

# Attachment 1

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The background of the cover page is a composite image. The top half features a large, multi-story building with a light-colored facade and numerous windows, partially obscured by a semi-transparent blue overlay. The bottom half of the image is an aerial photograph of a coastal region, showing a mix of green fields, brownish soil, and some developed areas. A body of water is visible along the coastline on the right side.

# **FORT ORD REUSE AUTHORITY**

## **2020 Transition Transportation Study**

### **DRAFT**

**Fiscal Year 2019/2020**

**September 3, 2019**





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## INTRODUCTION

The purpose of the 2020 FORA Transitional Transportation Study is to inform the FORA Board concerning the transfer of “Lead Status” for specific transportation improvements from Fort Ord Reuse Authority (“FORA”) to local agency partners. The transportation improvements are associated with a FORA transition plan for June 30, 2020 by providing impact analysis for several scenario’s related to the FORA Capital Improvement Program (“CIP”). Specifically, the study considers the effect of specific groupings of transportation improvement projects on Fort Ord roads to inform the final year FORA CIP preparation.

### Project Background

Government Code section 67700(a) requires that FORA dissolve when eighty percent (80%) of the base has been developed or reused in a manner consistent with the Reuse Plan or on June 30, 2020, whichever first occurs. Government Code section 67700(b)(2) mandates as follows:

*The board shall approve and submit a transition plan to the Monterey County Local Agency Formation Commission on or before December 30, 2018, or 18 months before the anticipated inoperability of this title pursuant to subdivision (a), whichever occurs first. The transition plan shall assign assets and liabilities, designate responsible successor agencies, and provide a schedule of remaining obligations. The transition plan shall be approved only by a majority vote of the board. (Emphasis added)*

In December 2018 The FORA Board Resolved to implement a Transition Plan (Resolution 18-11). Section 2.2.6 of the Transition Plan Resolution on Transportation and Transit states the following:

*...With respect to the projects for which FORA is the lead agency and which no jurisdiction has addressed in its Transition Plan Implementing Agreement, FORA working in conjunction with TAMC shall prepare a regional traffic modeling analysis showing the inclusion of the FORA lead agency on-site roads as compared to the removal of the FORA lead agency roads on the remaining Fort Ord roads. In particular, off-site, regional and on-site Fort Ord local roads within or adjacent to the City of Marina, City of Seaside, City of Del Rey Oaks, and County of Monterey shall be analyzed to ascertain the impact on the Ord Community, including without limitation, California State University Monterey Bay (“CSUMB”), University of California Monterey Bay Science and Technology (“UC MBEST”), Monterey Peninsula College (“MPC”), the Veteran’s Cemetery, the Army and the National Monument, and the regional network, so as to inform the last year CIP...*

In response to this need to inform the FORA Board concerning the transfer of “Lead Status” for specific transportation improvements from Fort Ord Reuse Authority (“FORA”) to local agency partners, this study has been undertaken.



## Key Terms

**Deficiency analysis** is a methodology used to determine weaknesses found in a system. In terms of a transportation network study, a deficiency analysis uses Level of Service (“LOS”).

**Level of Service (“LOS”)** is a measure for qualitatively assessing roadway quality. TAMC and FORA have established acceptable service levels as LOS D or better.

**Regional Travel Demand Model** is a forecasting tool used to estimate the number of vehicles that will use a specific transportation facility in the future.

**Traffic Analysis Zone (“TAZ”)** is the unit of geography used in the Regional Travel Demand Model. It includes input data for households and employment that the Regional Travel Demand Model requires.

**Average Daily Traffic (“ADT”)** is the average weekday traffic counted in a location over several days during a period of the year of considered typical.

**Peak Hour** is the “rush hour” or highest hourly traffic volume in either the AM or the PM.

**Capital Improvement Plan (“CIP”)** is a short-range plan that identifies capital projects including financing options.

**Northeast/Southwest Connector (“NE/SW Connector”)** formerly known as Eastside Parkway, is an arterial connector that has been part of the Fort Ord transportation network since the 1997 Base Reuse Plan as “Eastside Road”.



## Scope

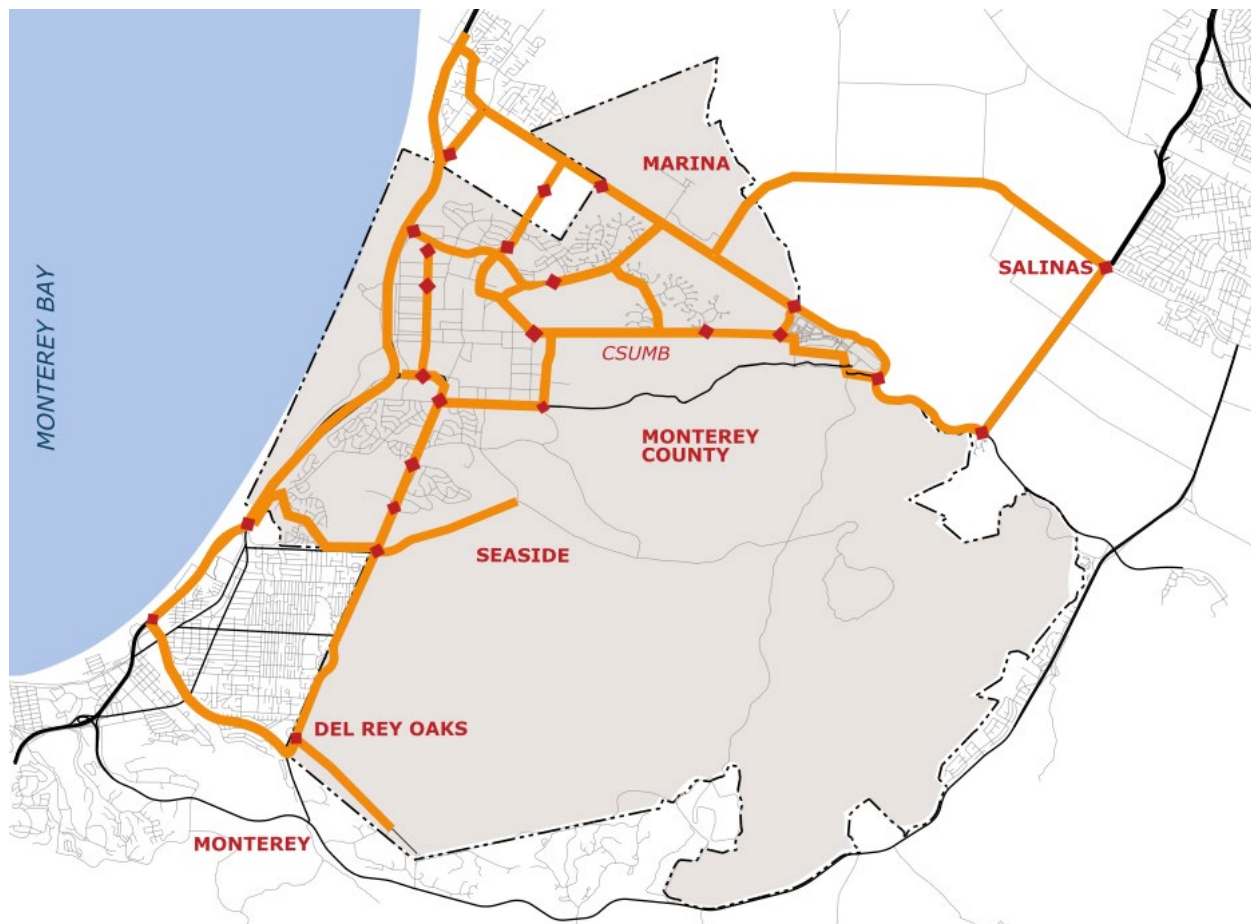
The study's workplan was to evaluate road network requirements in the FORA CIP, which includes the following tasks:

1. Review/update the FORA Board approved 2018/19 CIP land use assumptions;
2. Review the 2018 AMBAG Regional Travel Demand Model for use in this study;
3. Review/update future network assumptions
4. Create five (5) transportation network scenarios for travel forecast analysis including:
  - (E1)** The Existing Network, Key intersections, and updated traffic counts
  - (C1)** Buildout of the 2019/2020 FORA CIP ("Buildout")
    - includes NE/SW Connector as it is included in the RTP ("NE/SW Connector")
    - assumes buildout of Imjin Road (from Reservation Rd. to California Rd.)
  - (C2)** Buildout with alternative connector road from Eucalyptus to Watkins Gate
  - (C3)** Buildout with alternative connector road from Eucalyptus to 8th Ave
  - (C4)** Buildout not including NE/SW Connector
  - (C5)** Buildout not including NE/SW Connector or Improving Gigling
5. Complete scenario analysis – conduct model runs on five (5) transportation networks, identify deficiencies/weaknesses, and summarize results;
6. Complete trigger analysis – for study segments found to be deficient for 2040 Conditions, the approximate year the study segment will become deficient will be identified based on assumed linear uniform growth.





