I-80 East Comprehensive Multimodal Corridor Plan

Caltrans District 4

June 2020

I-80 East
Comprehensive Multimodal Corridor Plan

APPROVED BY:

6-30-2020

TONY TAVARES — Date

District Director

California Department of Transportation

I accept this Comprehensive Multimodal Corridor Plan for the I-80 East Corridor as a document informing the regional transportation planning process.

ACCEPTED BY:

7/14/2020

THERESE W. McMILLAN — Date

Executive Director

Metropolitan Transportation Commission

7-2-2020

DARYL K. HALLS — Date

Executive Director

Solano Transportation Authority

I-80 East
Comprehensive Multimodal Corridor Plan

Approval Recommended by:

Jean C.R. Finney
Deputy District Director
Division of Transportation Planning and Local Assistance

Stephen Yokoi, AICP
Office Chief
System and Regional Planning

Zhongping Xu, AICP
Branch Chief
Office of System and Regional Planning, System Planning East Bay/Santa Clara Branch

Acknowledgments:

Caltrans
John McKenzie, Associate Transportation Planner
Kyle Pratt, Transportation Planner
Brian Johnson, Associate Transportation Planner

Solano Transportation Authority
Janet Adams, Deputy Executive Director/Director of Projects
Robert Guerrero, Director of Planning
Brent Rosenwald, Assistant Planner

Metropolitan Transportation Commission
Lisa Klein, Director, Field Operations and Asset Management
Therese Trivedi, Assistant Planning Director
Adam Noelting, Principal Planner/Analyst

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Executive Summary

The Interstate (I-) 80 East Comprehensive Multimodal Corridor Plan (CMCP) presents a holistic approach for managing congestion, improving safety and maximizing flow for all modes and incorporates measures to reduce air pollution and greenhouse gases. Key strategies include the addition of Express Lanes to maximize the efficient use of the existing highway for motorists, the development of express bus services, rail and local transit improvements and improved bicycle/pedestrian facilities.

The CMCP was developed pursuant to the statutory mandate for Caltrans to conduct long-range corridor planning, as well as in response to the Road and Repair Accountability Act of 2017, also known as Senate Bill 1 (SB 1), that was passed in April 2017. Among the multiple programs established by SB 1 is the Solutions for Congested Corridors Program (SCCP). This program provides $250 million annually on a competitive basis to Caltrans and regional agencies for projects designed to achieve a balanced set of transportation, environmental, and community access improvements within highly- congested travel corridors throughout the State. Eligible projects should make specific performance improvements and must be included in a Comprehensive Multimodal Corridor Plan.

For the purpose of this CMCP, the I-80 East Corridor is defined as starting at the border of Contra Costa County and Solano County and ending at the border of Solano County and Yolo County. I-80 East is a major east-west connection between the San Francisco Bay Area, western Alameda and Contra Costa Counties, Solano County and the Sacramento Valley, serving local, regional, and interregional traffic of people and goods. Factors that may affect corridor performance and travel patterns (such as demographics and trip generators) are considered as part of this CMCP. Major parallel arterials are found along portions of the Corridor. Several transit agencies provide services within or near the Corridor, while multi-use paths and trails are also available generally within the unincorporated areas.

The I-80 East Corridor provides a major conduit between workers living in the Sacramento Valley, Yolo, and Solano Counties and job centers in Contra Costa, Alameda and San Francisco Counties, home to some of the world's most innovative high-tech industries and fastest-growing companies that significantly contribute to the State and national economies. The Corridor also serves as a critical freight gateway facilitating the movement of goods and supplies within and outside the Northern California Megaregion. As a result, I-80 East experiences significant traffic congestion during workweek peak periods and holiday weekends due to high levels of recreational traffic. Ten locations on I-80 East across Solano County were listed in the I-80 Ramp Metering Study and Implementation Plan as the most congested locations as reported in the 2018 I-80 East Comprehensive Corridor Plan (CCP), as shown in **Table ES-1**.

This CMCP is partially based on the 2018 CCP. Due to time and resource constraints, this CMCP utilizes a "hybrid" approach as described in the California Transportation Commission's (CTC) 2018 Comprehensive Multimodal Corridor Plan Guidelines. As such, the CMCP involves an integration of existing plans, studies and project-specific information with limited new analysis. Some examples of the existing plans being integrated include MTC's Plan Bay Area 2040, Caltrans District 4 Bike Plan, Solano Transportation Authority (STA) Comprehensive Transportation Plan and Modal Plans, as well as other local development plans and studies.

Table ES-1. *I-80 CCP 10 Most Congested Locations for I-80 East in 2017*

Time / Direction	Location Number	Location Description	Queue Length	End of the Queue
PM / EB	1	Tennessee Street on-ramp to Redwood Street eastbound off-ramp. Peak period volumes combined with drivers entering the corridor from Tennessee Street result in a mainline bottleneck.	1.0+ mi	I-780, and on occasion to I-80 Willow Ave in Contra Costa County
	2	Between the I-680 NB connector on-ramp and the Suisun Valley Road off-ramp with queues extending to Green Valley Road.	1.0+ mi	Green Valley Road
	3	Travis Boulevard on-ramp due to mainline volumes combined with high weave, merge volumes from the Travis Boulevard on-ramp and Airbase Parkway off-ramp. At times this secondary bottleneck can be hidden due to the primary bottleneck at North Texas Street.	3.0+ mi	To near EB Cordelia Commercial Vehicle Enforcement Facility (CCVEF)
	4	West of the N. Texas Street off-ramp, where the end of the eastbound HOV lane is combined with the drop of the rightmost mixed flow lane, resulting in a mainline bottleneck.	2.0+ mi	Travis Boulevard and on occasion extending to I-680 (typically during long weekends/holiday Fridays)
	5	West of Weber Road where the rightmost mixed flow lane drop results in mainline bottleneck. Queue typically extends to east of Leisure Town Road.	1.5 mi	I-80 Leisure Town Road Interchange
	6	West of Richards Boulevard rightmost mixed flow lane drop resulting in a mainline bottleneck.	3.5 mi	I-80 Kidwell Road Interchange
AM / WB	1	Redwood Street on-ramp and Tennessee Street off-ramp. Queue is a result of overlapping downstream bottlenecks.	2.4 mi	Near Broadway off-ramp
	2	Redwood Street on-ramp and Tennessee Street off-ramp. Queue is a result of overlapping downstream bottlenecks.	1.3+ mi	Secondary bottleneck to Tennessee St.
	3	Georgia Street on-ramp to I-780 off-ramp. Primary downstream bottleneck impacting Redwood and Tennessee Street secondary bottleneck.	0.75 mi	Near Woodside Road Interchange
	4	SR 12 West connector to westbound I-80/southbound I-680 connector ramp due to converging high merging, weaving volumes.	1.0 mi	Past WB CCVEF

The CMCP has eight Corridor Goals:

1. Provide a safe transportation system to all users within the Corridor
2. Reduce recurring freeway congestion and improve freeway efficiency in moving people
3. Improve trip reliability within the Corridor
4. Support an accessible and inter-connected multimodal transportation system within the Corridor
5. Reduce pollutants and greenhouse gas (GHG) emissions within the Corridor
6. Support economic prosperity
7. Efficiently manage transportation assets within the Corridor to protect existing and future investment
8. Support efficient land use

These eight Goals guide the establishment of Corridor Objectives and Performance Measures, which help evaluate the effectiveness of recommended strategies.

In addition to demographics and a list of major trip generators along the Corridor, the I-80 East CMCP includes a place-type analysis based on Caltrans Smart Mobility Framework and recommends appropriate transportation strategies for each place-type within the Corridor. The CMCP also documents regional development framework established in Plan Bay Area 2040 (PBA 2040, 2017), the San Francisco Bay Area's Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS), as well as proposed future development framework to be considered in the RTP update. Communities of Concern and areas with air pollution burdens within the Corridor are also identified.

To capture the multimodal nature of the I-80 East Corridor, the CMCP describes public transit services, park-and-ride facilities, private commuter shuttle services, and bicycle and pedestrian facilities as critical transportation modes within the Corridor. In addition, it summarizes the Transportation Systems Management and Operations (TSMO) strategies and equipment that are currently deployed within the Corridor, discusses expansion of the broadband infrastructure and examines the networks and major trip generators for freight movement.

For freeway performance analysis for both existing conditions and projected future conditions, information was mostly derived from the existing Project Reports and studies within the Corridor. The analysis mainly focuses on bottleneck locations, congestion characteristics and changes in the network performance measures such as travel time, vehicle-hours of delay and person-hours of delay.

The recommended strategies include highway, transit and active transportation projects as well maintenance and operational projects in the State Highway Operation and Safety Program (SHOPP) and the 10-Year SHOPP Project Book. Included in this multimodal package of improvement strategies, among others, are projects to extend the managed lane network on I-80 East. Current and future commuter express bus service is also proposed to take advantage of this to-be-extended managed lane network. These strategies will help further enhance the multimodal nature of the Corridor. Chapter 7 also includes a qualitative evaluation of highway and transit projects, with respect to how they would contribute to the corridor goals. The I-80 East CMCP was developed during the COVID-19 pandemic. Future travel patterns, mode preferences, and transportation needs may change as a result of modified behaviors directly linked to this pandemic. **Table ES-2** and **Table ES-3** list recommended highway and transit projects and active transportation projects, respectively. These projects are either included in PBA 2040 or being proposed for PBA 2050, the RTP/SCS update MTC is currently working on.

Table ES-2. *Recommended I-80 East Corridor Future Highway and Transit Projects (not in priority order)*

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
Highway Projects											
SOL/ ALA	Managed Lanes	80	0.02 (SOL)	3.80 (ALA)	I-80 Express Lanes in both directions (Carquinez Bridge to Bay Bridge)	Express Lanes on westbound I-80 from Carquinez Bridge Toll Plaza to Powell St. and on eastbound I-80 from Powell St to Cummings Skyway. Add new express lane on eastbound I-80 from Cummings Skyway to Carquinez Bridge.	$81.00	X			17-10-0053
SOL	Managed Lanes	80	0.80	5.60	I-80 Express Lanes through Vallejo (Carquinez Bridge to SR 37)	Construct Express Lane on I-80 from Carquinez Bridge to SR 37 in both directions.	$100.00			X	MTC PBA 2050***
SOL	Managed Lanes	80	5.60	10.40	I-80 Express Lanes SR 37 to Red Top Road	Construct Express Lane on I-80 from SR 37 to Red Top Road in both directions.	$65.00			X	MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Managed Lanes	80	10.40	30.30	I-80 Express Lanes (Red Top Rd. to I-505)	The Solano I-80 Managed Lanes Project (project) will construct approximately 18 miles of managed lanes in the I-80 corridor through conversion of existing HOV lanes to express lanes from west of Red Top Road to east of Air Base Parkway and highway widening for new express lanes from east of Air Base Parkway to east of I-505	$275.00	X			17-10-0059 17-10-0044
SOL	Managed Lanes	80	13.22 (I-80)	13.00 (I-680)	I-680 Express Lanes: I-80 westbound to I-680 southbound and I-680 northbound to I-80 eastbound direct connectors	Express lanes on I-680/I-80 Interchange in Solano County - widen to add express lane direct connectors I-80 westbound to I-680 southbound and I-680 northbound to I-80 eastbound. This complements the larger interchange project of RTP ID 17-08-0009.	$140.00		X		17-10-0061
SOL	Interchange	80	4.43	4.43	Redwood Parkway Interchange, Phase 2	Improve Interchange at Redwood Parkway	$66.00			X	17-08-0010

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Interchange	80	10.80	17.00	I-80/I-680/SR 12 Interchange (Packages 2-7)	Packages 2-7 provide direct connectivity from I-680 NB to SR12 WB, widens I-680 and I-80 near the interchange, and improves connections to Red Top road off-ramp. Express lane direct connectors are included in RTPID 17-10-0061.	$380.00			X	17-08-0009
SOL	Interchange	80	R23.13	R23.13	Lagoon Valley Interchange	Widen Lagoon Valley Road Bridge for additional left turn capacity. Sidewalk, intersection signal improvements at ramps, approach roadway work. TIF funded.	$10.00			X	MTC PBA 2050***
SOL	Interchange	80	29.86	29.86	Widen Vaca Valley I/C	Widen Vaca Valley bridge over I-80 from 2-lanes to 4-lanes	$15.00			X	I-80 CCP
SOL	Interchange	80	35.50	35.50	West A St and I-80 Interchange Upgrade	Upgrade in phases the existing I-80 on-ramp and reconstruct the existing roadway overcrossing.	$25.00		X		MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Interchange	80	36.80	36.80	Pitt School Rd and I-80 Interchange Upgrade	Improvements include widening the overcrossing structures to four lanes and on- and off-ramp improvements particularly on the eastside of Pitt School Rd. Project may be implemented in phases over the next ten years. Improvements to areas roadways.	$25.00			X	MTC PBA 2050***
SOL	Interchange	80	38.30	38.30	Hwy 113 and I-80 Interchange Improvements	Improvements to the area's roadways required to improve traffic circulation.	$25.00		X		MTC PBA 2050***
SOL	Interchange	80	38.30	38.30	Milk Farm Rd and I-80 Interchange Upgrade	Interchange improvements consistent with finding of I-80/I-680/I-780 Major Investment and Corridor Study completed by Solano Transportation Authority and Caltrans. May include relocation of Milk Farm Rd. Project may be implemented in phases. Increased traffic due to development (mostly the northeast quadrant) will require the need to improve the existing interchange.	$25.00		X		MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Interchange	80	39.70	39.70	Pedrick Rd and I-80 Interchange Upgrade	Improvements include realignment of both on-ramps and relocation of Sparling and Sievers Roads. Project may be implemented in phases depending on the pace of development.	$25.00			X	MTC PBA 2050***
SOL	Overcrossing	80	8.10	8.10	American Canyon Overcrossing	N/A				X	MTC PBA 2050***
SOL	Auxiliary Lanes	80	12.80	19.20	Provide auxiliary lanes on I-80 in eastbound and westbound directions from I-680 to Airbase Parkway	Project provides auxiliary lanes on I-80 in the EB & WB directions from I-680 to Airbase Parkway; and remove the I-80/Auto Mall Parkway hook ramps and Collector-Distributor road slip-ramp.	$57.00			X	17-08-0011

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Truck Scales	80	14.40	14.60	I-80 Westbound Cordelia Truck Scales Relocation Project	Project upgrades existing truck scales on WB I-80 in Solano County. Existing westbound truck scales are located on the most congested freeway segment of I-80 in Solano County. Scales are outdated and cannot process the current and future truck volumes on WB I-80. Trucks are slow to enter and leave the scales because of short ramps, adding to existing traffic congestion and safety issues on I-80.	$250.00		X		17-08-0017
SOL	Freeway Connector	80	28.35	28.35	I-505/I-80 Connector	Remove/Reconstruct/Realign 80/505/East Monte Vista Avenue/Orange Drive connections and bridges	$85.00			X	MTC PBA 2050***
SOL	Operational Improvement	Var	Var	Var	Roadway Operations	This category includes projects that improve roadway, intersection, or interchange operations, ITS, as well as other transportation system management. This project also includes a realigning of SR 113 around downtown Dixon to I-80.	$59.00		X		17-08-0008

