor management of various travel modes (passenger rail, transit, cars, trucks, bicycles) and infrastructure (railroad tracks, stations, roads, highways, information systems, bike routes), to provide mobility in the most efficient and effective manner possible.

http://www.dot.ca.gov/hq/tpp/corridor-mobility/d5-page.html (assume the CSMP will be posted here)

Long-range transportation plans:

Association of Monterey Bay Area Governments:
Monterey Bay Area Mobility 2035 Metropolitan Transportation Plan
http://ambag.org/programs/met_transp_plann/mtp.html

Transportation Agency for Monterey County:
2010 Monterey County Regional Transportation Plan
http://tamcmonterey.org/programs/rtp/index.html

General Plans, Area Plans, and Community Plans

According to Fulton and Shigley's third edition of the *Guide to California Planning*, "the 'General Plan' (required by Govt. Code §65300 *et seq.*) is California's version of the 'master' or 'comprehensive' plan. It lays out the future of [a city or county's] development in general terms through a series of policy statements (in text and map form)." One of the mandated components of a General Plan is a section on transportation typically titled "Circulation" or "Mobility". This section often contains recommendations for state highways such as SR 156 in addition to local road recommendations. "Area" or "Community" plans act as "mini" versions of a General Plan for specific areas that are typically unincorporated portions of a county with higher population concentrations than rural county areas.

Applicable plans that provide the policy foundation for this concept report include:

Monterey County General Plan
http://www.co.monterey.ca.us/planning/docs/plans/1982_Monterey_County_GP.pdf

North County Area Plan
http://www.co.monterey.ca.us/planning/docs/plans/NCAP_complete.PDF

Castroville Community Plan
http://www.co.monterey.ca.us/planning/csp/CASTROVILLE%20COMMUNITY%20PLAN%20VOL.1%20UPDATED%205.5.10.pdf

San Benito County General Plan Update
http://sanbenitogpu.com/docs.html

City of Hollister General Plan
http://www.hollister.ca.gov/Site/html/about/Genplan2005.asp
City of San Juan Bautista General Plan
http://www.san-juan-bautista.ca.us/cityPlanning.htm