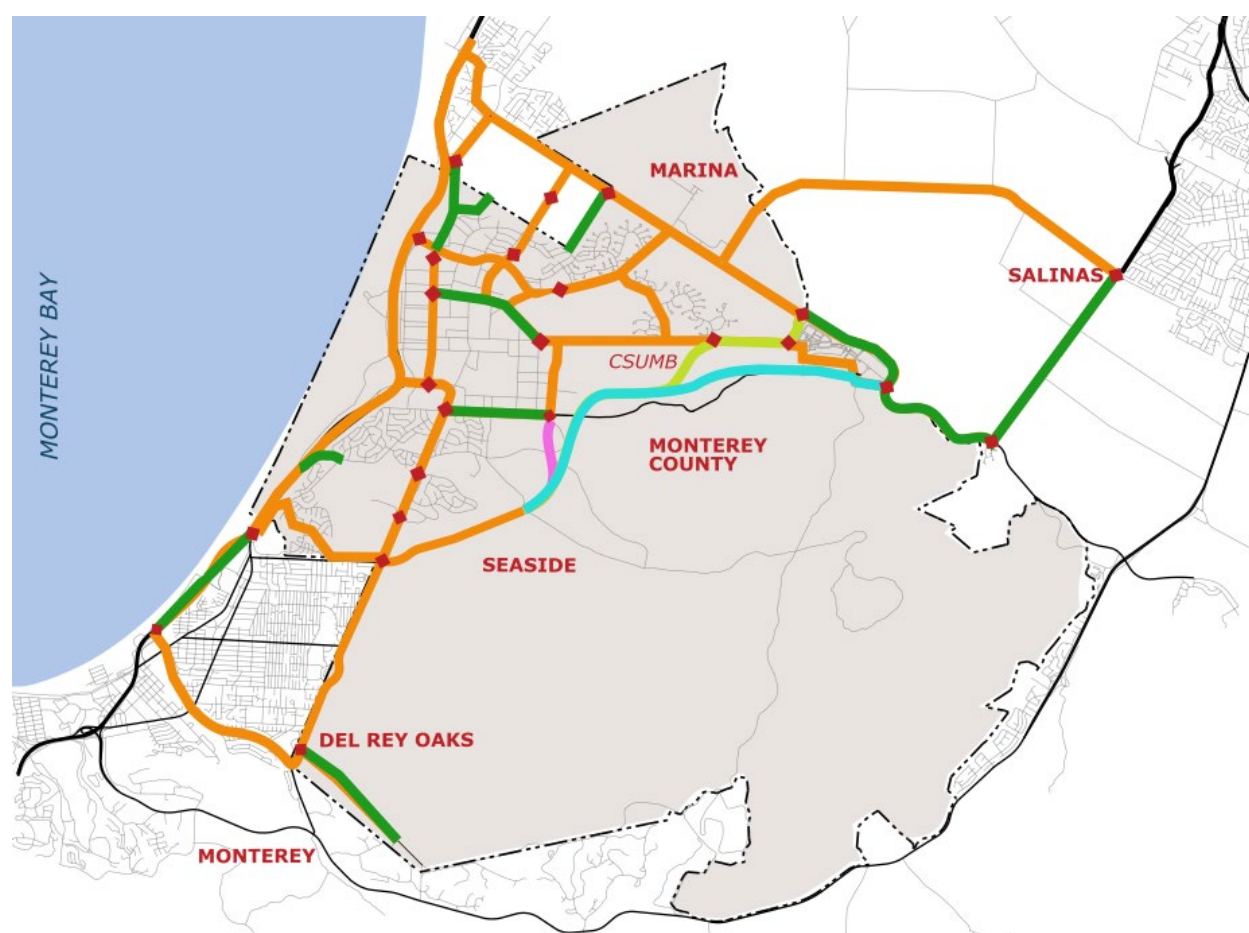
Figure 1.1 – (E1) Existing Network (orange)





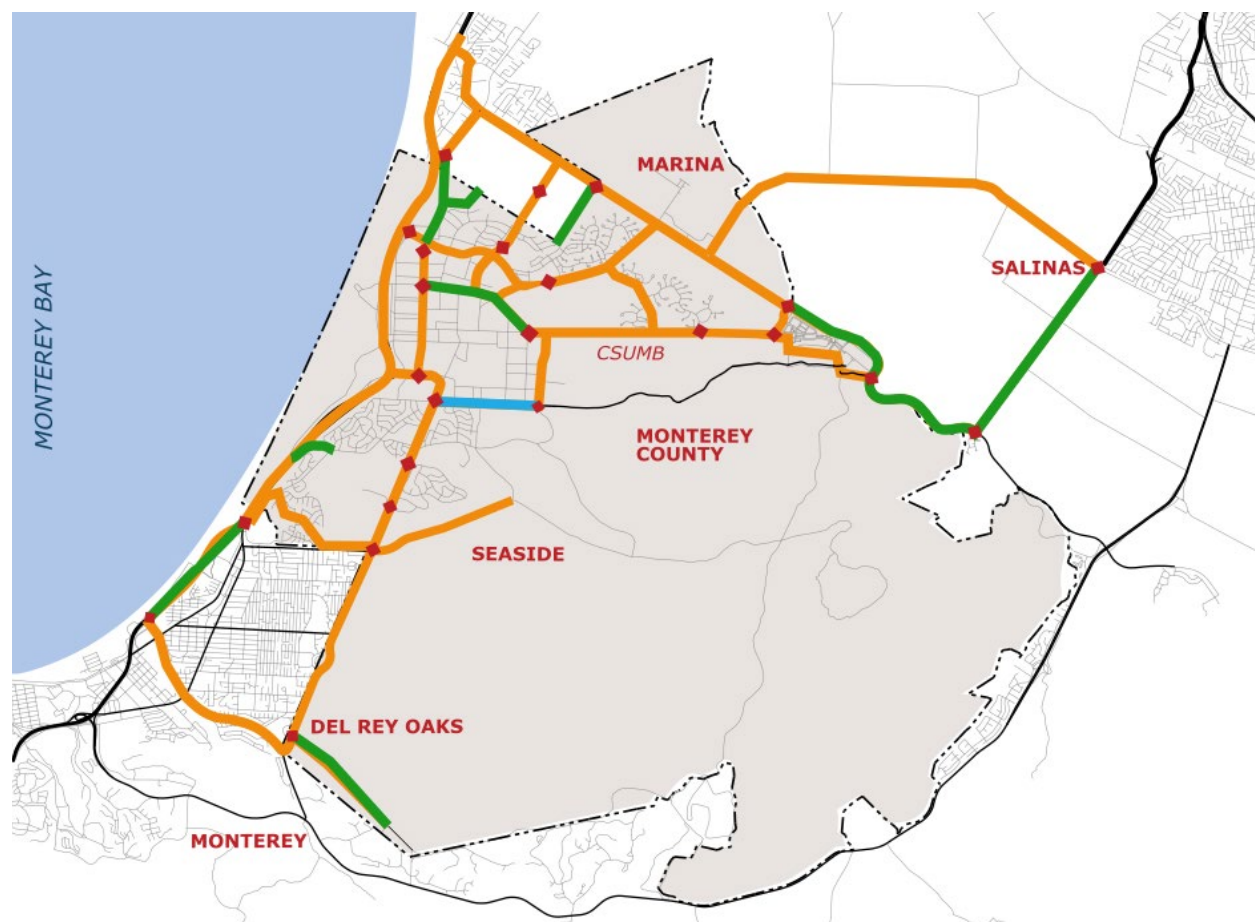
**Figure 1.2: Buildout with NE/SW Connector**

- Existing Roads (*orange*)
- FORA CIP Projects (*green*)
- (C1) NE/SW Connector in the RTP (*yellow*)
- (C2) Alternative Connector Road from Eucalyptus to Watkins Gate (*cyan*)
- (C3) Alternative Connector Rd from Eucalyptus to 8<sup>th</sup> Ave. (*pink*)



**Figure 1.3: FORA CIP Buildout – Not Including Connector (C4) or Gigling Improvements (C5)**

- Existing Roads (*orange*)
- FORA CIP Projects (*green*)
- (C4) Buildout not including NE/SW Connector
- (C5) Buildout not including NE/SW Connector or Improving Gigling (*blue*)





## 2020 FORA TRANSITIONAL TRANSPORTATION STUDY

This study includes analysis of transportation improvement packages based on the current (2019/2020) FORA CIP. Five different scenarios that include different transportation improvement packages were developed and compared to the existing conditions (2019) using a subarea version of the 2018 AMBAG Regional Transportation Demand Model (RTDM) developed specifically for this study. An overview of the RTDM, a detailed description of the scenarios, the analysis results, and the findings and conclusions are provided in the following sections. The purpose of the 2020 FORA Transitional Transportation Study is to highlight changes in transition plan status of specific transportation improvements from FORA to local agency partners. The transportation improvements are associated with a FORA transition plan by providing impact analysis for several scenario's related to the FORA CIP.

### **Regional Transportation Demand Model**

The 2018 AMBAG Regional Travel Demand Model was used to determine the FORA CIP roadway network deficiencies. AMBAG completed an update of the model for the Metropolitan Transportation Plan / Sustainable Communities (2040 MTP/SCS and RTP) for Monterey, San Benito, and Santa Cruz Counties. The model includes detailed transportation and transit networks, as well as a geographically based TAZ layer containing socioeconomic data for the base year 2015 and forecast year 2040. The AMBAG Regional Travel Demand Model has a base year of 2015 condition established using data from the 2010-2012 California Household Travel Survey, US Census, employment, and traffic data.

### **Review & Update of Land Use Assumptions**

Kimley-Horn, in consultation with FORA and TAMC staff, updated and refined the model's transportation network, reflecting the Base Reuse Plan land use assumptions, and included recent development data for the Fort Ord jurisdictions. This analysis assumes the resource constrained Base Reuse Plan buildout described in FORA's Development and Resource Management Plan (DRMP) (BRP section 3.11.5) for scenarios that include 2040 land use.

**Table 1** and **Table 2** summarize the updated Fort Ord land use data for full buildout of projects that contribute to the 2020 FORA Transition Transportation Study. FORA received its land use projections from the individual jurisdictions, and they were recently verified by Economic Planning Systems (EPS). Land use development data includes any relevant land use, employment, and household information available from development plans and regulatory documents. Data collected from the development plans and regulatory documents were categorized in accordance to the demographic and land use attributes in the 2018 RTDM. This maintains consistency between the housing and employment totals from the collected data with the model's land use inputs. Note that **Table 1** and **Table 2** reflect readily available current project information obtained during this project (detailed employment information is only presented for FORA land use projects). **Figure 2.1** shows the TAZ structure in which the land use information for this model is contained.