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Road Widening	Off	N/A	N/A	Suisun Valley Rd Expansion Study and Implementation	Analysis of by-pass traffic on Suisun Valley Road from I-80 to Napa County line; Implementation of recommended improvements	$30.00		X		MTC PBA 2050***
SOL	Road Widening	Off	N/A	N/A	Widen Orange Drive to EB I-80	Intersection and ramp widening at Orange/Lawrence with I-80 EB	$5.00		X		MTC PBA 2050***
SOL	Road Widening	Off	N/A	N/A	Widen Vaca Valley Parkway	Widen to six lanes between I-505 and I-80	$5.00		X		MTC PBA 2050***
SOL	Road Widening	Off	N/A	N/A	Construct four-lane Jepson Parkway from Route 12 to Leisure Town Road at I-80	Constructs Phase B in Vacaville and Phase 1B and 1C in Fairfield.	$45.00		X		17-08-0012
SOL	*Programmatic Category*	N/A	N/A	N/A	*Minor Highway Improvements*	*Minor highway extension or new lane (less than 1/4 mile); Interchange modification (no additional capacity)*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Minor Roadway Improvements*	*Minor local road extension or new lanes (less than 1/4 mile)*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Minor Freight Improvements*	*Construction of new, or improvements to existing, rest areas and truck weigh stations; Improvements to existing freight terminals (not expansion)*	*$10.00*				MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	*Programmatic Category*	N/A	N/A	N/A	*Routine Operations and Maintenance*	*Routine patching and pothole repair; Litter control, sweeping and cleaning; Signal operations; Communications; Lighting; Transit operations and fare collection; Transit preventative maintenance; Toll operations and fare collection*	*$10.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Management Systems*	*Incident Management; Signal coordination; ITS; TOS/CMS*	*$1.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Safety and Security*	*Railroad/highway crossings and warning devices*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Travel Demand Management*	*Car and bike share; Alternative fuel vehicles and facilities; Parking programs; Carpool/vanpool, ridesharing activities; Information, marketing and outreach; Traveler information*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Intersection Improvements*	*Intersection channelization; Intersection signalization at individual intersections*	*$2.00*				MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	*Programmatic Category*	N/A	N/A	N/A	*Multimodal Streetscape Improvements*	*Minor bicycle and/or pedestrian facility gap closure; ADA compliance; Landscaping; Lighting; Streetscape improvements; Minor road diet (less than 1/4 mile)*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Planning*	*Planning and research that does not lead directly to construction*	*$30.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Emission Reduction Technologies*		*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Corridor Studies*	*Study and implement adaptive signal timing on various corridors within Solano County*	*$5.00*				MTC PBA 2050***
Transit Projects											
SOL	BRT	Var	Var	Var	Solano Express Bus to BRT-lite Transition: Capital Improvements and Implementation	Transition from Express Bus and build out a functioning BRT-lite system in Solano County. Implement improvements including Transit Signal Prioritization (TSP), adaptive signal timing, and ramp metering	$26.00			X	MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Parking	Off	N/A	N/A	Fairfield-Vacaville Train Station Building, Access, and Parking	Construction of a station building to provide shelter and seating for transit passengers. Construction of an access road into the station to improve route efficiency, and safe ingress and egress for buses, pedestrians, and bicyclists. Parking lot expansion and enhancements including safety features, lighting, parking lot solar array, and additional amenities.	$90.00	X			17-08-0014
SOL	Parking	Off	N/A	N/A	Vallejo Station Parking Structure Phase B	Vallejo: Baylink Ferry Terminal; Construct two phased parking structure to consolidate surface parking for ferry operations; create a pedestrian link between bus transit facility and existing ferry terminal building adjacent to ferry parking structure.	$30.00	X			17-08-0016
SOL	Parking	Off	N/A	N/A	Fairfield Transportation Center (FTC)-Phase 2	Construct additional parking spaces, access improvements, and transit improvements in and around the FTC	$4.00			X	MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Parking	Off	N/A	N/A	Solano Express Blue Line Park and Ride Facility	Relocate existing park and ride on Hwy 113 from downtown Dixon to the north side of I-80 in the vicinity of the on and off ramps.	$6.00		X		MTC PBA 2050***
SOL	Parking	Off	N/A	N/A	Transit and Downtown Parking Structure	Construct a new parking garage to meet parking demand near the Suisun-Fairfield Amtrak Station and new housing developments	$30.00		X		MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Minor Transit Improvements*	*Minor/routine expansions to fleet and service; Purchase ferry vessels (that can be accommodated by existing facilities or new CE facilities); Construction of small passenger shelters and information kiosks; Small-scale bus terminals and transfer points; Public transit-human services projects and programs; ADA compliance; Landscaping; Associated transit improvements (including bike/pedestrian access improvements; Alternative fuel vehicles and facilities*	*$20.00*				MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	*Programmatic Category*	N/A	N/A	N/A	*Routine Operations and Maintenance*	*Routine patching and pothole repair; Litter control, sweeping and cleaning; Signal operations; Communications; Lighting; Transit operations and fare collection; Transit preventative maintenance; Toll operations and fare collection*	*$10.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Multimodal Streetscape Improvements*	*Minor bicycle and/or pedestrian facility gap closure; ADA compliance; Landscaping; Lighting; Streetscape improvements; Minor road diet (less than 1/4 mile)*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Emission Reduction Technologies*		*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Corridor Studies*	*Study and implement adaptive signal timing on various corridors within Solano County*	*$5.00*				MTC PBA 2050***

* Cost estimates in current dollars

** Expected for construction to begin

*** Projects submitted to MTC for consideration in Plan Bay Area 2050, the Bay Area's next Regional Transportation Plan/Sustainable Communities Strategy, to be adopted in 2021

Table ES-3. *I-80 Recommended East Corridor Active Transportation Improvement Projects (not in priority order)*

#	Project Type	Co.	Location/Title	Description	Cost Estimate	Source
1	Corridor Improvement- Class I	SOL	Maritime Academy Dr.	Install Class I path to connect the Bay Area Ridge Trail, San Francisco Bay Trail, and Carquinez Strait Loop Trail.	<$250,000	D4 Bike Plan - Project List
2	New separated crossing	SOL	Maritime Academy Dr.	STA is working with Caltrans to include Class I undercrossing at the SR-29 off ramp when the bridge is replaced	>$7M	D4 Bike Plan - Project List
3	Minor interchange improvements (signage and striping)- Class II	SOL	Georgia St.	Consider minor ramp reconfiguration to eliminate slip lanes	<$250,000	D4 Bike Plan - Project List
4	Minor interchange improvements (signage and striping)- Class II	SOL	Solano Ave.	Improve bicycle accommodation at interchange on Solano Avenue	<$250,000	D4 Bike Plan - Project List
5	Interchange reconstruction - ramps only- Class II	SOL	Tennessee St.	Explore reconfiguring to diamond interchange, and providing bicycle facility on Tennessee Street across the freeway	>$7M	D4 Bike Plan - Project List
6	Minor interchange improvements (signage and striping)- Class II	SOL	American Canyon Rd.	STA-planned Class II bike lanes on McGary Road from Vallejo City Limits to Hiddenbrooke Parkway	<$250,000	D4 Bike Plan - Project List
7	Minor interchange improvements (signage and striping)- Class II	SOL	Red Top Rd.	Explore improved bicycle facilities at interchange.	$250,000 - $1.5M	D4 Bike Plan - Project List
8	Minor interchange improvements (signage and striping)- Class II	SOL	W Texas St.	Provide bike signal and phase for Linear Bike Trail movement through interchange area. Coordinate with City of Fairfield's West Texas Gateway Project that will connect Linear Park Path to Fairfield Transit Center.	<$250,000	D4 Bike Plan - Project List
9	Interchange reconstruction - ramps only- Class II	SOL	Travis Blvd.	Install bike lanes across interchange to connect with bike lanes on Travis Boulevard. Reconstruct and square up ramps.	>$7M	D4 Bike Plan - Project List
10	Interchange reconstruction - ramps only- Class IV	SOL	Air Base Pkwy.	Complete gap in existing bike lanes across interchange. Reconstruct and square up ramps. Explore installing Class IV separated bikeway if possible, because of high speeds and wide ROW thru interchange.	>$7M	D4 Bike Plan - Project List
11	Interchange reconstruction - ramps only- Class II	SOL	Alamo Dr.	Explore reconstructing ramps to and from northbound I-80	>$7M	D4 Bike Plan - Project List

#	Project Type	Co.	Location/Title	Description	Cost Estimate	Source
12	New separated crossing	SOL	Elmira Rd.	STA-planned Ulatis Creek Trail segment connecting Ulatis Drive to Leisure Town Road. Phase I is Class I path along creek alignment; Phase II is bicycle facilities on Allison Drive to I-80. Cost estimate around 1 million.	>$7M	D4 Bike Plan - Project List
13	Minor interchange improvements (signage and striping)- Class II	SOL	Allison Dr.	Improve bicycle accommodation at interchange on Allison Drive	<$250,000	D4 Bike Plan - Project List
14	Interchange reconstruction - ramps only- Class I	SOL	Leisure Town Rd.	STA-planned Class I shared use path on Leisure Town Road from I-80 to Ulatis Creek	>$7M	D4 Bike Plan - Project List
15	Minor interchange improvements (signage and striping)- Class II	SOL	Pitt School Rd.	Explore bike facility installation on Pitt School Road over I-80 to connect to continuous Class II bike lanes on Pitt School Road between Vacaville and Dixon	<$250,000	D4 Bike Plan - Project List
16	Road Diet	SOL	Benicia Rd. Road Diet	Reduce Benicia Road from four-lanes to two-lanes from Beach street (Vallejo C/L) to-I80, add bike lanes and street parking, widen sidewalks.	$7M	MTC PBA 2050**
17	Road Diet	SOL	West Texas St. Road Diet	Reconfigure West Texas Street from Beck Ave from five-lanes to two-lanes with raised center median, Class-II Bike Lanes, upgraded signals and enhanced pedestrian crossings	$11M	MTC PBA 2050**

* Project cost ranges are provided for projects from the D4 Bike Plan

** Projects submitted to MTC for consideration in Plan Bay Area 2050, the Bay Area's next Regional Transportation Plan/Sustainable Communities Strategy, to be adopted in 2021.

Chapter 1: Introduction

1.1 Caltrans Policy Development

System Planning is the long-range Transportation Planning process for the California Department of Transportation (Caltrans). The System Planning process fulfills Caltrans statutory responsibility as owner/operator of the State Highway System (SHS) (Gov. Code §65086) by identifying deficiencies and proposing improvements to the SHS. Through System Planning, Caltrans focuses on developing System Planning products that address integrated multimodal transportation system needs and help advance Caltrans Mission, Vision and Goals. Over the past several years, especially with the passage of county-level sales tax measures for transportation funding, Caltrans has worked closely with local agencies such as the Solano Transportation Authority (STA) and the Metropolitan Transportation Commission (MTC) to conduct system planning for the SHS.

This Comprehensive Multimodal Corridor Plan (CMCP) was developed in alignment with the goals, objectives and performance targets outlined in Caltrans Strategic Management Plan 2015-2020.[1] It is consistent with recommendations from the System Planning to Programming (SP2P) study and the Planning for Operations (P4Ops) Strategic Work Plan, both developed in 2017 by Caltrans to help redefine System Planning's roles and products. It also follows the corridor planning process described in Caltrans Corridor Planning Process Guide, adopted in 2020.[2]

1.2 Senate Bill 1 and the Solutions for Congested Corridors Program[3]

The Road and Repair Accountability Act of 2017, also known as Senate Bill 1 (SB 1), provides the first significant, stable, and on-going increase in State-directed transportation funding in more than two decades. SB 1 presents a balance of new resources and reasonable reforms to ensure efficiency, accountability, and performance from each dollar invested to improve California's transportation system.

Among the multiple programs established by SB 1 is the Solutions for Congested Corridors Program (SCCP). This program provides $250 million annually on a competitive basis to Caltrans and regional agencies for projects designed to achieve a balanced set of transportation, environmental, and community access improvements within highly-congested travel corridors throughout the State. Eligible projects should make specific performance improvements and must be part of a Comprehensive Multimodal Corridor Plan (CMCP) designed to reduce congestion in highly-traveled corridors by providing more transportation choices for residents, commuters and visitors to the area while preserving the character of the local community and creating opportunities for neighborhood enhancements.

SCCP-eligible projects include improvements to State highways, local streets and roadways, public transit facilities, bicycle and pedestrian facilities, and restoration or preservation work that protects critical local

[1] https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf

[2] https://dot.ca.gov/programs/transportation-planning/multi-modal-system-planning/guidelines-procedures/corridor-planning-process-guide

[3] http://www.catc.ca.gov/programs/SB1.html

habitats or open spaces. To temper increases in vehicle miles traveled (VMT), greenhouse gases (GHG) and air pollution, highway lane capacity-increasing projects funded by the program are limited to high-occupancy vehicle (HOV) lanes, managed lanes, and other non-general purpose (GP) lane improvements such as auxiliary lanes, truck-climbing lanes and dedicated bicycle lanes.

The California Transportation Commission (CTC) adopted the 2018 Comprehensive Multimodal Corridor Plan Guidelines on December 5, 2018. The Guidelines prescribe a corridor planning process. They also include sections and topics a CMCP should consider as well as performance measures that are consistent with the 2018 and 2020 Solutions for Congested Corridors Program Guidelines.

1.3 I-80 East Corridor Planning

I-80 East Corridor System Management Plan

In 2010, Caltrans District 4, in partnership with MTC and STA, developed a Corridor System Management Plan (CSMP) for the Interstate 80 East Corridor (Corridor) from the Carquinez Bridge (Contra Costa-Solano County line) to the junction of I-80 and State Route (SR) 113 North (Solano-Yolo County line). CSMPs were Transportation Planning documents that examined the mobility of an urban freeway facility in a comprehensive manner based on a performance assessment. A wide range of projects were included to show how the improved mobility from previous investments could be preserved within this Corridor. However, there was generally a lack of emphasis on multimodal improvements in the CSMPs.

I-80 East Comprehensive Corridor Plan

In response to the SB 1 SCCP Cycle 1 requirements, Caltrans, in collaboration with stakeholders along the I-80 East, developed a Comprehensive Corridor Plan (CCP) in February 2018. The I-80 East CCP was an update to the 2010 CSMP, utilizing the same corridor limits as the previous CSMP. The CCP captured all the anticipated changes within the Corridor, identified multimodal needs and recommended improvement projects and strategies. It was also used to support the funding application to SCCP Cycle 1 for the extension of the current managed lane Red Top Road in Fairfield to the I-80 East/I-505 interchange (Phase I) with (Phase II) consisting of conversion of the facility to High Occupancy Toll (HOT), which was not subsequently awarded Program funding.

Since the development of the I-80 East CCP, several planning studies have been completed or initiated within the Corridor. These include, but are not limited to, STA updating the Solano Countywide Transportation Plan, Solano Congestion Management Program, the Arterials, Highways and Freeways element of the Solano County Comprehensive Transportation Plan CTP (2018), and the Countywide Bicycle and Pedestrian Plans. Beginning in Summer 2019, Bay Area County Transportation Agencies also identified existing projects to be carried over and new projects to be added to Plan Bay Area 2050, the next Regional Transportation Plan (RTP) for the San Francisco Bay Area.

With a focus on SB 1 SCCP Cycle priorities and the adoption of the CTC 2018 CMCP Guidelines, Corridor stakeholders agreed that a CMCP should be developed for the Corridor that is based on the existing CCP but also meets the new CMCP multi modal requirements, reflects new planning studies, incorporates new projects, and continues to support future SCCP funding applications.

Long-Term Corridor Planning

It is acknowledged among the stakeholders that one of the main goals for this CMCP is to document funding needs consistent with SCCP for shovel-ready projects in the Corridor. Therefore, this CMCP is focused on what is attainable and is primarily based on information, data, studies and reports that are already available. It addresses the longer-term planning needs of the Corridor and will be revised and updated as needed. The I-80 East CMCP was developed during the COVID-19 pandemic. Future travel patterns, mode preferences, and transportation needs may change as a result of modified behaviors directly linked to this pandemic.