**Table 1: Development Forecasts FORA 2018/19 CIP: Residential (1)**

TAZ (all)	Land Use Location & Description	TAZ (distributed)	Forecast Distribution Assumption %	Forecast	Forecast + Built
	<b>NEW RESIDENTIAL</b>				
	<b><u>Marina</u></b>				
839, 848, 855, 870, 853	Seahaven A (Entitled)	-	<b>100%</b>		
		<b>839</b>	25%	<b>201</b>	<b>201</b>
		<b>848</b>	25%	<b>201</b>	<b>201</b>
		<b>855</b>	13%	<b>100</b>	<b>100</b>
		<b>870</b>	13%	<b>100</b>	<b>100</b>
		<b>853</b>	25%	<b>201</b>	<b>201</b>
790, 815	Dunes Phase 1 (Entitled)	-	<b>100%</b>		
		<b>790</b>	50%	<b>15</b>	<b>220</b>
		<b>815</b>	50%	<b>15</b>	<b>220</b>
788, 789, 815,	Dunes Phase 2 (Entitled)	-	<b>100%</b>		
		<b>788</b>	25%	<b>111</b>	<b>111</b>
		<b>789</b>	20%	<b>89</b>	<b>89</b>
		<b>815</b>	55%	<b>244</b>	<b>244</b>
788, 791	Dunes Phase 3 (Entitled)	-	<b>100%</b>		
		<b>788</b>	25%	<b>109</b>	<b>109</b>
		<b>791</b>	75%	<b>326</b>	<b>326</b>
789, 813, 821	Cypress Knolls (Entitled)	-			
		<b>789</b>	20%	<b>142</b>	<b>142</b>
		<b>813</b>	40%	<b>285</b>	<b>285</b>
		<b>821</b>	40%	<b>285</b>	<b>285</b>
789	VTC Supportive Housing (Entitled)	<b>789</b>	100%	<b>71</b>	<b>71</b>
	<b><u>Seaside</u></b>				
762	Seaside Resort (Entitled)	<b>762</b>	100%	<b>122</b>	<b>125</b>
814, 847	Surplus II (Planned)	-			
		<b>814</b>	75%	<b>138</b>	<b>138</b>
		<b>847</b>	25%	<b>46</b>	<b>46</b>
1803	26 Acre Parcel (Planned)	<b>1803a</b>	100%	<b>189</b>	<b>189</b>
1803	Main Gate (Planned)	<b>1803b</b>	100%	<b>590</b>	<b>590</b>
801	Nurses Barracks (Planned)	<b>801a</b>	100%	<b>40</b>	<b>40</b>
774, 787	Seaside East (Planned)	-			
		<b>774</b>	75%	<b>0</b>	<b>0</b>
		<b>787</b>	25%	<b>0</b>	<b>0</b>

**Table 1: Development Forecasts FORA 2018/19 CIP: Residential Continued (1)**

TAZ (all)	Land Use Location & Description	TAZ (distributed)	Forecast Distribution Assumption %	Forecast	Forecast + Built
	<b>NEW RESIDENTIAL</b>				
	<u>Other</u>				
1035,1039, 1042, 1052, 1063, 1065, 1068, 1070	East Garrison I (Entitled)	-	<b>100%</b>		
		<b>1035</b>	12.0%	<b>72</b>	<b>176</b>
		<b>1039</b>	16.0%	<b>96</b>	<b>235</b>
		<b>1042</b>	17.0%	<b>102</b>	<b>250</b>
		<b>1052</b>	17.0%	<b>102</b>	<b>250</b>
		<b>1063</b>	15.0%	<b>90</b>	<b>221</b>
		<b>1065</b>	12.0%	<b>72</b>	<b>176</b>
		<b>1068</b>	7.0%	<b>42</b>	<b>103</b>
		<b>1070</b>	4.0%	<b>24</b>	<b>59</b>
1782	Del Rey Oaks (through 2030)	<b>1782</b>	100%	<b>691</b>	<b>691</b>
1782				<b>500</b>	<b>500</b>
980	UC Blanco Triangle (Planned)	<b>980</b>	100%	<b>240</b>	<b>240</b>
	<u>Other Residential (Planned)</u>				
-	<b>TOTAL NEW RESIDENTIAL</b>	-	-	<b>5,650</b>	<b>6,932</b>
	<b>EXISTING/REPLACEMENT RESIDENTIAL</b>				
913	CSUMB	<b>913</b>	100%	<b>-4</b>	<b>65</b>
908	CSUMB	<b>908</b>	100%	<b>1</b>	<b>882</b>
853a	Preston Park (Entitled)	<b>853a</b>	100%		<b>352</b>
839, 848	Seahaven (Entitled)	-			
		<b>839</b>	50%	<b>24</b>	<b>124</b>
		<b>848</b>	50%	<b>24</b>	<b>124</b>
848	Abrams B (Entitled)	<b>848</b>			<b>192</b>
848	MOCO Housing Authority (Entitled)	<b>848</b>			<b>56</b>
848	Shelter Outreach Plus (Entitled)	<b>848</b>			<b>39</b>
789	VTC (Entitled)	<b>789</b>			<b>13</b>
853	Interim Inc (Entitled)	<b>853</b>			<b>11</b>
762	Sunbay (Entitled)	<b>762</b>			<b>297</b>
750, 769	Bayview (Entitled)	-			
		<b>750</b>			<b>135</b>
		<b>769</b>			<b>90</b>
762, 765	Seaside Highlands (Entitled)	-			
		<b>762</b>			<b>361</b>
		<b>765</b>			<b>19</b>
	<b>TOTAL EXISTING/REPLACE</b>	-	-	<b>47</b>	<b>1,813</b>



**Table 2: Development Forecasts FORA 2018/19 CIP: Non-Residential (1)**

TAZ (all)	Land Use Location & Description	Square Footage			Employment	
		Built To Date	Forecast	Forecast + Built	EMP: Built To Date	EMP: Forecast
	<b>NON-RESIDENTIAL</b>					
	<b>Office</b>					
908	CSUMB	21,350	17,850	39,200	61	51
1782	Del Rey Oaks RV Park (Entitled)	-	400,000	400,000		1143
	Del Rey Oaks RV Park (Planned)					
1782, 766	Monterey (Planned)	-	721,524	721,524		2061
1063, 1065, 1070	East Garrison I (Entitled)	-	68,000	68,000		194
789	Imjin Office Park (Entitled)	28,000	-	28,000	80	
790, 815	Dunes Phase 1 (Entitled)	203,000	30,000	233,000	580	86
788, 789	Dunes Phase 2 (Entitled)		-	-		
791	Dunes Phase 3 (Entitled)	-	450,000	450,000		1286
			400,000	400,000		
		-	-	-		
853	Interim Inc. (Entitled)	14,000	-	14,000	40	
899	Marina (Planned)	-	-	-		
788	TAMC (Planned)	-	-	-		
814, 847	Campus Town / Surplus II (Planned)		-	-		0
1803	Campus Town /26 Acre (Planned)		-	-		
			-	-		
774, 787	Seaside East (Planned)	14,900	400,000	414,900	43	1143
787	Seaside East / Boomerang Parcel	-	250,000	250,000	0	714
899, 937, 980	UC (Planned)	-	680,000	680,000		1943
	<b>Total Office</b>	<b>259,900</b>	<b>3,399,524</b>	<b>3,659,424</b>	<b>743</b>	<b>8570</b>

**Table 2: Development Forecasts FORA 2018/19 CIP: Non-Residential (1)**

TAZ (all)	Land Use Location & Description	Square Footage			Employment	
		Built To Date	Forecast	Forecast + Built	EMP: Built To Date	EMP: Forecast
	<b>NON-RESIDENTIAL</b>					
	<b>Industrial</b>					
766, 1782	Monterey (Planned)	-	216,276	216,276		216
842	Marina CY (Entitled)	12,300	-	12,300	12	
790, 815	Dunes Phase 1 (Entitled)	418,000	55,000	473,000	418	55
788, 789	Dunes Phase 2 (Entitled)		25,000	25,000		25
791	Dunes Phase 3 (Entitled)	-	-	-		
		-	-	-		
899	Marina Airport (Entitled)	250,000	-	250,000	250	
788	TAMC (Planned)	-	-	-		
814, 847	Campus Town / Surplus II (Planned)		150,000	150,000		150
1803	Campus Town /26 Acre (Planned)		-	-		
774, 787	Seaside East (Planned)	14,900	-	14,900	15	0
899, 937, 980	UC (Planned)	38,000	310,000	348,000	38	310
	<b>Total Industrial</b>	<b>733,200</b>	<b>756,276</b>	<b>1,489,476</b>	<b>733</b>	<b>756</b>

**Table 2: Development Forecasts FORA 2018/19 CIP: Non-Residential (1)**

TAZ (all)	Land Use Location & Description	Square Footage			Employment	
		Built To Date	Forecast	Forecast + Built	EMP: Built To Date	EMP: Forecast
	<b>NON-RESIDENTIAL</b>					
	<b>Retail</b>					
908	CSUMB	4,400	-	-	8	
1782	Del Rey Oaks (Planned)	-	-	-		
1063, 1065	East Garrison I (Entitled)	-	34,000	34,000		62
790, 815	Dunes Phase 1 (Entitled)	418,000	55,000	473,000	760	100
788, 789	Dunes Phase 2 (Entitled)		25,000	25,000		45
791	Dunes Phase 3 (Entitled)		-	-		
788	TAMC (Planned)	-	-	-		
762	Seaside Resort (Entitled)	-	10,000	10,000		18
814, 847	Campus Town / Surplus II (Planned)		150,000	150,000		273
1803	Campus Town /26 Acre (Planned)		-	-		
1803	Main Gate		150,000	150,000		273
774, 787	Seaside East (Planned)	-	-	-		0
899, 937, 980	UC (Planned)	-	310,000	310,000		564
	<b>Total Retail</b>	<b>418,000</b>	<b>734,000</b>	<b>1,152,000</b>	<b>760</b>	<b>1335</b>

**Table 2: Development Forecasts FORA 2018/19 CIP: Non-Residential (1)**

TAZ (all)	Land Use Location & Description	Built To Date	Forecast	Forecast + Built
	<b>HOTEL ROOMS</b>			
	Hotel (rooms)			
1782	Del Rey Oaks RV Park (Planned)	-	550	550
			250	250
790	Dunes Phase 1 (Entitled)	106	94	200
789	Dunes Phase 2 (Entitled)	-	300	300
	Dunes Phase 3 (Entitled)		-	
762	Seaside Resort (Entitled)	-	330	330
762	Seaside Resort TS (Entitled)	-	-	-
1803	Campus Town / Surplus II (Planned)		-	-
1803	Campus Town /26 Acre (Planned)		118	118
1803	Main Gate		250	250
774, 787	Seaside East (Planned)	-	-	-
899, 937, 980	UC (Planned)	-	-	-
	<b>Total Hotel Units</b>	<b>106</b>	<b>1,892</b>	<b>1,998</b>
TAZ (all)	Land Use Location & Description	Built To Date	Forecast	Forecast + Built
	<b>Students</b>			
	<b>University</b>			
806	University (CSUMB)	2,322	2,123	4,445
826	University (CSUMB)	995	910	1,905
847	University (CSUMB)	3,317	3,033	6,350
913	University (CSUMB)	-	-	-
908	University (CSUMB)	-	-	-
	<b>Total Students</b>	<b>6,634</b>	<b>6,066</b>	<b>12,700</b>



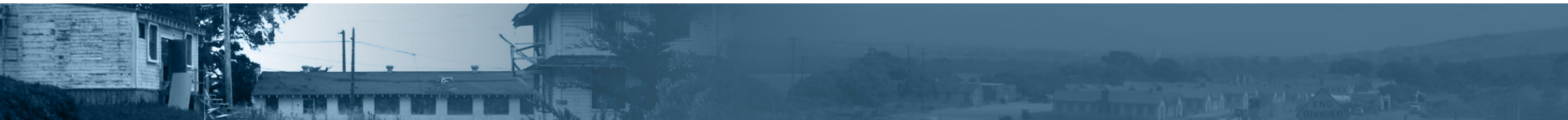
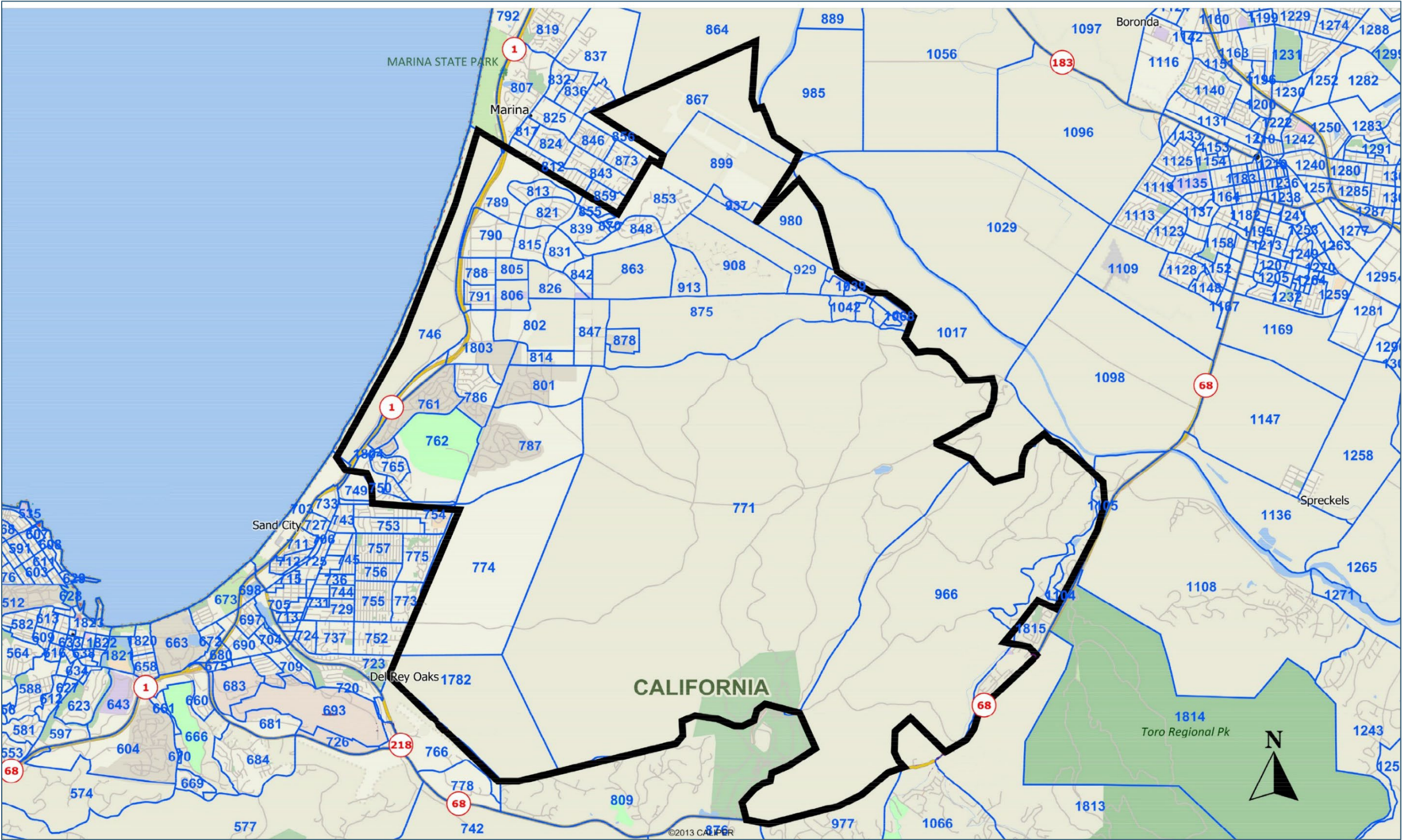
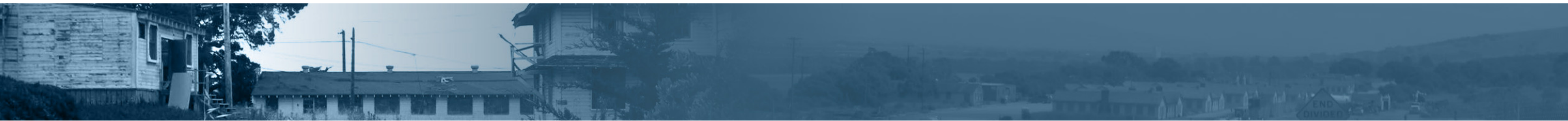


Figure 2.1: FORA Traffic Analysis Zones











## Model Validation

The development of the travel demand model used for the 2020 FORA Transition Transportation Study was based on the 2018 AMBAG Regional Travel Demand Model (RTDM) and includes refinements to the free flow speeds coded into the model's roadway network to improve the model's traffic assignment for FORA area roadways.

As described on AMBAG's website:

*"the 2018 RTDM is a technical update only to the 2014 RTDM. The technical update to the 2018 RTDM uses a new base year of 2015 to incorporate land use and transportation network changes. The 2015 base year was not re-estimated, re-calibrated, or re-validated. The 2014 RTDM was an entirely new travel demand model estimated and calibrated to 2010 conditions using data from the 2010-11 California Household Travel Survey (CHTS), Census, employment, and traffic counts data. The model utilizes advance techniques to capture travel behavior at a more individual-level and incorporates disaggregate level data into some of the modeling stages. The primary reasons for introducing more disaggregate level data into the model was to assist in addressing elements of SB 375, and to pave the way for a possible transition to a tour-based modeling approach in the future. This updated model is a traditional four-step trip-based approach, and as such includes models for Trip Generation, Trip Distribution, Mode Choice, and Trip Assignment."*

Note: the 2017 FORA Fee Reallocation Study was a nexus analysis which included a detailed validation of the FORA model based on the prior 2014 RTDM. As such, this version of the FORA model should only be considered a technical update to the 2017 FORA Fee Reallocation Study and valid for the purposes of this study, similarly to how AMBAG resolved the development of the 2018 model.



## FORA Capital Improvement Program Roadway Projects

To support the proposed developments within the FORA area and provide mitigation for impacts to the transportation network, the 2018/2019 FORA CIP includes the following transportation improvement projects, which receive funding from the Community Facilities District Special Tax and are shown in **Figure 3.1**. Note that the projects have been identified as being Regional, Off-Site, or On-Site based on their context and relative location. Additional detail regarding improvements is provided in the exhibits detailing LOS for the various analysis scenarios later section in this study.