1.4 Document Structure

The I-80 East CMCP includes the following chapters:

- Chapter 1 – Introduction
- Chapter 2 – Corridor Goals, Objectives and Performance Metrics
- Chapter 3 – Corridor Overview
- Chapter 4 – Multimodal Facilities
- Chapter 5 – Freeway Performance
- Chapter 6 – Public Outreach
- Chapter 7 – Recommended Strategies

1.5 Stakeholders

Current CMCP development and its future updates are dependent upon the close participation and cooperation of all major stakeholders along the Corridor. A Corridor Development Team (CDT) was formed and met regularly to collaborate on the document development, provide strategic guidance at key decision points and ensure the on-time delivery of the I-80 East CMCP. The CDT included representatives from the following agencies:

- California Department of Transportation (Caltrans)
- Metropolitan Transportation Commission (MTC)
- Solano County Transportation Authority (STA)
- Solano Highways Partnership (SoHIP)
- Solano County Transit (SolTrans)

Chapter 2 – Corridor Goals, Objectives and Performance Measures

The goals, objectives and performance measures for the I-80 East CMCP were developed with the input from the Corridor Development Team and represent a consensus that was reached through a collaborative process. The Solano Transportation Authority and Solano Highway Partnership (SoHIP) also provided performance metrics and statistics that helped gauge the impacts of transportation system performance on economic productivity, job creation and retention. Information from a variety of sources helped inform the development of this chapter. The most notable sources, among others, include:

- The Caltrans Strategic Management Plan 2015-2020
- Final Guidelines of the 2018 Solutions for Congested Corridors Program, California Transportation Commission (CTC) (December 2017)
- Solano I-80 East Managed Lanes Project Report (March 2017)
- Solano Highways Operations Study (February, 2010)
- Solano Transportation Authority - Draft 2040 Countywide Transportation Plan - Arterials, Highways and Freeways, Equity and Housing Elements (2019)
- MTC - Plan Bay Area 2040 - Final Performance Assessment Report (July, 2017)
- Final 2018 Comprehensive Multimodal Corridor Plan Guidelines, CTC (December 2018)

Table 2-1 lists the corridor goals, objectives and performance measures. While existing sources contain data on a number of measures including the number of accidents on freeways, vehicle-hours of delay (VHD), person throughput, occupancy rates, transit ridership, VMT, and traffic operating system (TOS) element inventory), there is not sufficient data to report on every quantifiable performance measure due to time and resource constraints. This comprehensive list of metrics represents targets and measurements that can be carried into CMCP updates in the future, helping illustrate how the corridor performance changes over time. While equity is not specifically listed as a corridor goal, every effort should be made to ensure that the concerns of the disadvantaged communities are considered, and no segment of the population is disproportionately affected when advancing a transportation strategy or project.

Table 2-1. *I-80 East CMCP Goals, Objectives and Performance Measures Matrix*

Goals	Objectives	Performance Measures
1. Provide a safe transportation system to all users within the Corridor	1.1 Reduce the number of incidents within the Corridor	• Number of collisions on freeways • Number of bicycle collisions in the Corridor • Number of pedestrian collisions in the Corridor
2. Reduce recurring freeway congestion and improve freeway efficiency in moving people	2.1 Reduce recurring delays on I-80	• Vehicle-hours of delay (VHD) • Person-hours of delay (PHD) • Average delay per vehicle • Average speed • Person-throughput • Vehicle-throughput
	2.2 Improve productivity of I-80	• Person-throughput • Vehicle-throughput
	2.3 Increase vehicle occupancy rate	• Vehicle occupancy rate • Percentage of users in HOV/Express Lanes (e.g. Percentage of single occupancy vehicle (SOVs) using Express Lanes, Percentage of 3+ carpoolers, Percentage of buses, Percentage of motorcyclists) • Travel time savings for managed lane vehicles
	2.4 Promote alternative modes of travel and reduce reliance on single occupancy vehicles	• Mode split • Transit ridership • Bike ridership • 2+ carpoolers
3. Improve trip reliability within the Corridor	3.1 Improve freeway travel time reliability	• Buffer time index (BTI)* • Planning time Index (PTI)* • Travel time during peak periods
	3.2 Reduce non-recurring delays on I-80	• Average number of incidents by type • Major incident clearing time

	3.3 Improve transit on-time performance	• Percentage of transit trips on-time
		• Number of transit operations access improvements
		  • Queue-jump lanes
		  • Transit-only lanes
		  • Signal prioritization/timing
		  • All-door boarding
		  • Pre-boarding payment stations
		• Estimated travel time savings compared with current on-time performance

Goals	Objectives	Performance Measures
4. Support an accessible and inter-connected multimodal transportation system within the Corridor	4.1 Improved access and connections to existing or future multimodal transportation hubs	• Number of transit operations access improvements compared to number of existing transit operations access improvements • Estimated travel time savings compared with current on-time performance
	4.2 Reduce gaps in the bicycle network	• Percent of bicycle facility lane-miles as a share of total lane-miles by facility classification
	4.3 Reduce gaps in the pedestrian network	• Number of pedestrian walkway miles, including bike/pedestrian overcrossings
5. Reduce pollutants and GHG emissions within the Corridor	5.1 Reduce Vehicle-Miles Traveled (VMT)	• Total VMT • VMT per capita • Percentage of zero-emission vehicles
	5.2 Reduce criteria pollutants	• Emissions of criteria pollutants, including carbon monoxide (CO), lead, nitrogen dioxide (NO2), ozone (O3), particulate matter (PM), and sulfur dioxide (SO2)
	5.3 Reduce greenhouse gas emissions	• Emissions of greenhouse gases
6. Support economic prosperity	6.1 Increase freight efficiency	• Per-capita delay on freight network
	6.2 Reduce economic productivity lost due to congestion	• Lost economic productivity due to freeway congestion
7. Efficiently manage transportation assets within the Corridor to protect existing and future investment	7.1 Increase coverage of TOS elements, such as Ramp Metering, Vehicle Detection Sites, Closed-Circuit Television Cameras, and Changeable Message Signs.	• Number of TOS elements installed
	7.2 Ensure good TOS functionality	• Decrease TOS elements downtime percentage • Percentage of TOS elements inspected or maintained within the last 3 years
8. Support efficient Land Use	8.1 Promote multimodal travel that supports efficient land use	• Increase in non-single-occupant-vehicle mode share • Increase in non-vehicle-mode share (e.g. walking, cycling, public transit use, rail use)

* Buffer time index (BTI) is defined as the amount of extra "buffer" time needed to be on-time 95 percent of the time
Planner time index (PTI) is defined as the total amount of time needed to be on-time 95 percent of the time

Chapter 3 – Corridor Overview

3.1 Corridor Limits

The study limits for the I-80 East Comprehensive Multimodal Corridor Plan is an approximately 45-mile segment of the larger I-80 Corridor in Caltrans District 4 that also traverses Contra Costa, Alameda and San Francisco Counties to the west. For the purpose of this CMCP, The I-80 East CMCP begins midspan at the Carquinez Bridge (Contra Costa/Solano County line) and extends to the Solano/Yolo County line. Within the CMCP Corridor limits I-80 East intersects with SR 29, I-780, SR 37, SR 12, I-680, I-505 and SR 113 and travels through the cities of Vallejo, Fairfield, Vacaville, Dixon and unincorporated County areas. This section of the transcontinental Interstate (between the San Francisco Bay Area and the East Coast) represents a critical component for the region and State. Within California, the I-80 Corridor connects the San Francisco Bay Area and Sacramento metropolitan regions and points beyond including the Sierra Nevada Mountains.

Local parallel arterials help accommodate short trips along I-80 and provide access to freeway interchanges and to multimodal facilities such as transportation centers and park-and-ride/casual carpool lots within the Corridor. They also improve the response times of emergency service vehicles, reducing the duration of corridor congestion caused by accidents. Major parallel routes include, Admiral Callaghan Lane in Vallejo, Cordelia Road and Business Center Drive in Fairfield, Lyon Road in unincorporated Solano County and Orange Drive in Vacaville.

The I-80 East Corridor is a multimodal corridor. Various transit services are operated by several transit agencies and bicycling and walking are all important modal options within the Corridor, providing alternatives to vehicular travel. The transit section includes existing services and planned improvements both on and parallel to the freeway. For bicycle and pedestrian travel, the discussion focuses on freeway crossings.

For the purposes of this CMCP, the Corridor has been divided into four segments, as shown in **Table 3-1 and Figure 3-1**. Route segmentation is primarily based on political boundaries, lane configuration and planned and programmed projects within the Corridor.

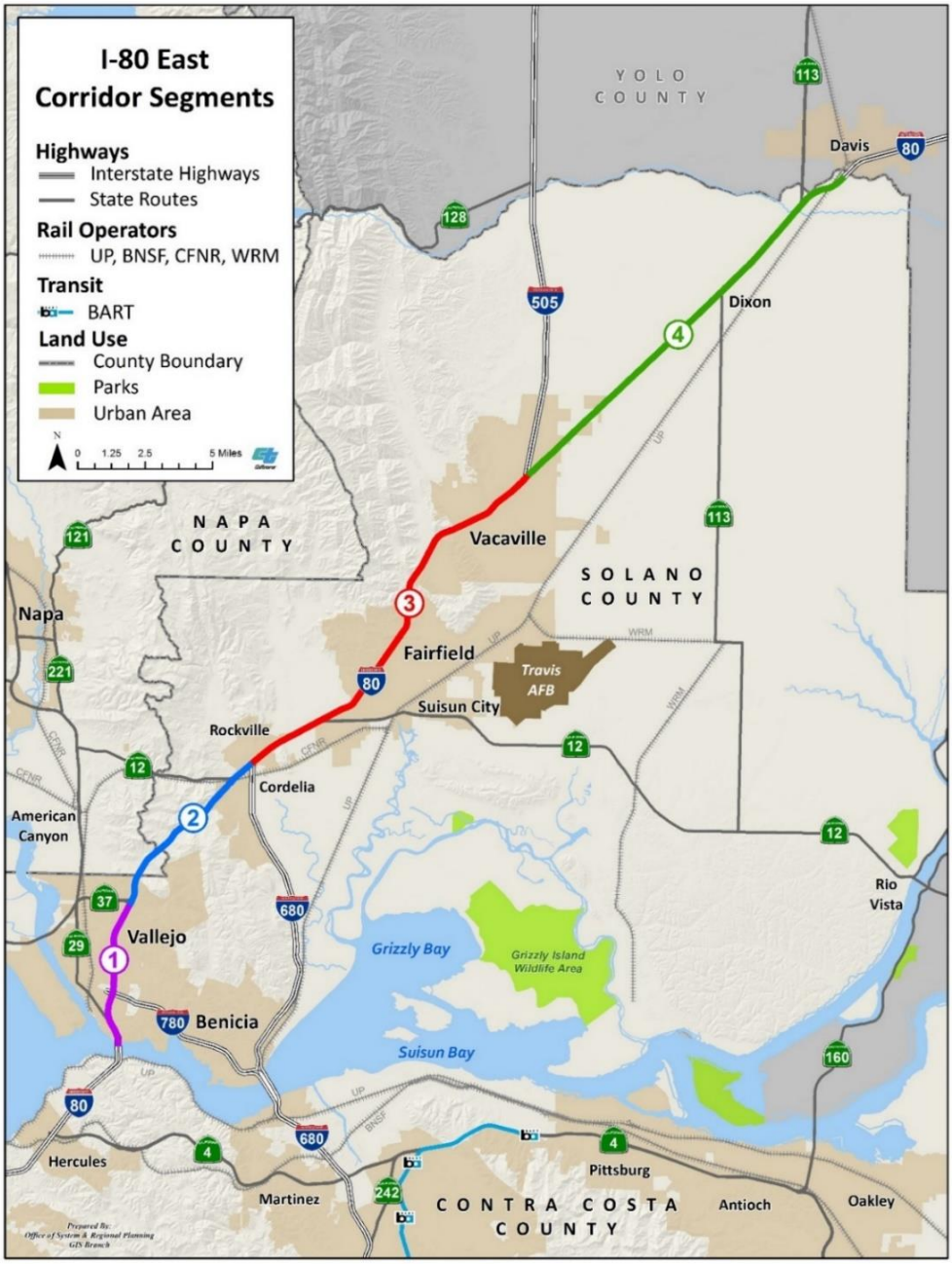
Table 3-1. *I-80 East CMCP Segments*

Segment #	Location Description	County Route Beg. PM	County Route End. PM	Configuration
1	CC/SOL County line/Carquinez Bridge to I-80/SR 37 Interchange	SOL 80 0.00	SOL 80 5.77	6 – 7 lanes
2	I-80/SR 37 Interchange to Red I-80/I-680/SR 12 Interchange	SOL 80 5.77	SOL 80 12.84	8– 10 lanes 2 Managed lanes
3	I-80/I-680/SR 12 Interchange – I-80/I-505 Interchange	SOL 80 12.84	SOL 80 R27.90	8-10 lanes 2 Managed lanes
4	I-80/I-505 Interchange – Solano/Yolo County Line	SOL 80 R27.90	SOL 80 44.72	6 – 8 lanes

Segment 1 is a six to seven-lane freeway that begins at the Contra Costa/Solano County border and ends at the junction of SR 37. This portion of I-80 traverses the Carquinez Bridge, and a portion of Vallejo. Segment 2 is an eight to ten-lane freeway, with a High Occupancy Vehicle (HOV) lane in each direction in

between Red Top Road and the I-80/I-680/SR 12 interchange. It begins at the I-80/SR 37 Interchange and ends at the I-80/I-680/SR 12 interchange. This segment traverses a portion of Vallejo & unincorporated Solano County and a portion of Fairfield. Segment 3 is an eight to ten-lane freeway between the I-80/I-680/SR 12 interchange and the I-80/I-505 interchange, with an HOV lane in each direction between the I-80/I-680/SR 12 interchange and Air Base Parkway. It traverses unincorporated Cordelia, Fairfield and a portion of Vacaville. Segment 4 is a six to eight-lane freeway that begins at the I-80/I-505 Interchange and ends at the Solano/Yolo County border. It traverses through a portion of Vacaville, unincorporated agricultural Solano County, and Dixon.

Figure 3-1. *I-80 East Corridor Segmentation Map*



Source: Caltrans, District 4, GIS and Technical Support Branch, 2020

3.2 Route Significance

The I-80 East Corridor serves local, regional, and interregional traffic of people and goods across an urban, suburban, rural and open space landscape. This Interstate, as one of the two such facilities that extend east of the San Francisco Bay Area region, is vital to interregional and regional commuting, freight movement and recreational travel.

Beyond the west limits of the Corridor, I-80 travels through the City and County of San Francisco where it joins US 101/I-280 connecting to the Peninsula in San Mateo County. Crossing over the San Francisco-Oakland Bay Bridge (SFOBB) it makes a vital connection to I-880 and I-580 providing access to the East Bay communities of Alameda County, the Central Valley and Marin County north and west via the Richmond-San Rafael Bridge. In the inner East Bay, the route intersects intraregional routes SR 13 and SR 4 which provide continuation into interior Alameda and Contra Costa Counties, and connect to SR 24, I-680 and SR 242.

I-80 links to the Oakland International Airport, San Francisco and the Silicon Valley via I-880, the San Francisco-Oakland Bay Bridge (SFOBB) and United States Route 101 (US 101) to the west and Sacramento to the east. The Corridor serves as an important freight corridor for the movement of agricultural goods between the Sacramento Valley and Port of Oakland and provides an essential link to the Ports of Richmond, San Francisco and Redwood City via connecting State routes. Daily traffic volumes on the I-80 East Corridor continues to rise as weekday peak periods lengthen and weekend recreational traffic demand increases, impacting traveler delay and travel times while reducing corridor reliability. This CMCP will examine opportunities to relieve congestion in Solano County.

3.3 Route Designations

Within the Corridor, the four segments are part of the California Freeway and Expressway System. They are part of the National Highway System (NHS) and the Strategic Highway Network (STRAHNET). I-80 East is functionally classified as a freeway and is designated as a Surface Transportation Assistance Act (STAA) National Network route for trucking. I-680 is part of the Congressionally approved National Highway Freight Network.

I-80 East has been identified as one of the 93 statutory Interregional Road System (IRRS) routes established in 1989 by the Blueprint Legislation (a ten-year transportation funding package created by AB 471, SB 300, and AB 973). The 2015 Caltrans Interregional Transportation Strategic Plan (ITSP) identifies eleven Strategic Interregional Corridors statewide. I-80 is part of the San Jose/San Francisco Bay Area – Sacramento – Northern Nevada Corridor. Within this Strategic Interregional Corridor, I -80 East is identified as a Priority Interregional Highway that is critical in supporting interregional transportation and is expected to be a focus of Interregional Transportation Improvement Program (ITIP) investment in the future.