### Regional

- SR 156 between US 101 and SR 1
- Highway 1 widening between Sand City and Seaside
- A new Monterey Road Interchange on Highway 1 in the City of Seaside

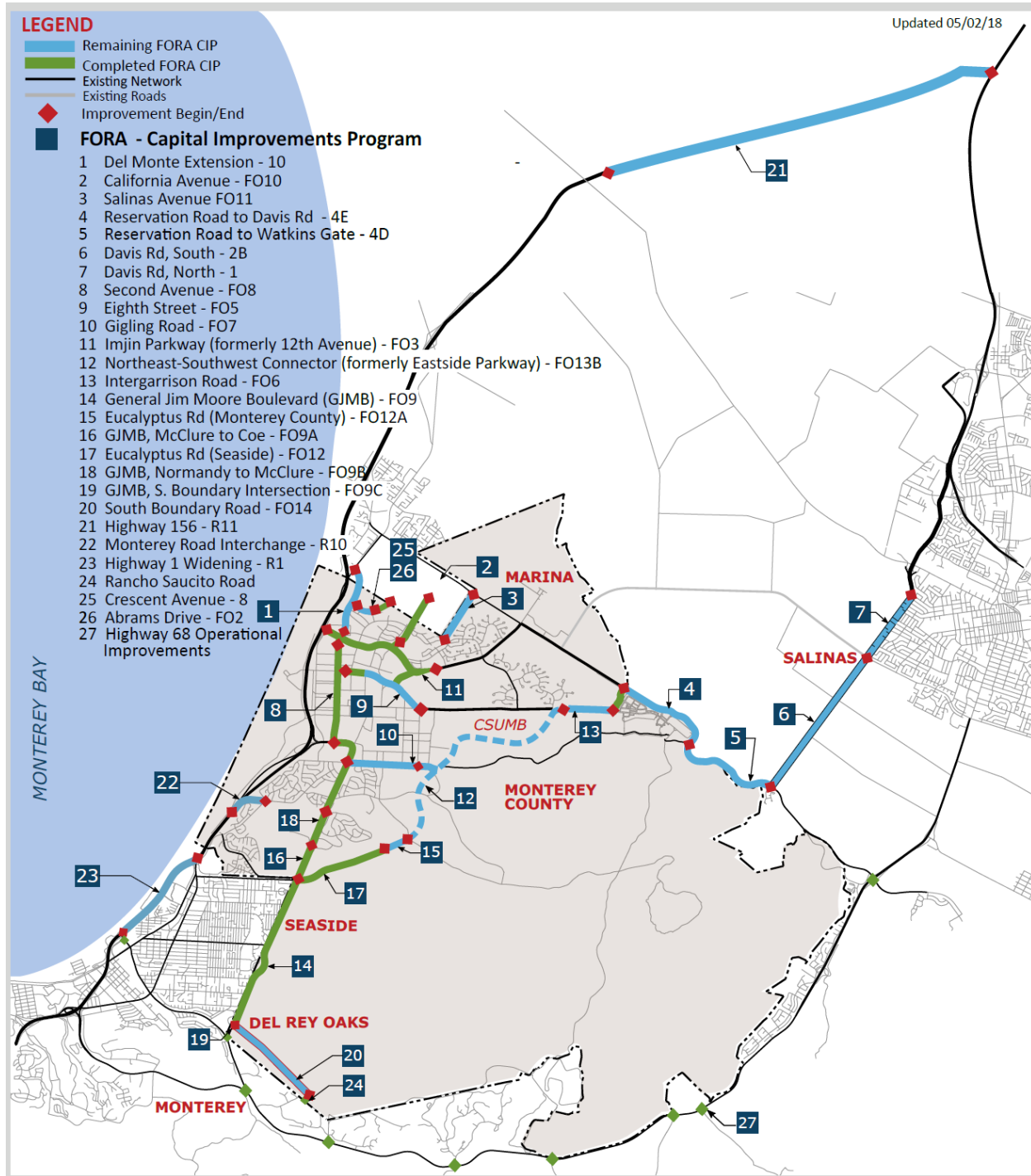
### Off-Site

- Davis Road between Blanco Road and SR 183
- Davis Road between Blanco Road and Reservation Road
- Reservation Road between Davis Road and Watkins Gate Road
- Reservation Road between Watkins Gate Road and East Garrison Road
- Crescent Avenue in the City of Marina
- Abrams Road in the City of Marina
- Salinas Road in the City of Marina
- 8<sup>th</sup> Street in Marina between Inter-Garrison Road and Second Avenue

### On-Site

- Eastside Parkway between Schoonover Road and Eucalyptus Road
- Inter-Garrison Road between Schoonover Road and East Garrison
- South Boundary Road between York Road and General Jim Moore Boulevard
- Gap closure of Eucalyptus Road to where Eastside Parkway starts
- Gigling Road between Eastside Parkway and General Jim Moore Boulevard
- General Jim Moore Boulevard from the four-lane section to South Boundary Road.

Figure 3.1: FORA Roadway Transportation Projects





## Scenario Analysis

The following exhibits present the existing conditions analysis and establishes the nexus for the FORA roadway projects to demonstrate that the proposed transportation improvements in the FORA CIP will provide adequate mitigation for future roadway deficiencies. The analysis clearly shows how traffic shifts between the regional roadways and connections based on the roadways that are either eliminated or provide the alternative shortest anticipated travel route between the City of Salinas and the Monterey Peninsula. Of note is the relatively low volumes on Gigling Road in all scenarios, which indicates the need for widening was mainly caused by the jurisdictional forecasts for development parcels east of the roadway. The city of Seaside, and Monterey County are no longer projecting development on these parcels through 2040.

For the purposes of this analysis, a roadway has an acceptable service level at LOS D or better (BRP page 285). A roadway is considered deficient if the service level falls below LOS D. Data is provided for both existing (Scenario E1) and 2040 (Scenarios C1 through C5) conditions. **Table 9** shows analysis results of all Scenarios. Note that the findings of this analysis are based on traffic counts and not model run analysis.

### EXISTING CONDITIONS

As shown, Blanco Road between Reservation Road and Cooper Road is currently deficient.

Coe Avenue is newly included in this analysis. The existing Coe Ave. does not show a deficiency; however, the model accurately reflects the counted traffic on the roadway.


The traffic on the existing Monterey Road is congested due to the high school peak traffic demand, and the congestion at the North Fremont Interchange with SR 1. In addition, SR 1 between Imjin Road and North Fremont also experiences congestion. The southbound segment of SR-1 between N Fremont and SR 218, which is the segment after the lane drop, operates acceptably, due to the bottleneck occurring upstream on the network.

### SCENARIO C1

Includes the FORA CIP projects and the NE/SW Connector from Eucalyptus Road to Intergarrison Road. The impact is eight of the roadway projects would operate at deficient LOS in 2040 conditions with planned land use development as contained in the AMBAG Regional Travel Demand Model. The model indicates that the road attracts traffic beyond its capacity as a two-lane arterial, thus showing a deficient LOS.

### SCENARIO C2

Includes the FORA CIP projects and the NE/SW Connector from Eucalyptus Road to Watkins Gate. The impact is seven of the roadway projects would operate at deficient LOS in 2040 conditions with planned land use development as contained in the AMBAG Regional Travel Demand Model. This connection shows that Reservation Road from Watkins Gate to Davis needs to be widened



due to the added volumes from the NE/SW Connector Road at Watkins Gate Road. This was anticipated in the 1997 Traffic Study, and is consistent with the current FORA CIP.

### **SCENARIO C3**

FORA CIP excluding the NE/SW Connector, but adding a new roadway between Eucalyptus Road and 8th Street (Alternative Roadway 1). The impact is ten of the roadway projects would operate at deficient LOS in 2040 conditions. The added traffic to 8<sup>th</sup> Avenue is such that 8<sup>th</sup> Ave. would be deficient, implicating the road needs to be reconfigured to be suitable alternative. The deficiencies increase on other roads due to the NE/SW Connector being eliminated from the analysis.

### **SCENARIO C4**

FORA CIP excluding the NE/SW Connector, and alternative roadways. The impact is nine of the roadway projects would operate at deficient LOS in 2040 conditions with planned land use development as contained in the AMBAG Regional Travel Demand Model.

### **SCENARIO C5**

FORA CIP excluding the NE/SW Connector, alternative roadways, and excludes the widening of Gigling Road from two to four lanes. The impact is ten of the roadway projects would operate at deficient LOS in 2040 conditions with planned land use development as contained in the AMBAG Regional Travel Demand Model. While 2<sup>nd</sup> Avenue between 8<sup>th</sup> Street and Lightfighter Drive is on the border of being deficient in other scenarios, only this scenario loads enough traffic to make the roadway deficient. This scenario indicates that with no added connections via the NE/SW Connector or otherwise, volumes would further increase on the existing roadways. In addition, Imjin Parkway would be almost congested, even with the improved four lane section between Reservation Road and Imjin Road.

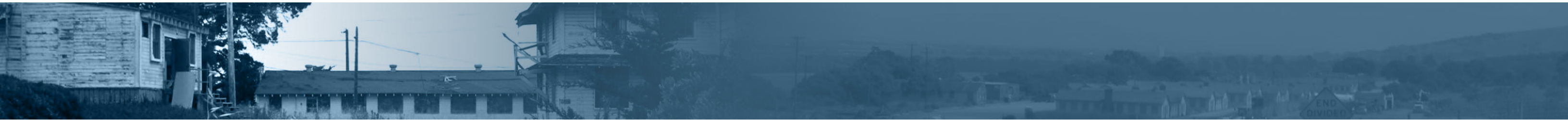
### **INTERSECTIONAL ANALYSIS**

The model indicates several roadways operate at or close to capacity if the full 2019/2020 CIP is not constructed. Typically, if roadways fail, intersection improvements are also required. Based on this analysis results, the following intersections are anticipated to also fail if connector is not provided between General Jim Moore Boulevard and Reservation Road.