I-80 East serves as one of the primary east - west freight routes for the San Francisco Bay Area, providing direct access to other Bay Area goods movement corridors via I-580, I-880 and US 101 South. As part of the National Highway System (NHS) and a designated Surface Transportation Assistance Act (STAA) route,[4] large trucks are allowed throughout the I-80 Corridor. The California Freight Mobility Plan (CFMP) defines I-80 East as a multimodal freight route, connecting several maritime ports and airport facilities, and

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paralleling rail lines.5 The Corridor's freight facilities are described in Chapter 4. **Table 3-2** lists route designations for the I-80 East Corridor.

Table 3-2. *I-80 East Corridor Route Designations*

Designation	I-80
California Freeway and Expressway System[6]	Yes
National Highway System	Yes
Strategic Highway Network	Yes
Scenic Highway[7]	No
Strategic Interregional Corridor	San Jose/SF Bay Area-Sacramento- Northern Nevada
Federal Functional Classification	Interstate
Truck Designation[8]	National Network (STAA) Route
Metropolitan Planning Organization	Metropolitan Transportation Commission (MTC)
Congestion Management Agency	Solano Transportation Authority (STA)
Air District	Bay Area Air Quality Management District / Yolo-Solano Air Quality Management District
Terrain	Rolling to Flat
Land Use	Urbanized / Suburban / Rural / Agricultural

3.4 Demographics

Solano County has the smallest population of the four counties along I-80 in the Bay Area, with less than half a million people, with the largest percentage of people per square mile found in the urbanized areas of the cities of Vallejo, Fairfield and Vacaville, moderate to low densities found in the city of Dixon and unincorporated Cordelia and the lowest levels observed in other unincorporated areas of Solano County that are dedicated to agricultural production. Like other Bay Area Counties, three out of every four commuters drive alone. Most of the workers commuting to other counties commute to Sacramento, Contra Costa, Alameda and Napa Counties. Median income is close to $75,000. The educational attainment is 87 percent high school graduate while 44 percent holds a bachelor's degree or higher. The County has a projected population of 510,660 by 2040. **Table 3-3** shows demographics of Solano County.

[3] California Street and Highways Code, Article 2. The California Freeway and Expressway System https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=SHC&division=1.&title=&part=&chapter=2.&article=2., Accessed Oct of 2017

[4] http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed Mar of 2020

[5]Caltrans District 4 Truck Network Map, http://www.dot.ca.gov/trafficops/trucks/truck-network-map.html

Table 3-3. *Demographic Data of the I-80 East Corridor*

Solano County	
Total Population (2017)	446,610
Hispanic or Latino (2017)	120,138 (26.9 %)
White Alone 2017	266,626 (59.7 %)
Black or African American Alone (2017)	65,150 (14.8 %)
Asian Alone (2017)	69,112 (16.2 %)
Speak Only English (2017)	71.3%
Population Density (people/square mile) (2017)	503
Number of Households	156,826
Average Household Size (Owner) (2017)	2.86
Average Household Size (Renter) (2017)	2.92
Renter-Occupied Housing Units (2017)	66,667
Owner-Occupied Housing Units (2017)	88,501
Median Household Income (2017)	$ 72,950
Mean Travel Time to Work (minutes)	31.8

Source: Data compiled from the American Community Survey (2017) Accessed June of 2019.

* Other includes: American Indian, Alaska Native Alone, Native Hawaiian, Other Pacific Islander Alone, Race Alone, and Two or More Races.

The unincorporated area of the County includes approximately 773 square miles (494,437 acres). Approximately 81,678 acres, or 14 percent of the total land area, is in cities. In 2010, only 19,322 of Solano County's 394,542 residents lived in the unincorporated area. About 20 percent of the unincorporated land area is some type of undeveloped natural resource land. This includes marsh and watershed lands in the southern and western portions of the county comprising 101,307 acres. Over 329,000 acres of land are in agricultural use, approximately 70 percent of the unincorporated land area. Agricultural land is concentrated in the eastern portion of the county and in smaller areas scattered throughout the county. Some watershed lands are also in agricultural use.

3.5 Commute Patterns and Trip Generators

Commute Choice by Mode

As shown in **Table 3-4**, automobile travel is the dominant mode of commuting in the San Francisco Bay Area, accounting for over 75 percent of all commute trips. Solano County shows an even greater reliance on automobile travel and less use of alternative modes of transportation for commuting.

Table 3-4. *Commute Choice by Mode*

Commute Mode	Solano County	Bay Area
Auto	90.1%	75.5%
Transit	3.0%	12.0%
Walk	1.0%	3.6%
*Other**	1.4%	3.3%
Work from Home	3.7%	5.6%

Source: MTC Vital Signs, 2016* Other includes motorcycles, cycling, ridesharing & MAAS

Land Uses and Major Trip Generators

The I-80 East Corridor traverses three urban cities with various land uses that include State/Regional Parks, agricultural lands, military and residential uses in urban and suburban communities, commercial land uses in dense urban and suburban communities, commercial uses in dense urban centers and office parks as well as industrial uses. There are also several institutional uses and sports venues within close proximity of the I-80 Corridor. Below is a list of major trip generators in the vicinity of the Corridor, some of which are outside of the CMCP limits but influence travel within the Corridor.

Trip Generators in the Corridor Vicinity

- Six Flags Marine World Theme Park
- Westfield/Solano Mall
- Vacaville Premium Outlets
- Nut Tree retail area
- Travis Air Force Base
- University of California, Davis

3.6 Smart Mobility Framework

One of the goals of CMCPs is to identify and recommend transportation improvements that help to achieve a balanced transportation system with land use that provides more transportation choices and reduce greenhouse gas emissions while preserving the character of local communities. There are different tools that take both land use and transportation into consideration to help achieve this goal. At the State level, Caltrans has developed the Smart Mobility Framework that lays out a vision for multimodal travel choices, livable communities and a robust and sustainable economy. In the Bay Area, MTC has adopted the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) that combines transportation investment and sustainable development pattern to achieve the region's and state's greenhouse gas emission reduction goals. The following sections discuss these efforts in greater detail. In addition, Communities of Concern and areas of air quality burden are presented to highlight where disadvantaged groups are located along the Corridor.

Smart Mobility Framework

In 2010, Caltrans introduced the concept of Smart Mobility through the establishment of the Smart Mobility Framework (SMF).[9] The SMF is a transportation planning guide that includes place types to further integrate Smart Growth concepts into transportation and land use development. The SMF establishes seven place types based on the Location Efficiency of a place, which takes into consideration

[9] http://www.dot.ca.gov/hq/tpp/offices/ocp/smf.html

a community's design characteristics and its access to the regional transportation system. Within each place type, there are also sub-categories to further differentiate one place from another. The seven place-types are:

1. Urban Centers
2. Close-in Compact Communities
3. Compact Communities
4. Suburban Communities
5. Rural and Agricultural Lands
6. Protected Lands
7. Special Use Areas

Place Types along the I-80 East Corridor

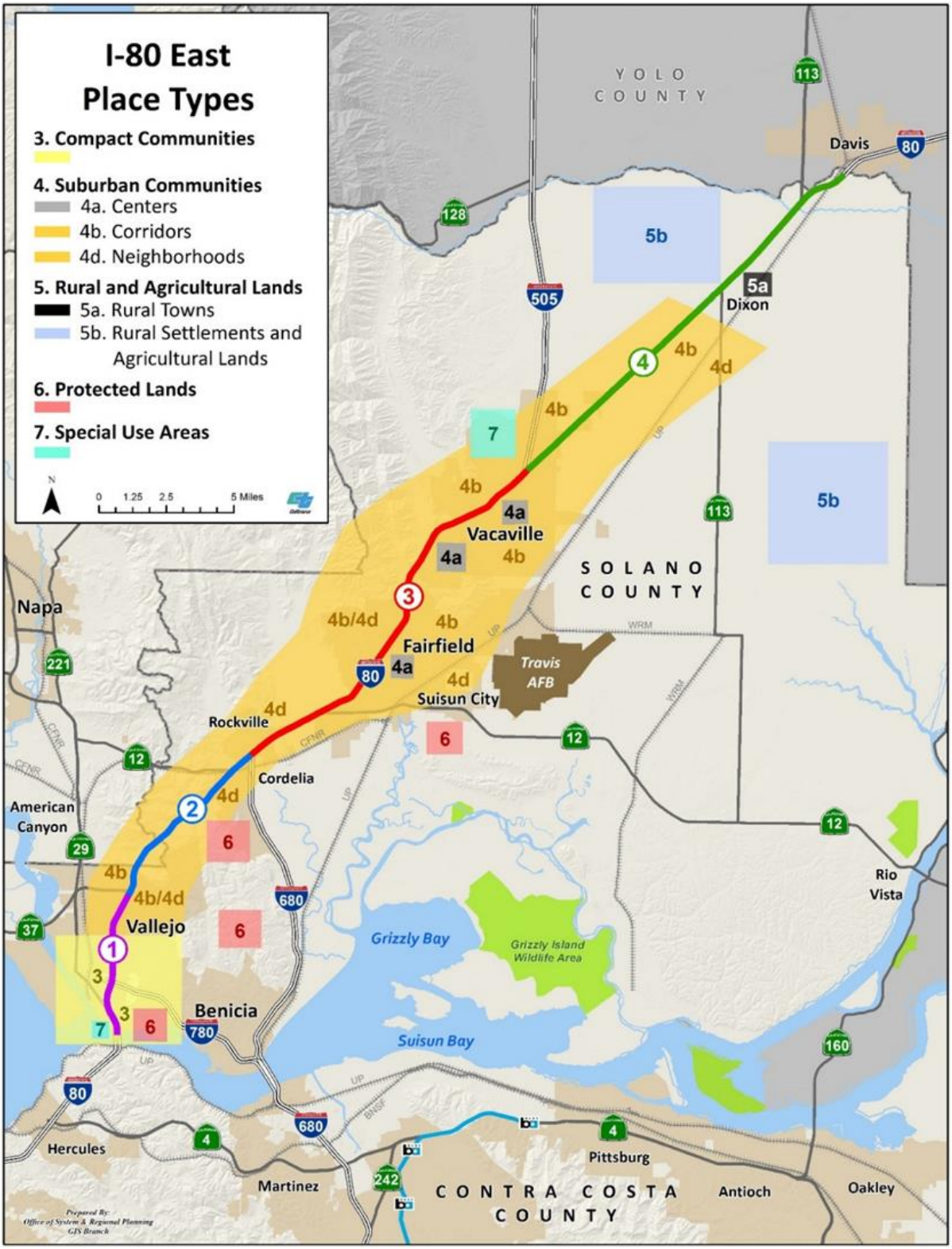
Figure 3-2 shows the place-types along the Corridor, established by reviewing the satellite imagery of the existing development pattern and the transportation system including roadways, transit services and active transportation facilities. Place-types outside the urban areas along I-80 East include pockets of Compact Communities (Type 3) in older cities like Vallejo, Agricultural (Type 5) in the more rural areas of Dixon and unincorporated Solano County, Protected Lands (Type 6) along the Carquinez Strat northern shoreline and the Grizzly Island Wildlife Area, and Special Use (Type 6) which include Travis Air Force Base. From the center of the Corridor eastward, Suburban Communities (Type 4) is the remaining place-type-along the Corridor. Priority Development Areas (PDA) are also observed in areas with historical downtowns like Fairfield and Vallejo, and centered around transportation and transit centers, as well as rail stations served by the Capitol Corridor and local and regional bus service providers. PDAs are discussed in greater detail later in this chapter.

Most of the urban development along the Corridor took place in the half century after domination by railroad, agricultural and maritime industrial development, the landscape was transformed toward-residential and low-density large commercial and industrial land uses. **Table 3-5** presents the dominant place types in the Corridor.

Table 3-5. *Place-Type Examples within the I-80 East Corridor*

Place Type	Place Type Examples within the I-80 East Corridor
3. Compact Communities	Downtown & North Vallejo
4a. Centers	Downtown Fairfield, Vacaville
4b. Corridors	Solano Town Center, Vacaville Premium Outlets
4c. Dedicated Use Areas	Business parks near Suisun, Fairfield-Vacaville Amtrak/Capitol Corridor stations.
4d. Suburban Communities - Neighborhoods	Peripheral areas in Fairfield, Vacaville and unincorporated community of Cordelia.
5a. Rural Towns	Dixon
5b. Rural Settlements & Agricultural Lands	Unincorporated Solano County
6. Protected Lands	Lynch Canyon Open Space, Benicia State Park, Sacramento Valley National Cemetery.
7b. Special Use Areas	Cal State Maritime University, Travis Air Force Base

***Figure 3-2**. I-80 East Corridor Place- Types Map*



Source: Caltrans, District 4, GIS and Technical Support Branch, 2020

Transportation Investment Recommendations

Place-types help determine transportation needs. SMF identifies transportation strategies for each place-types so a greater location efficiency can be achieved and more Smart Mobility benefits can be realized in the future. **Table 3-6** lists the SMF place-types along the I-80 East Corridor and associated transportation strategies.

Table 3-6. *Examples of Transportation Strategies for Place Types along the I-80 East Corridor*

Place Type	Transportation Strategies
3: Compact Communities	• Dedicate street space to benefit fronting residential and commercial land uses and non-motorized modes. • Designate areas that could evolve to become more close-in centers, corridors and neighborhoods.
4A: Suburban Communities – Centers 4B: Suburban Communities – Corridors 4C: Suburban Communities – Dedicated Use Areas 4D: Suburban Communities – Neighborhoods	• Identify centers, dedicated use areas and corridors that can be transformed into more location-efficient places • Promote transit service and rideshare programs near concentrated employment centers
5A: Rural Towns 5B: Rural Settlements and Agricultural Lands	• Safety improvements to walking and bicycling facilities focused on connectivity and comfort. • High-quality demand-responsive transit and intercity transit services
6: Protected Lands	• Where public access and recreational use is permitted, bicycle facility, and trail projects
7: Special Use Areas	• Provide access and connectivity improvements that are specific to use and location

3.7 PBA 2040, PDA, PCA and Communities of Concern

Plan Bay Area 2040 (PBA 2040), approved in July 2017, is the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the Bay Area, and responds to Senate Bill 375 (2008), which requires each of the State's 18 metropolitan regions to develop a SCS to accommodate future population growth while reducing greenhouse gas emissions from cars and light trucks. MTC produced the RTP/SCS in concert with the Association of Bay Area Governments (ABAG) which is responsible for developing regional housing and employment forecasts. The Plan charts a course for reducing per-capita greenhouse gas emissions through the promotion of more compact, mixed-use residential and commercial neighborhoods near transit. MTC is currently in the process of developing PBA 2050, an update to the RTP/SCS. CTC's CMCP Guidelines require CMCPs be consistent with the goals and objectives of the RTP including the forecasted development pattern identified in the SCS.

The regional forecast shows that between 2010 and 2040, the Bay Area is projected to grow from 3.4 to 4.7 million jobs, while the overall population is projected to grow from 7.2 to 9.5 million people. As of 2015, almost half of the projected jobs have been added and nearly a quarter of the projected population growth has occurred. During the same period, only 13 percent of projected household growth has occurred, held back in part by financial conditions as a result of the 2008 Great Recession.

PBA 2040 projects and programs along the I-80 East Corridor can be found in Chapter 7, along with projects in other plans and funding programs.

Priority Development Areas, Priority Conservation Areas and Priority Production Areas

PBA 2040 establishes Priority Development Areas (PDA) and Priority Conservation Areas (PCA). PDAs are areas within existing communities that local city or county governments have identified and approved for future housing and job growth, transit and active transportation accessibility and retention of community assets such as parks, churches, and key service providers. These areas typically are transit accessible and are located near established job centers, shopping districts and other services. PCAs are locations designated for the protection of natural habitats and the preservation of open space for future generations, including farming, ranching, recreational and resource lands. PCAs are identified through consensus by local jurisdictions and Park/Open Space Districts. Unlike SMF place types that are based on existing characteristics, PDAs and PCAs point to a future growth pattern supported by plans adopted by local governments.