- a. Imjin Parkway/Reservation Road
- b. Imjin Parkway/Abrams Road
- c. Coe Avenue/General Jim Moore Boulevard/Eucalyptus Road
- d. Gigling Road/8<sup>th</sup> Avenue
- e. Intergarrison Road and 8th Avenue







**Table 9: Volumes and Level of Service for Existing Conditions (E1), and Scenarios C1 through C5 (Deficient LOS shown in red)**

ID	Roadway	Street 1	Street 2	Time Period	2019 Count	C1 Volume	C2 Volume	C3 Volume	C4 Volume	C5 Volume	E1 LOS	C1 LOS	C2 LOS	C3 LOS	C4 LOS	C5 LOS
1	Reservation Rd	Del Monte Blvd	California Ave	AM Peak-Hour	1,168	2,000	2,000	2,000	1,900	1,900	A	B	B	B	B	B
				PM Peak-Hour	1,498	2,300	2,300	2,300	2,300	2,300	A	B	B	B	B	B
2	Reservation Rd	California Ave	Imjin Rd	AM Peak-Hour	1,238	2,100	2,100	2,200	2,200	2,200	A	B	B	B	B	B
				PM Peak-Hour	1,082	2,000	2,000	2,000	2,000	2,000	A	B	B	B	B	B
3	Reservation Rd	Imjin Rd	Blanco Rd	AM Peak-Hour	2,581	4,100	4,100	4,800	4,900	4,900	B	E	E	E	E	F
				PM Peak-Hour	2,774	4,400	4,400	5,000	5,100	5,100	B	D	D	E	E	E
4	Reservation Rd	Blanco Rd	Inter-Garrison Rd	AM Peak-Hour	720	2,200	2,100	2,900	3,000	3,000	A	B	B	C	C	C
				PM Peak-Hour	833	2,400	2,300	3,000	3,100	3,100	A	B	B	B	B	B
5	Reservation Rd	Inter-Garrison Rd	Watkins Gate	AM Peak-Hour	1,049	3,300	2,400	3,300	3,200	3,200	A	D	C	D	D	D
				PM Peak-Hour	1,047	3,400	2,300	3,300	3,300	3,200	A	D	C	D	D	D
6	Inter-Garrison Rd	Sherman Blvd	Abrams Dr	AM Peak-Hour	1,746	3,500	1,700	2,600	2,400	2,400	C	D	B	B	B	B
				PM Peak-Hour	1,560	3,200	1,400	2,300	2,200	2,200	C	C	A	B	B	B
7	Abrams Dr	Imjin Rd	Inter-Garrison Rd	AM Peak-Hour	279	200	200	300	300	300	A	A	A	A	A	A
				PM Peak-Hour	406	300	300	300	400	400	A	A	A	A	A	A
8	Imjin Pkwy	Reservation Rd	Abrams Dr	AM Peak-Hour	1,735	2,600	2,600	3,300	3,400	3,400	B	C	C	E	E	E
				PM Peak-Hour	2,044	3,000	3,000	3,600	3,700	3,700	B	C	C	D	D	D
9	Imjin Pkwy	Abrams Dr (W)	Abrams Dr (E)	AM Peak-Hour	1,741	2,400	2,500	3,200	3,300	3,300	B	C	C	E	E	E
				PM Peak-Hour	1,956	2,800	2,800	3,400	3,500	3,500	B	C	C	D	D	D
10	Imjin Pkwy	Abrams Dr (W)	California Ave	AM Peak-Hour	1,788	2,700	2,600	2,900	3,100	3,200	B	C	C	C	C	D
				PM Peak-Hour	2,054	2,800	2,700	3,200	3,300	3,300	B	C	C	C	C	C
11	Inter-Garrison Rd	Abrams Dr	7th Ave	AM Peak-Hour	956	700	1,000	1,800	1,700	1,700	C	C	D	F	E	E
				PM Peak-Hour	726	400	600	1,600	1,400	1,400	B	B	C	E	E	E
12	8th St	Inter-Garrison Rd	Imjin Rd	AM Peak-Hour	164	500	500	500	400	400	A	A	A	A	A	A
				PM Peak-Hour	89	400	400	400	400	400	A	A	A	A	A	A
13	8th St	Imjin Rd	4th Ave	AM Peak-Hour	103	200	200	700	600	600	A	B	B	B	B	B
				PM Peak-Hour	47	400	400	600	600	600	A	A	A	B	B	B
14	Imjin Pkwy	California Ave	2nd Ave	AM Peak-Hour	2,261	3,600	3,600	4,000	4,200	4,200	B	C	C	D	D	D
				PM Peak-Hour	2,347	3,500	3,500	3,900	4,000	4,000	B	C	C	D	D	D
15	California Ave	Imjin Rd	Reservation Rd	AM Peak-Hour	535	1,100	1,100	1,100	1,100	1,100	A	C	C	C	C	C
				PM Peak-Hour	395	900	900	900	900	900	A	B	B	B	B	B
16	Del Monte Blvd	Reservation Rd	SR-1	AM Peak-Hour	1,028	2,100	2,100	2,100	2,100	2,100	B	C	C	C	C	C
				PM Peak-Hour	1,379	2,300	2,300	2,300	2,300	2,300	D	C	C	C	C	C
17	2nd Ave	Imjin Pkwy	8th St	AM Peak-Hour	773	1,600	1,600	1,600	1,600	1,600	D	D	D	D	D	D
				PM Peak-Hour	460	1,000	1,000	1,000	1,100	1,100	B	B	B	B	B	B
18	2nd Ave	8th St	Lightfighter Dr	AM Peak-Hour	635	1,400	1,400	1,600	1,600	1,600	C	C	C	D	D	E
				PM Peak-Hour	396	1,000	1,000	1,000	1,100	1,100	A	B	B	C	C	C
19	7th Ave	Gigling Rd	Inter-Garrison Rd	AM Peak-Hour	159	100	100	300	400	300	A	A	A	B	C	B
				PM Peak-Hour	87	100	100	200	400	300	A	A	A	A	B	B
20	8th Ave	Gigling Rd	Inter-Garrison Rd	AM Peak-Hour	823	1,100	1,200	2,300	1,500	1,400	D	B	B	E	C	C
				PM Peak-Hour	560	600	800	2,100	1,200	1,200	B	A	B	D	C	C
21	Colonel Durham St	7th Ave	Parker Flats Rd	AM Peak-Hour	327	300	300	300	300	300	B	A	A	A	A	A
				PM Peak-Hour	209	200	200	200	200	200	A	A	A	A	A	A
22	Colonel Durham St	Parker Flats Rd	Lightfighter Dr (Malmedy)	AM Peak-Hour	342	300	300	300	300	300	B	A	A	A	A	A
				PM Peak-Hour	226	200	200	200	200	200	A	A	A	A	A	A

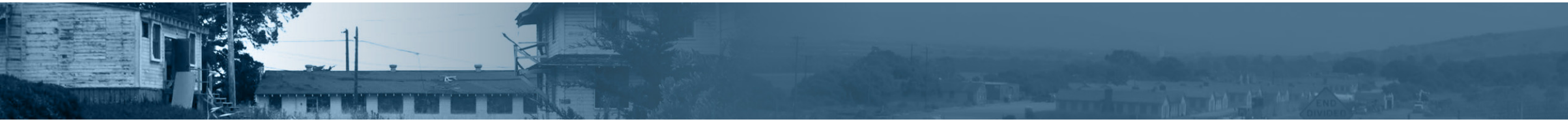


Table 9: Volumes and Level of Service for Existing Conditions (E1), and Scenarios C1 through C5 (continued) (Deficient LOS shown in red)

ID	Roadway	Street 1	Street 2	Time Period	2019 Count	C1 Volume	C2 Volume	C3 Volume	C4 Volume	C5 Volume	E1 LOS	C1 LOS	C2 LOS	C3 LOS	C4 LOS	C5 LOS
23	Gigling Rd	8th St	Parker Flats Rd	AM Peak-Hour	620	1,400	1,400	1,000	1,400	1,200	C	A	A	A	A	C
				PM Peak-Hour	468	1,400	1,400	1,000	1,300	1,200	B	A	A	A	A	C
24	Gigling Rd	Parker Flats Rd	Lightfighter Dr (Malmedy)	AM Peak-Hour	787	1,500	1,500	1,000	1,400	1,200	C	A	A	A	A	C
				PM Peak-Hour	625	1,500	1,500	1,000	1,300	1,200	B	A	A	A	A	C
25	Gigling Rd	Lightfighter Dr (Malmedy)	General Jim Moore Blvd	AM Peak-Hour	784	1,400	1,400	1,000	1,300	1,200	C	A	A	A	A	C
				PM Peak-Hour	631	1,200	1,200	800	1,100	1,000	B	A	A	A	A	C
26	Gigling Rd	General Jim Moore Blvd	1st Ave	AM Peak-Hour	182	600	600	500	500	500	A	B	B	B	B	B
				PM Peak-Hour	198	700	700	600	700	700	A	B	B	B	B	B
27	Lightfighter Dr	General Jim Moore Blvd	2nd Ave	AM Peak-Hour	1,268	1,900	1,900	1,900	2,000	2,000	A	D	D	D	D	D
				PM Peak-Hour	1,076	1,800	1,800	1,700	1,700	1,700	A	D	D	D	D	D
28	Lightfighter Dr	2nd Ave	1st Ave	AM Peak-Hour	1,232	1,200	1,200	1,100	1,100	1,100	A	C	C	B	C	C
				PM Peak-Hour	1,058	1,200	1,300	1,100	1,100	1,100	A	C	C	C	C	C
29	Lightfighter Dr	1st Ave	SR-1	AM Peak-Hour	1,554	2,200	2,200	2,100	2,100	2,100	B	B	B	B	B	B
				PM Peak-Hour	1,418	2,500	2,500	2,300	2,200	2,200	A	B	B	B	B	B
30	1st Ave	Lightfighter Dr	Gigling Rd	AM Peak-Hour	292	700	700	700	700	700	A	B	B	B	B	B
				PM Peak-Hour	296	900	900	900	900	900	A	B	B	B	B	B
31	Coe Ave	General Jim Moore Blvd	Monterey Rd	AM Peak-Hour	301	300	300	300	300	300	A	A	A	A	A	A
				PM Peak-Hour	262	300	300	300	300	300	A	A	A	A	A	A
32	General Jim Moore Blvd	Coe Ave	Broadway Ave	AM Peak-Hour	1,225	2,900	2,900	2,700	2,300	2,300	A	C	C	C	B	B
				PM Peak-Hour	1,163	2,600	2,600	2,400	2,000	2,000	A	C	C	B	B	B
33	Fremont Blvd	SR-1	Broadway Ave	AM Peak-Hour	1,015	1,100	1,100	1,100	1,100	1,100	A	A	A	A	A	A
				PM Peak-Hour	1,271	1,300	1,300	1,400	1,400	1,400	A	A	A	A	A	A
34	Del Monte Blvd	Fremont Blvd	SR-218	AM Peak-Hour	897	900	900	900	1,000	1,000	A	A	A	A	A	A
				PM Peak-Hour	1,121	1,100	1,100	1,100	1,200	1,200	A	A	A	A	A	A
35	Broadway Ave	Del Monte Blvd	Fremont Blvd	AM Peak-Hour	761	1,100	1,100	1,000	900	900	A	A	A	A	A	A
				PM Peak-Hour	854	1,100	1,100	1,000	900	900	A	A	A	A	A	A
36	Broadway Ave	Fremont Blvd	General Jim Moore Blvd	AM Peak-Hour	935	1,400	1,400	1,300	1,100	1,100	A	A	A	A	A	A
				PM Peak-Hour	815	1,200	1,200	1,200	1,000	1,000	A	A	A	A	A	A
37	General Jim Moore Blvd	Broadway Ave	SR-218	AM Peak-Hour	1,245	1,700	1,600	1,700	1,700	1,700	B	A	A	A	A	A
				PM Peak-Hour	1,184	1,500	1,500	1,400	1,400	1,400	A	A	A	A	A	A
38	Canyon Del Rey Blvd	Del Monte Blvd	Fremont Blvd	AM Peak-Hour	1,330	1,400	1,400	1,300	1,300	1,300	A	A	A	A	A	A
				PM Peak-Hour	1,526	1,700	1,700	1,700	1,700	1,700	A	A	A	A	A	A
39	Canyon Del Rey Blvd	Fremont Blvd	General Jim Moore Blvd	AM Peak-Hour	1,330	1,600	1,600	1,600	1,500	1,500	B	C	C	C	C	C
				PM Peak-Hour	1,526	1,900	1,900	1,900	1,900	1,900	B	C	C	C	C	C
40	Canyon Del Rey Blvd	SR-1	Del Monte Blvd	AM Peak-Hour	1,504	2,000	2,000	2,000	2,100	2,100	A	B	B	B	B	B
				PM Peak-Hour	1,733	2,200	2,100	2,200	2,200	2,200	A	B	B	B	B	B
41	2nd Ave Extension	Del Monte Blvd	Imjin Pkwy	AM Peak-Hour	Model Volume Only	300	300	300	300	300	Future Roadway	A	A	A	A	A
				PM Peak-Hour		0	0	0	0	0		A	A	A	A	A
42	Salinas Ave	Reservation Rd	Abrams Dr	AM Peak-Hour		0	0	0	0	0		A	A	A	A	A
				PM Peak-Hour		0	0	0	0	0		A	A	A	A	A
43	Reservation Rd	Watkins Gate Rd	S Davis Rd	AM Peak-Hour		1,049	4,100	4,200	4,000	4,000	B	F	F	F	F	F
				PM Peak-Hour		1,047	4,000	4,100	3,900	3,900	B	E	F	E	E	E
44	S Davis Rd	Reservation Rd	Blanco Rd	AM Peak-Hour	574	3,400	3,500	3,400	3,300	3,300	A	E	E	D	D	D
				PM Peak-Hour	777	3,500	3,600	3,400	3,400	3,400	A	D	D	D	D	D

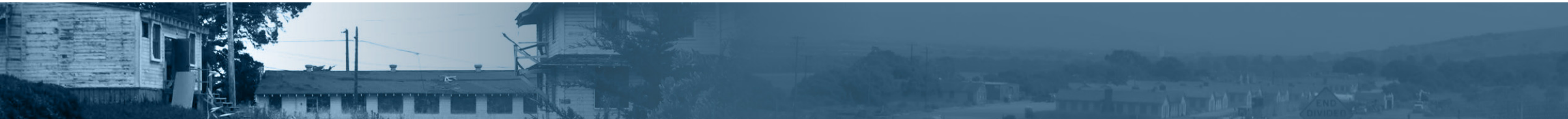


Table 9: Volumes and Level of Service for Existing Conditions (E1), and Scenarios C1 through C5 (Continued) (Deficient LOS shown in red)

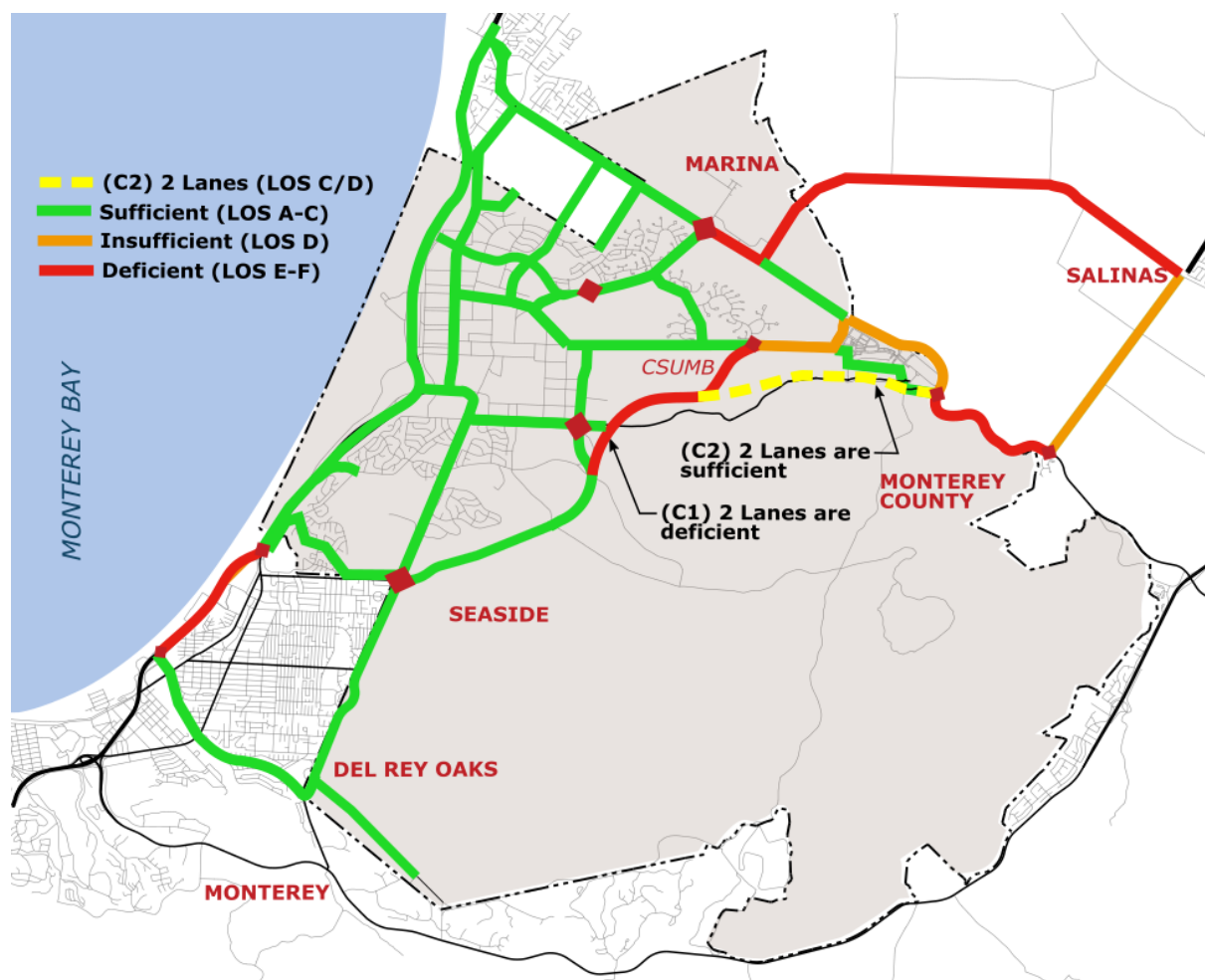
ID	Roadway	Street 1	Street 2	Time Period	2019 Count	C1 Volume	C2 Volume	C3 Volume	C4 Volume	C5 Volume	E1 LOS	C1 LOS	C2 LOS	C3 LOS	C4 LOS	C5 LOS	
45	S Davis Rd	Blanco Rd	SR 183	AM Peak-Hour	1,646	3,700	3,700	3,700	3,700	3,700	C	D	D	D	D	D	
				PM Peak-Hour	2,270	4,300	4,300	4,300	4,300	4,300	C	D	D	D	D	D	
46	Gigling Rd	8th Ave	Eastside Pkwy	AM Peak-Hour	Model Volume Only	1,000	1,100	0	400	400	Future Roadway	A	A	A	A	B	
				PM Peak-Hour		1,100	1,100	0	500	500		A	A	A	A	B	
47	Northeast-Southwest	Eucalyptus Rd	Parker Flats Rd	AM Peak-Hour		1,500	1,500	1,100	Does Not Exist in This Scenario			C	C	B	Does Not Exist in This Scenario		
				PM Peak-Hour		1,300	1,300	1,100				B	B	B			
48	Northeast-Southwest	Parker Flats Rd	Gigling Rd	AM Peak-Hour		1,500	1,500	1,100	Does Not Exist in This Scenario			C	C	B	Does Not Exist in This Scenario		
				PM Peak-Hour		1,300	1,300	1,100				B	B	B			
49	Northeast-Southwest	Gigling Rd	Inter-Garrison Rd	AM Peak-Hour		2,100	Does Not Exist in This Scenario					E	Does Not Exist in This Scenario				
				PM Peak-Hour		2,100						E					
50	Northeast-Southwest	Gigling Rd	Watkins Gate	AM Peak-Hour		Not in this Scenario	1,900	Does Not Exist in This Scenario				Not in this Scenario	D	Does Not Exist in This Scenario			
				PM Peak-Hour			1,900					C					
51	Eucalyptus Rd	General Jim Moore Blvd	Parker Flats Rd/ Eastside Pkwy	AM Peak-Hour		1,500	1,500	1,100	100	100		C	C	B	A	A	
				PM Peak-Hour		1,300	1,300	1,100	100	100		B	B	B	A	A	
52	General Jim Moore Blvd	Coe Ave	McClure Way	AM Peak-Hour	1,004	1,300	1,300	1,400	2,100	2,100	A	B	B	B	B	B	
				PM Peak-Hour	820	1,000	1,000	1,000	1,600	1,600	A	A	A	B	B	B	
53	General Jim Moore Blvd	McClure Way	Normandy Rd	AM Peak-Hour	1,004	1,500	1,500	1,600	2,300	2,300	A	B	B	B	C	C	
				PM Peak-Hour	820	1,200	1,200	1,200	1,800	1,800	A	B	B	B	B	B	
54	S Boundary Rd	General Jim Moore Blvd	York Rd	AM Peak-Hour	Model	300	300	400	400	400	No Counts Available	A	A	A	A	A	
				PM Peak-Hour	Volume Only	200	200	300	300	300		A	A	A	A	A	
55	SR 156 (EB)	SR 183	US 101	AM Peak-Hour	773	1,700	1,700	1,700	1,700	1,700	B	C	C	C	C	C	
				PM Peak-Hour	1,058	1,800	1,800	1,800	1,800	1,800	C	C	C	C	C	C	
56	SR 156 (WB)	US 101	SR 183	AM Peak-Hour	959	1,800	1,800	1,800	1,800	1,800	B	C	C	C	C	C	
				PM Peak-Hour	833	2,200	2,200	2,200	2,200	2,200	B	B	B	B	B	B	
57	Monterey Rd Interchange	SR-1	Monterey Rd	AM Peak-Hour	Model	100	100	200	200	200	Future Roadway	A	A	A	A	A	
				PM Peak-Hour	Volume Only	200	200	100	300	300		A	A	A	A	A	
58	SR-1 (NB)	SR 218	Fremont Blvd	AM Peak-Hour	1,864	3,000	3,000	3,000	3,000	3,000	B	E	E	E	E	E	
				PM Peak-Hour	3,120	4,600	4,600	4,600	4,600	4,600	C	E	E	E	E	E	
59	SR-1 (SB)	Fremont Blvd	SR 218	AM Peak-Hour	3,373	4,700	4,800	4,800	4,800	4,800	C	E	E	E	E	E	
				PM Peak-Hour	2,242	3,400	3,400	3,500	3,500	3,500	B	D	D	D	D	D	
60	Rancho Saucito Rd	Upper Ragsdale Dr	S Boundary Rd	AM Peak-Hour	Model	300	300	400	400	400	No Counts Available	A	A	A	A	A	
				PM Peak-Hour	Volume Only	200	200	300	300	300		A	A	A	A	A	
61	Crescent St/Abrams Dr	Patton Pkwy	2nd Ave Extension	AM Peak-Hour	Model	0	0	0	0	0	Future Roadway	A	A	A	A	A	
				PM Peak-Hour	Volume Only	0	0	0	0	0		A	A	A	A	A	
62	SR 68	York Rd	San Benancio Rd	AM Peak-Hour	1,167	2,100	2,100	2,200	2,300	2,300	B	C	C	D	D	D	
				PM Peak-Hour	1,772	2,700	2,600	2,800	2,800	2,800	B	C	C	C	C	C	
63	General Jim Moore Blvd	Normandy Rd	Gigling Rd	AM Peak-Hour	1,080	1,600	1,700	1,700	2,400	2,400	A	B	B	B	C	C	
				PM Peak-Hour	897	1,300	1,300	1,300	1,900	1,900	A	B	B	B	B	B	
64	Blanco Rd	Reservation Rd	Cooper Rd	AM Peak-Hour	2,187	2,700	2,700	2,700	2,600	2,600	D	F	F	F	F	F	
				PM Peak-Hour	2,509	2,900	2,900	2,900	2,900	2,900	E	F	F	F	F	F	
65	Blanco Rd	Cooper Rd	S Davis Rd	AM Peak-Hour	2,044	2,200	2,100	2,100	2,100	2,100	C	E	E	E	E	E	
				PM Peak-Hour	2,184	2,400	2,400	2,400	2,400	2,400	C	E	E	E	E	E	