With the development of PBA 2050, MTC is updating the regional growth framework by refreshing PDAs and PCAs as well as introducing a new designation called Priority Production Area (PPA). PPAs are areas zoned for industrial use or have a high concentration of industrial activities such as production, advanced manufacturing, distribution, or related activities that local jurisdictions can nominate for inclusion into PBA 2050. The updated PDAs and PCAs and the newly designated PPAs will help focus new housing and job growth in the region. PDAs in the cities of Vallejo, Fairfield, Vacaville and Dixon help accommodate a share of the forecast growth in the Bay Area. Below is a list of PDAs located within proximity to I-80 East, including those in the current PBA 2040 and those that have been submitted to MTC for inclusion into PBA 2050. MTC is updating the PDA framework as part of the PBA 2050 development, so some of the PDAs may change. Newly proposed PPAs along I-80 East are listed separately. **Figure 3-3** displays the planned and potential PDA and PCAs along the I-80 East Corridor.

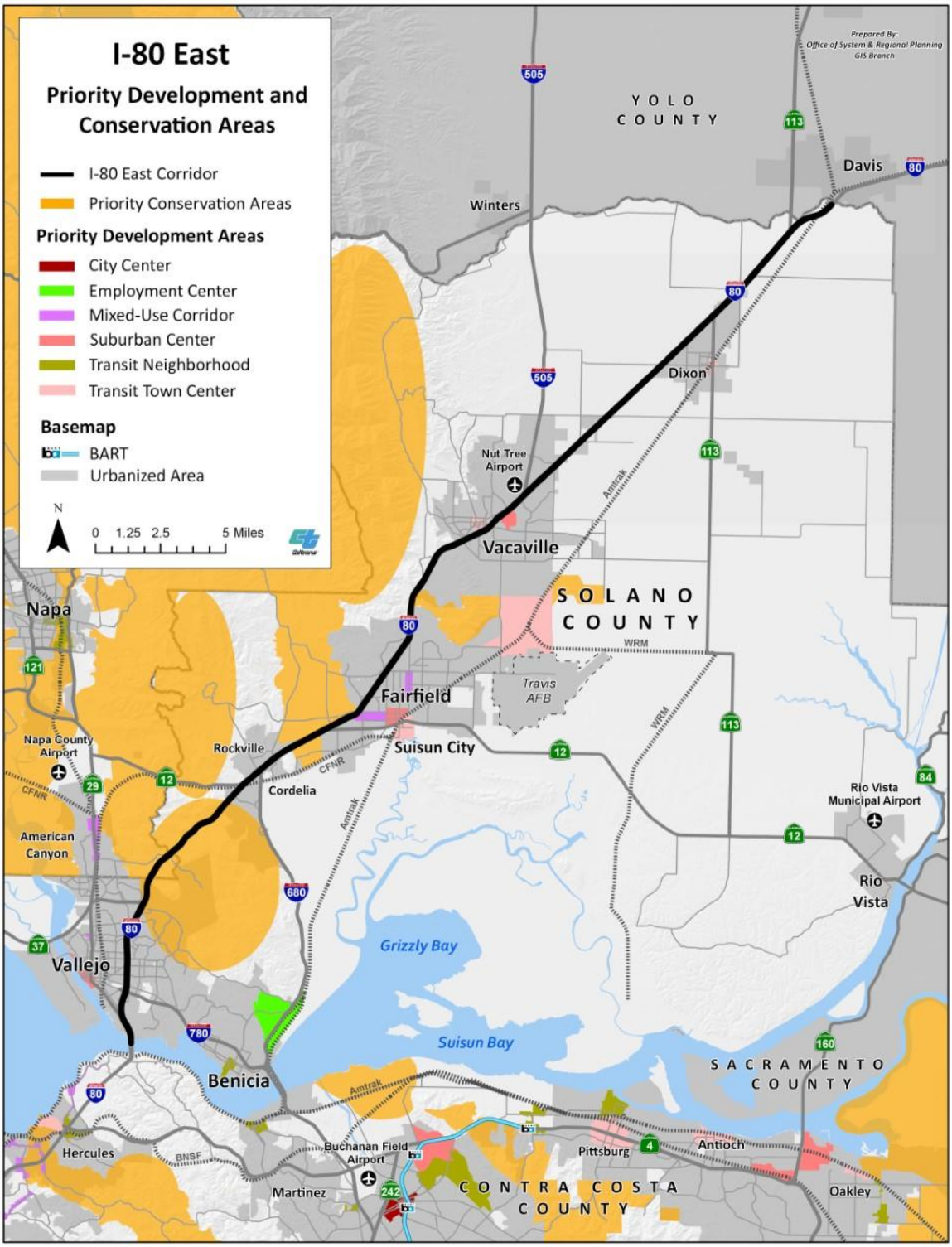
Solano County PDAs

- Sonoma Blvd, Waterfront and Downtown (Vallejo)
- Downtown South, Jefferson Street/Union Avenue/ /W. Texas St. (Fairfield)
- Downtown/Alison Area-Vacaville Transportation Center/Fairfield-Vacaville Station (Vacaville)
- Downtown (Dixon)

Solano County PPAs

- Northeast Quadrant (Dixon)
- Solano Business Park, Train Station Employment Center (Fairfield)
- Vacaville Industrial (Vacaville)
- North Sonoma & Broadway Corridor, South Vallejo and Mare Island (Vallejo)

Figure 3-3. *Existing PDAs and PCAs along the I-80 East Corridor*



Source: Caltrans, District 4, GIS and Technical Support Branch, 2020
* This map does not include proposed PDAs, PCAs or PPAs for Plan Bay Area 2050.

Communities of Concern

Communities of Concern have been identified using MTC's online GIS portal.[10] The data has been conveyed via the use of census tracts along the i-80 East. MTC uses the term "Communities of Concern" (MTC Resolution 4217 – Equity Framework for PBA 2040) to represent a cross-section of the population that is considered disadvantaged or vulnerable to current conditions and potential impact of growth and urban development. PBA 2050 defines disadvantaged populations as having a high concentration of minority and low-income households, in addition to meeting of three or more additional factors.[11] The eight factors to identify communities of concern include:

1. Minority Population
2. Low Income (<200% federal poverty level)
3. Limited English Proficiency
4. Zero-Vehicle Household
5. Seniors 75 Years and Over
6. People with Disabilities
7. Single-Parent Family
8. Severely Rent-Burdened Household (paying>50% of income on rent

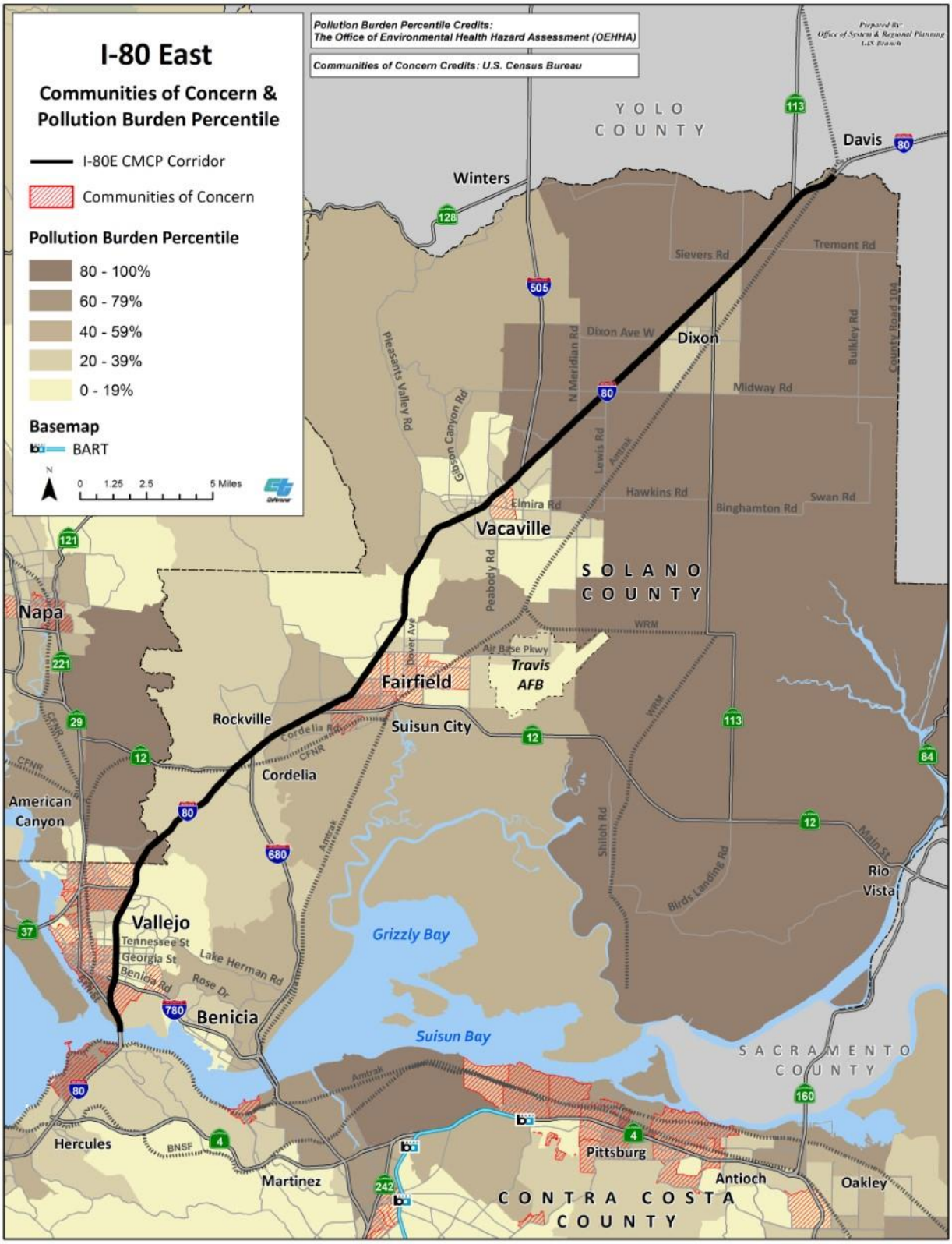
Additional analysis has been conducted to identify disadvantaged communities via CalEnviroScreen 3.0.[12] CalEnviroScreen is a screening methodology that is used to identify communities burdened by multiple sources of pollution. The tool utilizes various sources of data as shown below to determine the level of risk a community faces:

- Pollutants, such as Particulate Matter 2.5, ozone, diesel emissions, pesticides, toxic releases, traffic, poor drinking water, brownfield remediation (cleanup) sites, groundwater threats, hazardous waste, substandard quality water, and solid waste
- Asthma, low birth rates, cardiovascular risks, education levels, linguistic Isolation, poverty, unemployment rate, and housing burden

Figure 3-4 - displays Communities of Concerns along the I-80 East Corridor and their associated pollution burden.

[10] http://mtc.maps.arcgis.com/home/webmap/viewer.html?webmap=7ce7b5ba22514340bb7dffdc6bdc4287
[11] http://www.planbayarea.org/2040-plan/plan-details/equity-analysis
[12] https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

Figure 3-4. *Communities of Concerns along the I-80 East Corridor and their associated pollution*



Source: Caltrans, District 4, GIS and Technical Support Branch, 2020

3.8 Environmental Considerations and Sea Level Rise

Environmental Considerations

The purpose of this environmental scan is to conduct a high-level identification of potential environmental factors that may require future analysis in the project development process. This is a general, qualitative evaluation of the environmental factors in the Corridor for early planning to identify issues that may significantly affect project cost and schedule during the project development process. Information presented here may not represent all environmental issues that exist within the Corridor vicinity. The factors are categorized based on a scale of a Low-Medium-High probability of an environmental issue within each category. **Table 3-7** shows environmental considerations within the I-80 East Corridor. For the purposes of the CMCP, important environmental considerations for project funding include "mitigation," and restoration costs, and protection of critical habitat and open space.

Table 3-7. *Environmental Consideration for the I-80 East Corridor*

Environmental Factors	Segment			
	1	2	3	4
Section 4(f) Land[13]	*Low*	*Medium*	*Low*	*High*
Farm/Timberland[14]	*No*	*Yes*	*No*	*Yes*
Floodplain[15]	*100 year*	*100 year*	*100 Year*	*100 Year*
Climate Change/ Sea Level Rise	*Low*	*Low*	*Low*	*Low*
Waters and Wetlands	*High*	*High*	*High*	*High*

Air Quality

The California Legislature created the Bay Area Air Quality Management District (BAAQMD) in 1955, as the first regional air pollution control agency in the country. BAAQMD is tasked with regulating stationary sources of air pollution in the nine-county Bay Area except northern parts of Sonoma and Solano Counties which fall under the jurisdiction of the Yolo-Solano County Air Quality Management District which was created in 1971 by a joint powers agreement between the Yolo and Solano County Boards of Supervisors. Each is governed by a number of Board of Directors composed of locally-elected officials from each of the represented counties, with the number of board members from each county being proportionate to its population. Any County Board of Supervisors approved project's design concept, scope, and open-to-traffic date assumptions need to be consistent with the regional emissions analysis performed for the current RTP and Transportation Improvement Program (TIP).

Sea Level Rise

Sea level rise (SLR) is perhaps the best documented and most accepted impact of climate change, which can be directly tied to increased levels of Greenhouse Gas (GHG) emissions. The Governor's Executive Order B-18-12 (April 25, 2012)[16] has directed State agencies to reduce GHG emissions by twenty percent

[13] CDFW Owned & Operated Lands & Conservation Easements, https://map.dfg.ca.gov/bios/, accessed Oct of 2017
[14] ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2012/fmmp2012_wallsize.pdf, accessed Oct of 2016.
[15] NFHL 1% (100 year) Flood, https://map.dfg.ca.gov/bios/
[16] Caltrans Executive Order B-18-12
https://www.climatechange.ca.gov/climate_action_team/documents/Executive_Order_B-18-12.pdf

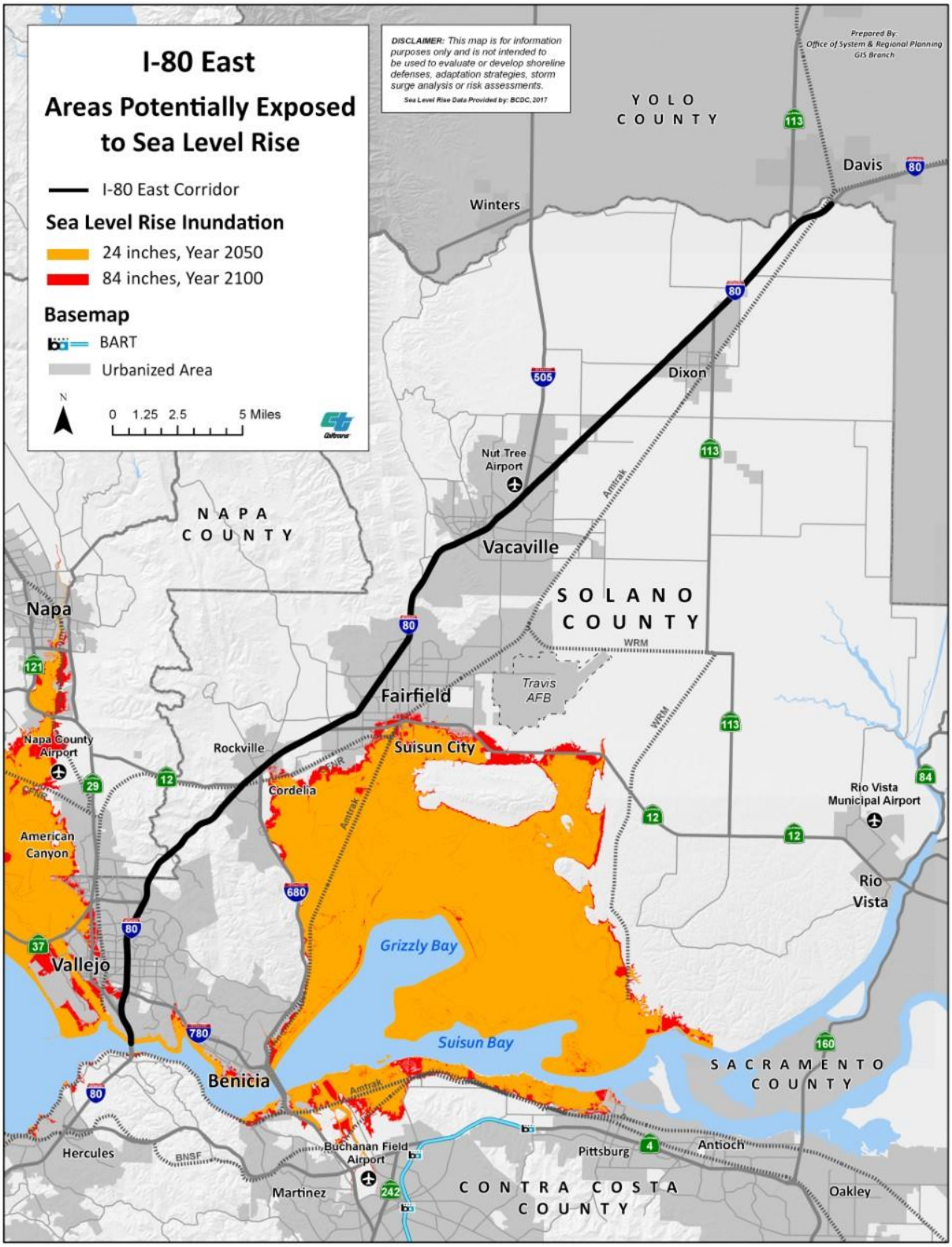
by 2020. Observations of sea levels along the California coast, and global climate models indicate that California's coast will experience rising sea levels over the next century and. The effects of SLR will have impacts on all modes of transportation, significantly increasing the challenge to transportation managers in ensuring reliable transportation routes are available. Inundation of even small segments of the intermodal transportation system can render much larger portions impassable, disrupting connectivity and access to the wider transportation network.[17] Caltrans seeks to address SLR and GHG emissions by partnering with local and regional stakeholders to address climate change on the SHS and local streets and roads.