**Figure 4.1: Impact of CIP buildout with NE/SW Connector (C1, C2, C3)**

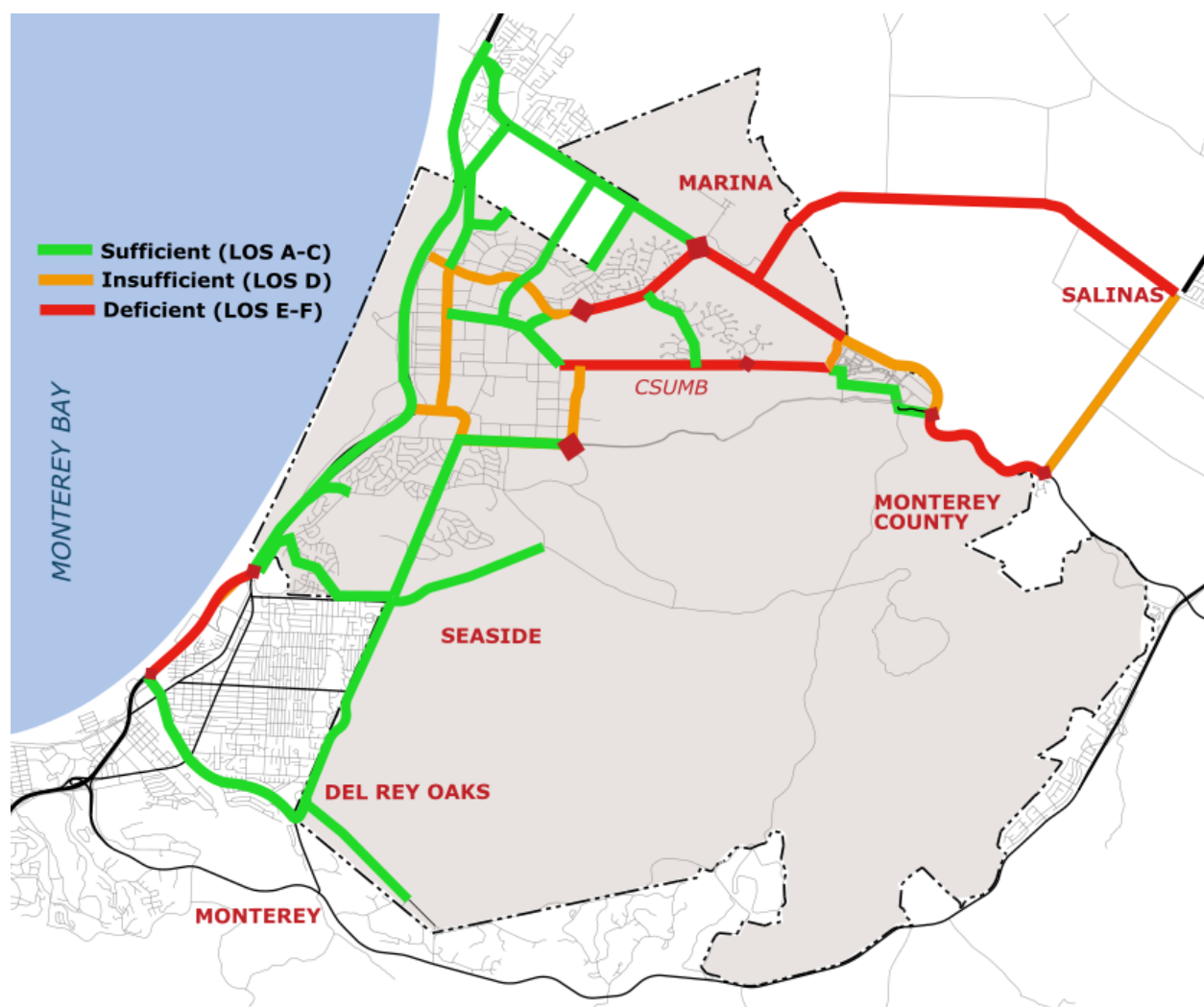
- (C1) **NE/SW Connector** in the RTP is undersized at 2 lanes and may be deficient in 2040 at LOS E
- (C2) **2 Lane Alternative Connector** Road from Eucalyptus to Watkins Gate may be sufficient/insufficient in 2040 at LOS D





**Figure 4.2: Impact of CIP buildout without NE/SW Connector (C4, C5)**

- (C4) Buildout of the CIP without a connector will impact a) Second Ave., b) Imjin Road, c) Reservation Rd. d) Davis Road, and likely Blanco Road.
- (C5) Scenario shows that a 2 lane Gigling Road is sufficient for all scenarios, and may be oversized at 4 lanes.





## **KEY FINDINGS**

As shown in **Table 9**, the number of deficient roadway project locations increase from eight under **Scenario C1**, to ten with **Scenario C3** and **Scenario C5**. This demonstrates that constructing the Full 2019/2020 FORA CIP provides measurable improvements to the roadway network and addresses deficiencies that would otherwise exist in the future. Specifically, a comparative analysis shows that the NE/SW Connector plays a pivotal role in ensuring the FORA Roadway Network operates sufficiently.

In addition, the widening of Gigling Road from 2 lanes to 4 lanes was included in the FORA CIP due to projected development on development parcels east of 8<sup>th</sup> Ave, but the AMBAG Regional Travel Demand Model shows that it does not need to be widened to four lanes. However, the road has currently failed and needs improvement. In 2010, FORA approved improvement of Gigling Road under a mitigated negative declaration.

It should be noted that, while Coe Avenue shows a Level of Service A for all scenarios, it is a capacity constrained roadway due to the bottleneck that occurs at the Freemont Boulevard interchange. The peak-hour count was lower due to vehicles unable to progress due to congestion on Monterey Road. This model output reflects real world observations with the future volume projections being added to the existing count.



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