If left unmanaged, the impacts from future flooding and coastal erosion could pose considerable risks to life, safety, critical infrastructure, natural and recreational resources, and have impacts on the economy. I-80 East is also vulnerable to the effects of rising sea levels. Current projections published by the Ocean Protection Council in 2018 suggest that sea levels at the San Francisco tide gauge could rise by 1.9 feet by 2050 and 6.9 feet by 2100.[18] Based on sea level rise mapping data from the Bay Conservation and Development Commission, rail operations could be impacted by sea level rise by the Year 2050 which may affect travel on I-80. **Figure 3-5** illustrates the impacts of sea level rise in Solano County.

[17] Caltrans Climate Change *Vulnerability Assessment Map*, May 2018. http://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=517eecf1b5a542e5b0e25f337f87f5bb

[18] California Ocean Protection Council, *State of California Sea-Level Rise Guidance*, 2018 http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf

Figure 3-5. *Potential Impacts of Sea Level Rise on Areas in Solano County*



Source: Caltrans, District 4, GIS and Technical Support Branch, 2020

Chapter 4 – Multimodal Facilities and Needs

As a multimodal transportation corridor, the I-80 East Corridor serves the movement of people and goods with a variety of transportation modes. This chapter describes public transit services, park-and-ride (P&R) facilities, the private commuter shuttle services, and pedestrian and bicycle facilities as critical transportation modes within the I-80 East Corridor. It also identifies programmed, planned and in some cases proposed projects within the Corridor. In addition, the chapter summarizes the Transportation Systems Management and Operations (TSMO) strategies and equipment that are currently deployed within the Corridor and examines the networks and major trip generators for freight movement.

At the State level, Caltrans Deputy Directive DD-64-R2 requires Caltrans to provide for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products of the State Highway System. Caltrans is to develop integrated multimodal projects and facilitate bicycle, pedestrian, and transit travel by creating a network of "Complete Streets".[19] At the regional level, the Bay Area's Metropolitan Planning Organization, MTC, has developed policy and guidance on Complete Streets and local agencies as well.

4.1 Transit Services

A number of public transit agencies provide services within the I-80 East Corridor. Some agencies are specialized in one type of service, while others provide a variety of transit services.

STA / Solano Express

STA/Solano Express manages a fleet 37 buses, of which 19 are operated by Fairfield Suisun Transit (FAST) and the remaining 18 by Solano County Transit (SolTrans) which provide both express-intercity and local bus service in and beyond Solano County. These operations provide linkages between Solano County cities and outside destinations like BART Stations in El Cerrito, Pleasant Hill, UC Davis, and Sacramento. Solano Express operates the Green, Blue, Yellow, and Red Lines, all running on the I-80 Corridor. They also provide linkages to other transit services such as the Water Emergency Transportation Agency's (WETA) ferry service in Vallejo, Amtrak /Capitol Corridor intercity rail at multiple stations, light rail by the Sacramento County Regional Rail, Greyhound Bus and Sacramento Regional bus service, YoloBus and Contra Costa County Connection buses service. Table 4-1 lists the express bus routes that travel along I-80 in Solano County.

Aside from the Solano Express buses, other transit operators provide regional bus service serving Solano County. The Rio Vista Delta Breeze manages two routes that provides connections between Rio Vista to Suisun Walmart, Suisun Amtrak Station, Fairfield Transportation Center, and several medical facilities. Operating out of Napa County, Napa VINE has two routes that serve Solano County between the Redwood park-and-ride in Napa, and the Vallejo Ferry Terminal and from the Soscol Transit Center in Napa to the Fairfield Transportation Center and the Suisun Amtrak Station. Lastly, Yolo County-YoloBus operates one route that operates between U.C. Davis and the Vacaville Transportation Center.

[19] http://www.dot.ca.gov/hq/tpp/offices/ocp/docs/dd_64_r2.pdf

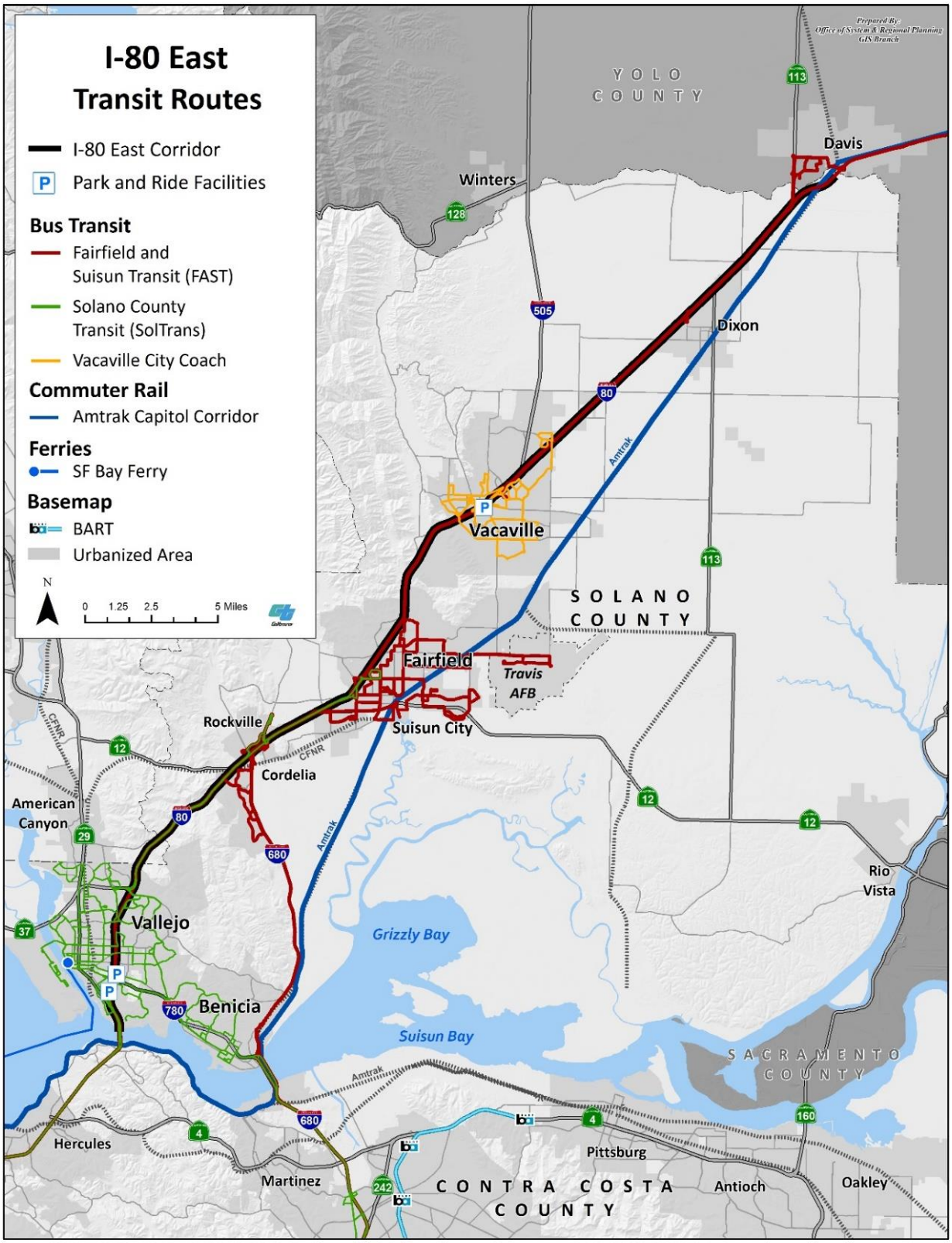
Table 4-1. *Express Bus Routes that Travel Along I-80 West in Solano County*

Operator	Route	Origin-Destination	Entry Interchange	Exit Interchange	Approx. Length along I-80 (mi)
FAST	Blue	Downtown Sacramento – Pleasant Hill BART Station	Jefferson Ave. I-SAC 80	I-680 Fairfield	44.0
	Green	Suisun City Amtrak Station – El Cerrito Del Norte BART Station	SR 12 W	Cutting Blvd. El Cerrito	28.3
	7	Fairfield Transportation Center – Solano Community College – Green Valley Shopping Center	SR 12 W	Suisun Valley Rd. Fairfield	3.3
SolTrans	38	Gateway Plaza – Jesse Bethel H.S	Magazine St.	E. Lincoln Rd. Vallejo	2.1
	82	Vallejo Transit Center – El Cerrito Del Norte BART Station – SF Ferry Building	I-780	Fremont St. San Francisco	28.9
	Red	Suisun City AMTRAK Station – Del Norte BART Station	SR 12 W	SR 37	11.0
			I-780	Cutting Blvd. El Cerrito	14.6

Local Bus Service

There are five local transit operators within Solano County, all of which provide service connections to each of the seven cities in Solano County. SolTrans is the joint transit operator for Benicia and Vallejo. There are nine local routes that serve primary connections within Vallejo and Benicia. Additionally, SolTrans complements their localized service in Benicia by partnering with Lyft to offer rides from Benicia to retail and medical locations within Benicia and Vallejo. FAST is the joint transit service for the cities of Fairfield and Suisun City and is managed by the city of Fairfield. FAST operates eight local routes Monday through Saturday, a single weekday school route, and a Dial-a-Ride paratransit service. Vacaville City Coach is Vacaville's local transit service, offering service on six local routes Monday through Saturday. Aside from fixed route service, Vacaville City Coach offers a Dial-a-Ride service Monday to Saturday. Dixon Readi-Ride is the Dial-a-Ride transit service operating Monday through Friday that is available to all Dixon residents. Additionally, Readi-Ride offers paratransit service connections to Vacaville and Davis. **Table 4-2** lists bus routes that cross and/or travel adjacent to I-80 in Solano County and **Figure 4-1** displays the system of bus service adjacent and along the I-80 East Corridor.

Figure 4-1. *I-80 East Transit Routes*



Source: Caltrans, District 4, GIS and Technical Support Branch, 2020

Table 4-2. *Express Bus Routes Along I-80 in Solano County*

Operator	Route	Origin-Destination	Road crossing I-80	Major Roads adjacent to I-80
FAST	1	Fairfield Transportation Center – Armijo High School – Fairfield-Wal Mart	N/A	Texas St./N.Texas St.
	2	Solano Town Center - Grange Middle School – Vacaville/Fairfield Amtrak Station	N/A	Travis Blvd.
	3	Fairfield Transportation Center- Solano Town Center – Fairfield Wal Mart	Travis Blvd. Texas St.	Travis Blvd., Texas St., Air Base Pkwy.
	4	Fairfield Smart & Final – David Grant USAF Medical Center	N/A	N. Texas/Air Base Pkwy
	5	Fairfield Transportation Center – Suisun City Amtrak Station – Suisun City Senior Center	N/A	Beck Ave. /Cordelia Rd.
	8	Green Valley Shopping Center – Rodriguez High School – Cordelia Hills Elem.	Green Valley Rd.	Business Center Dr.
SolTrans	3	Vallejo Transit Center – Beverly Hills Elementary School. – Curtola Park & Ride	I-780 Magazine St.	SR 29
	6	Vallejo Transit Center – Rosewood Hogan Middle School	Tennessee St.	Admiral Callaghan Ln.
	7A	Vallejo Transit Center – Solano Community. College	Columbus Pkwy. Redwood Pkwy.	Fairgrounds Dr. Admiral Callaghan Ln.
	7B	Vallejo Transit Center – Gateway Plaza – Sereno Transit Center	Solano Ave. Redwood Pkwy.	Admiral Callaghan Ln.
	8	Vallejo Transit Center – Rosewood Hogan Middle School	Benicia Rd.	N/A
	Yellow	Vallejo Transit Center – Pleasant Hill and Walnut Creek BART Stations	I-780	Curtola Pkwy.
Vacaville City Coach	1	Vacaville Transportation Center – Kaiser Medical Center	Leisure Town Rd.	Yellowstone Dr.
	2	Vacaville Transit Plaza – Davis St. P&R	NA	E. Monte Vista Ave.
	3	Vacaville Transportation Center – Foxboro Elem.	NA	Nut Tree Pkwy.
	4	Vacaville Transportation Center – Genentech - Kaiser Medical Center	Vaca valley Pkwy.	I-80/I-505/Orange Dr./Nut Tree Pkwy.
	5	Vacaville Transit Plaza – Vacaville Transportation Center	Alamo Dr.	Nut Tree Pkwy.
	6	Vacaville Transit Plaza – Vacaville Transportation Center	Nut Tree Rd.	N/A

Transit Centers

Within Solano County there are three transportation centers that serve as hubs for connections between local and regional transit options.

The Fairfield Transportation Center is served by FAST and SolTrans Blue, Green and Red Express lines and provides connections from Sacramento to the El Cerrito Del Norte BART Station. This transportation hub also acts as a park-and-ride facility with 640 available parking spaces.

Vacaville Transportation Center is served by the FAST Blue Line between Walnut Creek, Fairfield Transportation Center, Davis, and Sacramento. Vacaville City Coach provides connections that link Leisure Town Road, downtown Vacaville, Browns Valley, Kaiser Vacaville, and Nut Tee Parkway. This facility also provides 225 parking and 22 vanpool spaces.

The Vallejo Transit Center serves as the mega-transfer point for bus traffic between both Napa and Solano County outbound to San Francisco and other Bay Area communities. Facilities at this transit center include a twelve-bay bus shelter for riders, public parking, and close proximity to connections at Vallejo Ferry Terminal.

I-80/I-680/I-780 Transit Corridor Study

In late 2014, after extensive study and public input, STA completed the I-80/I-680/I-780 Transit Corridor Study[20]. This study reviewed the existing operation of Solano Express Routes 20, 30, 40, 78, 80 and 90 and the impact of the completion of the planned express lanes between Red Top Road in Fairfield and I-505 in Vacaville on future service. With the goal of improving ridership and promoting mode-shift to buses, the basic recommendation was to reduce the number of individual routes from seven to three and to increase the frequency of service. In conjunction with the proposed service changes, the express lines would be given color designations.

Phase I capital improvements provide for two new stops, both serving campuses of Solano Community College (Vacaville and Fairfield). Followed by new in-line stops in three areas: Fairgrounds Drive in Vallejo, Santa Clara Street in Vallejo, and near the Fairfield Transportation Center (via a slip ramp from I-80). These improvements will provide time savings of two to seven minutes each when compared to the time required to serve the current stops in those locations.

Taken together, the schedule changes, new stops and the express lanes are expected to result in ridership increases of three percent, with typical weekday boardings increasing to 6,100, reductions in average travel times for transit vehicles and improved reliability of service. Based on forecasted growth in population and employment in Solano County cities, as well as in the neighboring counties, daily ridership is projected to increase to 6,500 by 2030 as travel times and reliability continue to improve.

Recent Improvements

Within the I-80 East Corridor, STA/Solano Express is currently undertaking a number of improvements to the current transit system, including:

- The awarding of a CalSTA grant that will put STA is on the path to transition its fleet from diesel and compressed natural gas (CNG) to electric.
- Automatic Vehicle Locator technology so transferring customers can track their bus arrival time.
- Automated Passenger Counting (Automated Vehicle Locator/Automated Vehicle Positioning) system to monitor current service levels and assist with future system-wide improvements.
- The purchase of two new buses, scheduled to be in operation by June 2020 that allows 30-minute headways between Vallejo and Fairfield.
- Updating the joint Short-Range Transit Plan (SRTP) in order to improve access to medical trips, connectivity of local transit services to regional transit services (ferry, rail and Solano Express), and access to Priority Development Areas (PDAs).

<u>Ferry Service</u>

WETA is a regional public transit agency tasked with operating and developing ferry service on the San Francisco Bay and coordinating water transit response to regional emergencies. Under the brand name

[20] http://www.sta.ca.gov/docManager/1000005316/Transit%20Corridor%20Study%20DRAFT-FINAL_June2014%2018%20June.pdf

San Francisco Bay Ferry, WETA carries over two million passengers annually, utilizing a fleet of twelve high speed passenger-only ferry vessels. The San Francisco Bay Ferry currently serves the cities of Alameda, Oakland, Richmond, San Francisco, South San Francisco, and Vallejo. Along the I-80 corridor, the Vallejo Ferry is the busiest ferry in the entire system, regularly reaching 97 percent occupancy. During the summer, the Vallejo Terminal operates fifteen outgoing and fourteen incoming boats during the weekdays and seven outgoing and incoming boats on weekends. The Ferry Terminal is located next to the Vallejo Transit Center which is directly connected to all SolTrans routes, both the Solano Express Red and Yellow Lines, and the NVTA Vine Routes 11 and 29. There are plans to increase service for Solano Express and the Vallejo Ferry as part of SB 1 funding and potential future bridge toll funding increases from Regional Measure 3.

Water Transit Feasibility Study
In July 2019, STA completed a water transit feasibility study to evaluate the potential of expanded ferry service from multiple origin points within the county. The study revealed potentially robust ridership increases that would result from the increased frequency of service between Vallejo and San Francisco.

The Vallejo Ferry Terminal also receives limited service from the Mare Island Ferry, which is located directly across the Napa River from Vallejo. The Mare Island Ferry operates six outgoing boats and seven incoming boats on weekdays and three outgoing and four incoming boats on weekends.

In order to improve connectivity within the Delta communities adjacent to the I-80 Corridor, Caltrans operates limited car ferry services across the Sacramento River. Both the Real McCoy Ferry II on SR-84 which can carry eight cars at a time and the J-Mack Ferry on SR- 220 which can accommodate six cars at a time, serve primarily recreational and agricultural traffic.

Amtrak/Capitol Corridor
The Capitol Corridor, which began service in 1991, is a 168-mile intercity-passenger train route that connects San Jose to Oakland and Sacramento. This is one of three intercity passenger train corridors that Caltrans provides the necessary funds to operate the service. Additionally, Caltrans owns the rolling stock. Since 1998, the route has been administered by the Capitol Corridor Joint Powers Authority (CCJPA). The service provides connections to Auburn, Roseville, and San Francisco (via thruway bus service) as well as to BART stations at the Richmond and Oakland Coliseum Stations. Capitol Corridor service ridership is growing, with 100,000 new riders in FY 2018. This robust increase contributes to a system that has one of the highest passenger ridership numbers in entire Amtrak system, carrying over 1.7 million passengers in FY 2018.

Figure 4-2. *Amtrak's Capitol Corridor*

Along the I-80 Corridor, this service runs between Sacramento (with limited service to Auburn) and San Jose with two Solano County stations, Suisun-Fairfield Station and the recently opened Fairfield-Vacaville Station, providing frequent daily service. These stations provide a crucial connection, with the majority of riders boarding at Sacramento headed toward the Bay Area.

Furthermore, Both Solano County rail stations serve to link housing and jobs, as the Suisun - Fairfield station acts as a transit hub for both the Suisun Waterfront PDA and the Downtown Fairfield PDA while the Fairfield-Vacaville station acts as the transit hub for the Fairfield – Vacaville PDA. In 2018, train ridership in Solano County rose 6.25percent from the previous year with students and commuters constituting the majority using rail transit. As of 2019, each station is served by 22 trains on weekends and 30 trains on weekdays. Recently CCPJA secured Transit and Intercity Rail Capitol Program (TIRCP) funding for future trip planning and fare integration, updating of signal systems, measures to reduce trespassing, and Upgrade the current passenger information system.

4.2 Park and Ride Facilities

The Caltrans Park-and-Ride (P&R) Program facilitates access to transit and ride-sharing services along freeway corridors with the goal of reducing congestion and vehicle miles traveled. A mode shift away from single-occupancy vehicles (SOV) helps reduce congestion, improves air quality, and helps Caltrans meet its sustainability goals. Due to the ineligibility of P&R projects for Interregional Transportation Improvement Program (ITIP) funds and more pressing demands for safety and operational improvements under the State Highway Operations and Protection Program (SHOPP), there is little funding available to build or improve P&R facilities. Therefore, Caltrans is focusing on collaboration with local jurisdictions, regional and transit agencies to develop partnership opportunities to enhance, expand, and/or construct P&R facilities.

Existing P&R Inventory Along the I-80 East Corridor

The San Francisco Bay Area has 150 public P&R facilities. Caltrans has fifty P&R facilities with a capacity of 5,606 spaces. Along the I-80 East Corridor, there are five locations owned and maintained by Caltrans, totaling 577 parking spaces[21]. More information about the current P&R inventory can be seen below in **Table 4-3**.

Table 4-3. *Caltrans Owned Park and Ride Facilities*

Lot Name	County	Route	Post Mile	Location	Parking Spaces
Magazine	SOL	80	1.68	Northwest corner of Magazine Street Interchange at I-80	19
Benicia Road	SOL	80	2.43	SE corner of Benicia Road overpass at I-80	14
Mason Street	SOL	80	R26.31	NW corner of Peabody Road/Cliffside Drive at I-80	125

In addition, **Table 4-4** displays 11 P&R facilities within the I-80 East Corridor that are operated and maintained by local jurisdiction.

Table 4-4. *Locally-owned Park and Ride Facilities along I-80*

Lot Name	County	Route	Location	Parking Spaces
Red Top Road	SOL	80	Southeast corner of Red Top Road Northwest of I-80	219
Oliver Road	SOL	80	Oliver Road and Hartford Avenue	177
Bella Vista	SOL	80	Northwest corner of Davis Ct. South of I-80	217
Leisure Town Road	SOL	80	North of Orange Drive and Leisure Town intersection	67
Vacaville Transportation Center	SOL	80	Alison Drive at Ulatis Drive	249
Curtola Parkway	SOL	80	Lemon Street and Curtola Parkway	419
Capitol Corridor Amtrak Lot	SOL`	12	Railroad Ave. northwest corner of Main St.	9
Lotz Way	SOL	12	Lotz Way northeast corner of Main St.	263
Market Lane	SOL	80	On north side of Market Lane west of Pitt School Rd.	36
Jefferson Street	SOL	80	West of Jefferson St between W. B St and W. C St.	80
Vacaville Regional Transportation Center	SOL	80	Corner of Davis St. and Hickory Ln.	249

Planned P&R Facility Improvements in the I-80 East Corridor

There are currently phased plans for the expansion of the Curtola facilities:

- Phase 1A: Add 110 parking spaces (completed in 2015)

[21] http://www.dot.ca.gov/d4/parkandride/

- Phase 1B: Add 450 parking spaces
- Phase 2: Add 450 parking spaces
- Phase 3: Add 300 parking spaces

4.3 Private Commuter Shuttle Services

As job growth in the Bay Area outpaces housing growth in recent years, the spatial mismatch between housing and jobs has increased, resulting in longer commute and significantly more traffic congestion. Private Commuter Shuttles (Shuttle), which have been in operation since 2004, are the private sector's response to this issue in the San Francisco Bay Area.[22] A Shuttle operator essentially provides a direct, one-seat transit service from multiple pick-up locations to an employer's company campus. Companies primarily select shuttle pick-up locations based on high density clusters of employee residences, then provide a shuttle to those areas, and transport employees to and from work each day. That means that the origins and the routes of Shuttle trips can change with the location of the employees' residences. The Shuttle services are typically operated under a number of models such as by private charter bus companies in contract with a sole employer, by the employer directly, or by third parties working with bus companies to serve multiple employers. **Table 4-5** provides the number of round trips of private commuter shuttles by county.

Table 4-5. *Roundtrips of Private Commuter Shuttles by County*

County Pair		Round Trips
San Francisco	Santa Clara	**308**
San Francisco	San Francisco	**18**
San Francisco	Marin	2
Alameda	Santa Clara	119
Alameda	Alameda	19
Alameda	San Mateo	11
San Mateo	San Mateo	**77**
San Mateo	San Francisco	**65**
San Mateo	Santa Clara	**44**
San Mateo	Solano	4
Santa Clara	Santa Clara	**81**
Marin	Santa Clara	6
Marin	San Mateo	3
Contra Costa	San Mateo	9
Contra Costa	Contra Costa	2
Contra Costa	Santa Clara	2
Contra Costa	Alameda	1
Contra Costa	San Francisco	1
Sacramento	Santa Clara	1
Santa Cruz	Santa Clara	31
Total Round Trips:		**804**

Source: MTC Bay Area Shuttle Census via Mercury News, September 2016

The Shuttle services have seen a lot of recent growth due to significant growth in employment in the Bay Area. MTC also conducted a regional Shuttle census in 2016. Table 4-5 lists the daily round trips of the 35

[22] *Policy Analysis Memo to County of San Francisco Board of Supervisors*, March 2014.

companies that participated. If the 35 companies were a single transit agency, their combined annual total passenger counts would rank them the seventh largest transit agency in the Bay Area.[23]

4.4 Bike and Pedestrian Facilities

Policy Overview: District and Countywide Plans

In addition to the State and regional policies on Complete Streets, Solano County has adopted its own Bicycle and Pedestrian Transportation Plans, outlining the policy goals as well as identifying bicycle and pedestrian needs within the County. The following information represents a brief summary of bicycle and pedestrian planning efforts along the I-80 East Corridor and beyond.

Caltrans District 4 Bike Plan

The Caltrans District 4 Bicycle Plan (D4BP), completed in 2018, helps identify and prioritize investments to improve bicycling on and across the State-owned transportation network. This Plan complements and builds on statewide, regional, and local planning efforts to help create a connected, comfortable, and safer bicycle network for the Bay Area.

Caltrans District 4 Pedestrian Plan

Caltrans District 4 is currently developing a Pedestrian Plan. The Pedestrian Plan will complement the D4BP and will identify and prioritize pedestrian needs on and across the State transportation network in the Bay Area. The Final Plan is expected to be approved in early Fall 2020.

Solano Countywide Bicycle Transportation Plan (2012)[24]

The Countywide Bicycle Plan is a planning tool for the countywide bikeway network in Solano County. It serves as a guide to planning and engineering professionals in Solano County's jurisdictions. The main purpose of the plan is to encourage the development of a unified bicycle system throughout Solano County. The Plan focuses on a bikeway network that will provide connections within Solano County as well as to surrounding counties. Additionally, policies are designed to support and encourage bicycle transportation, flexible design standards for use in implementation, and promotional strategies.

Solano Countywide Pedestrian Transportation Plan (2012)[25]

The Countywide Pedestrian Plan is an STA document for planning and supporting pedestrian system improvements and investments in seven cities (Benicia, Dixon, Fairfield, Rio Vista, Suisun City, Vacaville, and Vallejo) and Solano County. The main purpose of the Plan is to encourage the development of a unified regional pedestrian system throughout Solano County.

Active Transportation Plan

STA has recently approved their Active Transportation Plan (ATP) which combines the previous Countywide Bicycle Plan, Countywide Pedestrian Plan, Safe Routes to Transit Plan, and the Safe Routes to School Plan. By combining all of these plans, the county is able to streamline a comprehensive plan for biking and walking projects within the county. Additionally, the ATP allows each entity within Solano

[23] http://mtc.ca.gov/sites/default/files/2016%20Bay%20Area%20Shuttle%20Census.pdf, MTC Memorandum re: Bay Area Shuttle Census, September 2016

[24] http://www.sta.ca.gov/docManager/1000002942/Solano_BikeTransPlan_Final%2012-14-11.pdf

[25] http://www.sta.ca.gov/docManager/1000003176/Final%20Ped%20Transportation%20Plan%2001-11-12.pdf

County to adopt its own jurisdiction-specific ATP, allowing for a more customized approach when it comes to adopting projects.

Bicycle and Pedestrian Facility Needs and Projects

A bicycle needs assessment was developed utilizing a variety of sources, including:

- A high-level geo-photographic survey (via Google Maps) conducted by Caltrans District 4 Planning
- Solano County's Bicycle and Pedestrian Plans
- Stakeholder and public input for the D4BP development, and the associated project list proposal lists.

Existing Conditions

A high-level geo-photographic survey was conducted via Google Maps to determine the existing conditions of the bicycle and pedestrian facilities along the I-80 East Corridor. Due to time and resource constraints, this CMCP only focuses on freeway overcrossings for bicycles and pedestrians within the Corridor. A total of 42 crossings were identified. In addition to the physical description of the active transportation facilities, the inventory incorporates nearby transit facilities and posted speed limits of each vehicle crossing. Crossings at interchange locations are highlighted as they are often obstacles due to conflicts with vehicular traffic. Freeways often act as barriers to bicycling and walking and there are often few opportunities to cross freeways.

Needs Assessment and Project List

In addition to the bicycle projects identified in the Countywide Bicycle and Pedestrian Plans and the District 4 Bike Plan, staff conducted additional analysis to identify bicycle needs along the Corridor.

For pedestrian facilities, the project list is mainly based on the current Countywide Pedestrian Plan as well as data from the existing conditions inventory where challenges to pedestrian travel have been identified.

The combined bicycle and pedestrian project list is included in Chapter 7: Recommended Strategies as **Table 7-2**. Caltrans has endorsed bicycle and pedestrian-oriented design such as Design Information Bulletin 84[26], the Highway Design Manual[27], and the Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians (2010)[28] and National Association of City Transportation Officials Urban Bikeway Design and Urban Street Design Guides.[29] In general, the following strategies should be implemented where appropriate to ensure the safety of bicyclists and pedestrians as well as to provide connections for multi-modal travel.[30, 31]

[26] http://www.dot.ca.gov/design/stp/dib/dib84-01.html
[27] http://www.dot.ca.gov/design/manuals/hdm.html
[28] https://nacto.org/docs/usdg/complete_intersections_caltrans.pdf
[29] https://nacto.org/2014/04/11/california-officially-endorses-nacto-urban-street-design-guide-and-urban-bikeway-design-guide/
[30] https://altaplanning.com/wp-content/uploads/Complete-Intersections-A-Guide-to-Reconstructing-Intersections-and-Interchanges-for-Bicyclists-and-Pedestrians.pdf
[31] http://www.divergingdiamond.com/

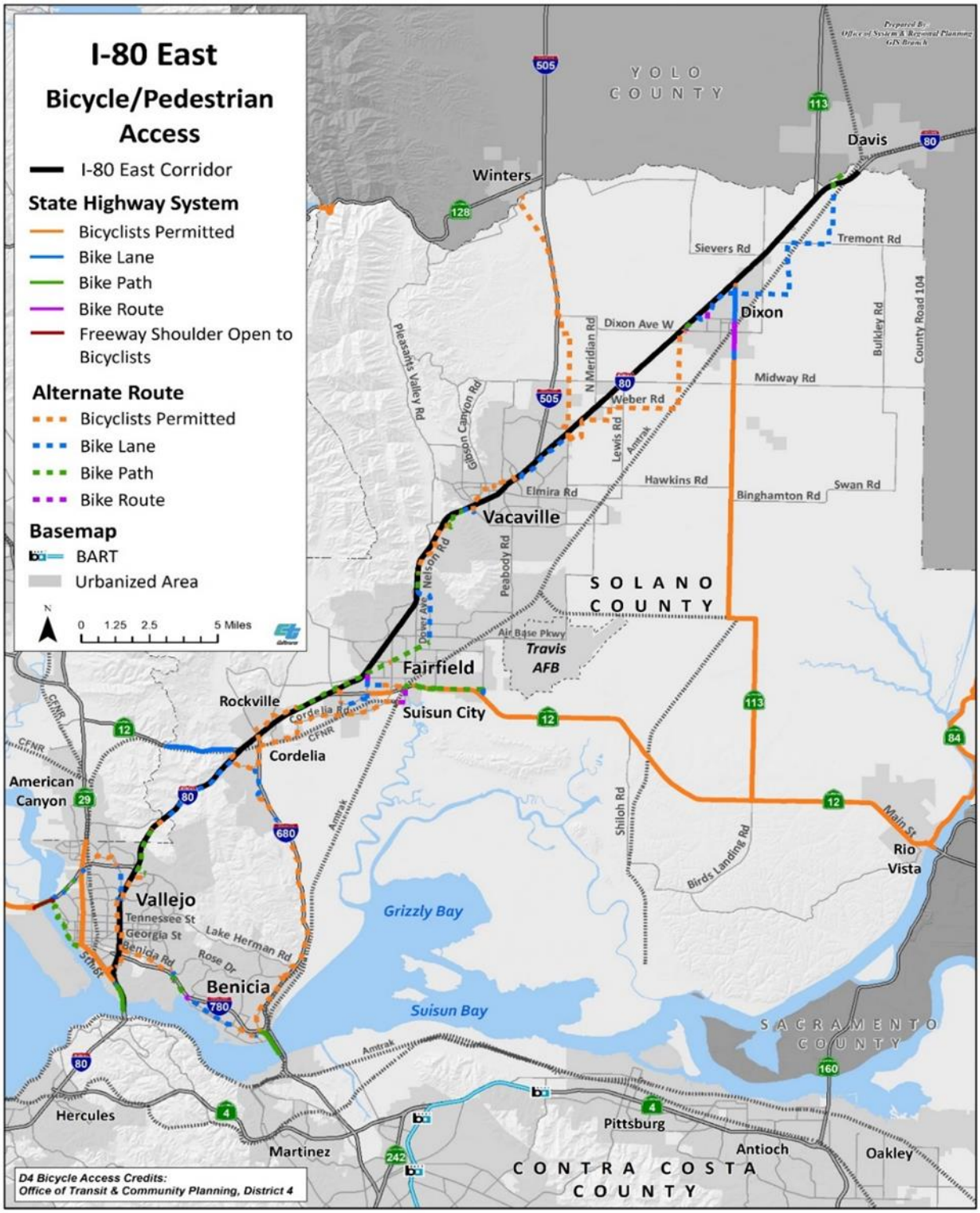
- Complete Streets Strategies:
    - Reconstruct ramps to intersect crossroads at a ninety-degree angle with as small a radius as possible and install a stop or signal control
    - Encourage slower vehicle speeds until past ramp entry
    - Limit on-ramps to a single entry lane, where feasible
    - Provide single, rather than dual, right-turn only lanes, or minimize conflicts where dual right turn lanes are required
    - If a dual right-turn only lane is required, channelize it and split into two separate movements
    - Widen sidewalks and shoulders to standard widths, in general, a minimum of four feet.

- Pedestrian-Specific Strategies:
    - Locate crosswalks appropriately, considering speed, sight lines, and crossing distance
    - Leading Pedestrian Interval to give pedestrians an extra three to five seconds to begin crossing the street before cars get a green light
    - Shorten crossing- distances
    - Install pedestrian warning signs, yield signs, pedestrian-actuated beacons, and high-visibility crosswalks where crossings are uncontrolled or yield-controlled
    - Provide sidewalks on both sides of overcrossings and under-crossings, where feasible
    - For ramp crossings, add pedestrian signals coordinated with adjacent traffic signals
    - Install accessible pedestrian signals to indicate whether pedestrians should cross or not
    - Lighting at uncontrolled crossings, pedestrian scaled lighting
    - Provide “no right-turn on red” signs where there are two right turn-lanes and a pedestrian crossing

- Bicycle-Specific Strategies:
    - Provide context sensitive bicycle facilities (such as Class I, II, III, or IV bike lanes) on all roads crossing the Corridor, including those through interchanges
    - Provide a bicycle pocket or bike lane to the left of dedicated right turn lanes or a Class IV separated bikeway to the right with a protected crossing
    - Widen/add buffers to existing and proposed bike lanes

Figure 4-3 displays bicycle facilities, both on-system and on parallel facilities, along the I-80 East Corridor in Solano County.

Figure 4-3. *I-80 East Corridor Bicycle Facilities 2019*



* Alternative routes are on parallel arterials and multiple-use-trails

Source: Caltrans, District 4, GIS and Technical Support Branch, 2019

Active Transportation Programs

In order to increase biking and walking for commute and recreational purposes, STA, in partnership with Solano Mobility and Safe Routes to School, has developed a variety of active transportation resources. The following programs/resources are put in place to incentivize Solano County residents to bike and walk:

Bucks for Bikes: Commuters working or living in Solano County are eligible for a $100 subsidy when they purchase a new bike that is used for commuting

Yolo-Solano Bike Links Map: This visual aid provides a full view of every bike facility in Solano County

Top 10 Bike Rides in Solano County, Top 10 Walks and Hikes and Solano County:
A brochure and complimentary website that shows the best of a variety of easy to difficult bike rides and hikes within Solano County. Both of these resources were made via collaboration with Solano's citizen advisory committees.

Solano Safe Routes to School: This program is a collaborative partnership between Solano County, STA, and each city and school district within Solano. By promoting children to walk and bike to school not only do students increase their daily exercise, but peak AM hour traffic congestion is alleviated by reducing the number of cars around schools.

Safe Routes to School offers the following programs to Solano County Schools:

- Rock the Block Assemblies/Bike Rodeos: These assemblies provide a forum to properly demonstrate to elementary students on how to operate their bike safely and includes interactive portions where students learn the rules of bicycle safety.
- Walking School Buses: This program provides for an adult supervised escort from a pre-designated drop off point to the participating school. By setting up a single, large volume drop off location, congestion from multiple drop off points around the community can be reduced.
- National Bike to School Day and National Walk to School Day: Every May, Safe Routes to School hosts National Bike to School Day and as of 2019, 28 schools and 1,650 students participated in this event. Every October is National Walk to School Day and as of 2019, 48 schools and 1098 students participated.

4.5 Transportation Systems Management and Operations (TSMO)

Caltrans is committed to effective TSMO strategies to optimize the performance of California's transportation systems for all users and modes of travel. Successful TSMO strategies require proactive integration of the transportation systems to efficiently move people and goods along highly-congested urban corridors. Examples of TSMO strategies include, but are not limited to: ramp metering, traffic signal synchronization, Intelligent Transportation Systems/Transportation Operation Systems (ITS/TOS), and managed lanes. Efficiency can often be achieved by operational improvements through ITS deployment. These include four types of management for improving throughput:

- System management for recurring localized congestion (ramp metering, managed lanes, traveler information, dynamic speed limits, traffic signals and transit priority, parking management system, automated vehicles).

- Incident management for non-recurrent congestion (detection-verification-response, closed-circuit television (CCTV), changeable message signs (CMS), highway advisory radio (HAR), weather detection, traveler information system).
- Event management for emergencies, disasters, and other occurrences (through system monitoring, evacuation management, route selection).
- Asset Management for managing existing infrastructure and other assets to deliver an agreed standard of service. One of the first steps in the efficient management of the transportation system will be the completion and implementation of a Transportation Asset Management Plan.

As TSMO strategies are developed and implemented, additional ITS/TOS elements within the corridor are often required. The Caltrans SMP 2015–2020[32] has a Strategic Objective to "effectively manage transportation assets by implementing the asset management plan and embracing a fix-it-first philosophy." The Plan specifies a target of maintaining 90 percent or better ITS/TOS element health by 2020. Operations and Maintenance (O&M) resources are essential to achieve this fix-it-first target. As more ITS/TOS elements are implemented, O&M resource needs will continue to grow.

Traffic Signal Coordination and Communication

With emerging new technologies, local agencies are exploring projects related to traffic signal coordination and communications to improve traffic flow to and from the local streets and expressways to the highway system.

Solano Highways Operation Study[33]

An example of TSMO strategy implementation within Solano County is the completion of the 2009 Solano Highways Operations Study. This transportation planning effort was developed through the formation of Solano Highways Partnerships (SoHIP) which includes representatives from STA, MTC, Caltrans (Districts 3 and 4), and the cities of Benicia, Dixon, Fairfield, Vacaville and Vallejo. The study was funded by a Caltrans Partnership Planning Grant with the goal of updating the 2004 I-80/I-680/I-780 Major Investment and Corridor Study. The study's scope included identifying and analyzing operational improvements to enhance safety and performance on the County's Interstates as well as developing aesthetic landscape and hardscape guidelines. It created long-range ITS elements including ramp metering, CCTV's, and HAR's. While the Solano Highways Operations Study was adopted by the STA board in 2009, the SoHIP continues to oversee the integration of ramp metering and ITS architecture in Solano County.

Caltrans Ramp Metering Development Plan[34]

As required by Deputy Directive DD 35-R1, each Caltrans District that currently operates, or expects to operate ramp meters within the next ten years, shall prepare a District Ramp Metering Development Plan (RMDP) and update the plan every three years. The district RMDP contains a list of ramp metering locations currently in operation or planned for operation in the next ten years. Each District works in partnership with its Metropolitan Planning Organizations (MPO) and Regional Transportation Planning Agencies (RTPA) to program ramp metering projects and implement the District RMDP. While the RMDP

[32] http://www.dot.ca.gov/perf/library/pdf/Caltrans_Strategic_Mgmt_Plan_033015.pdf
[33] http://www.sta.ca.gov/docManager/1000005821/Solano%20Highways%20Operations%20Study%20-%20Executive%20Summary%20-%20Final%20Draft%20with%20cover%20WEB.pdf
[34] http://www.dot.ca.gov/trafficops/tm/ramp.html

does not commit Caltrans to install or operate ramp meters at listed location, early coordination and consultation with RTPAs, MPOs, and other local agencies ensure a collaborative effort when planning and implementing ramp meters on the State Highway System (SHS). According to the 2017 RMDP, District 4 has 734 existing and/or programmed ramp meters and another 561 planned ramp meter projects as of October 2017. I-80 in Solano County is identified as a top priority corridor to have metering implemented and activated in the RMDP.

Solano I-80 Ramp Metering Study and Implementation Plan[35]

This effort began after the STA Board adoption of the Solano I-80 East Ramp Metering Study in February 2009. The study purpose was to evaluate whether ramp metering would become a successful strategy to address existing and future congestion as travel demand on I-80 increases. The overreaching goals of the implementation plan focused on improving safety, productivity, reliability and mobility while reducing travel times. An operational analysis was conducted to assess baseline 2015 traffic volumes and forecast 2030 travel demand. The study concluded that ramp metering should be deployed in phases with each ramp meter corresponding to increases in peak hour directional flow by matching mainline volume rates at specific ramp locations along I-80.

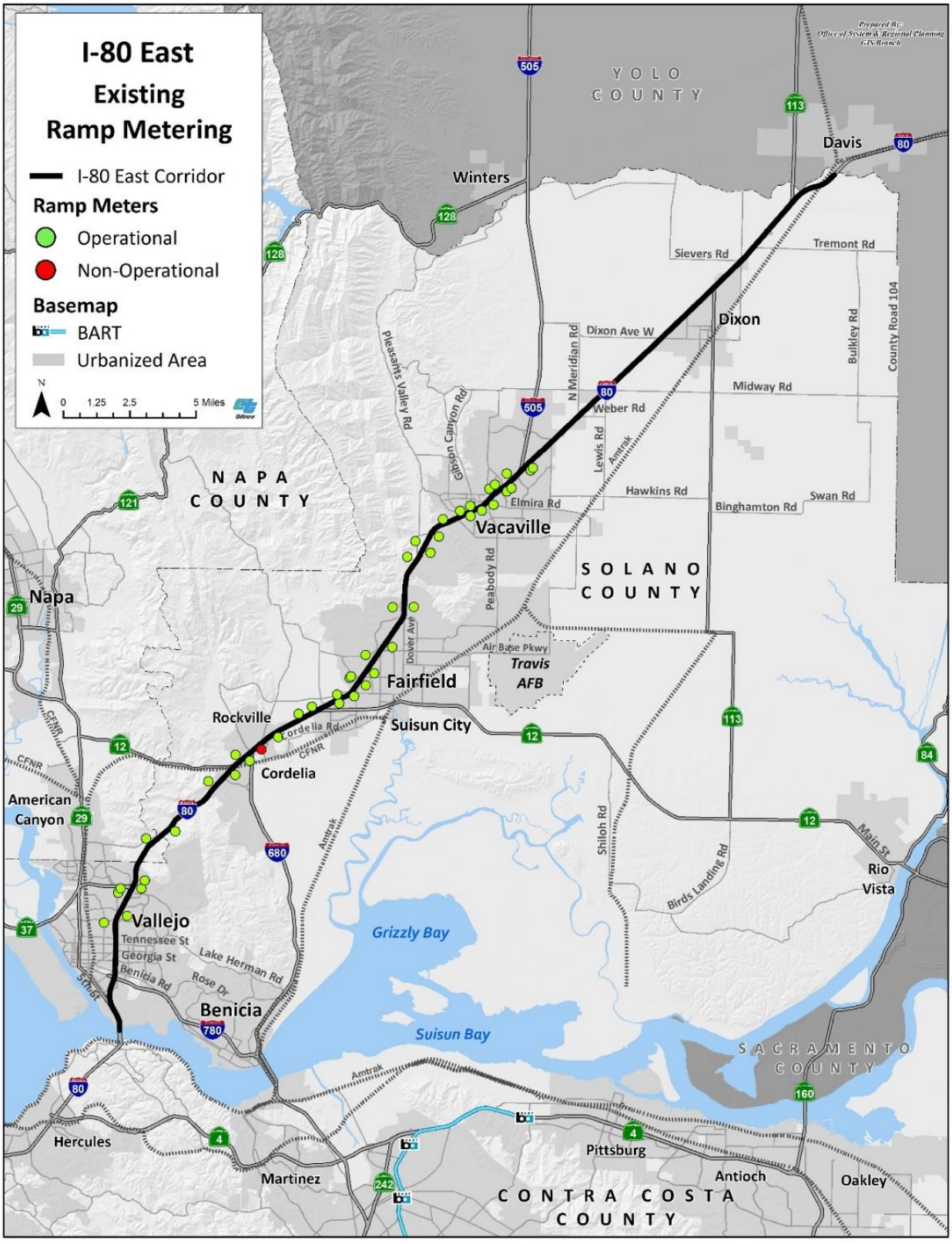
Ramp metering on the I-80 East Corridor was first activated in 2014 when previously installed ramp metering equipment was connected to mainline detection systems in the eastbound direction between Red Top Road and North Texas Street in Fairfield. In October 2015, ramp meters were activated in both the EB and WB directions between the I-80/Redwood Street Interchange in Vallejo and the I-80/I-505 interchange in Vacaville. Once fully activated, ramp meters began operating from 12:00 PM to 8:00 PM, Monday through Friday, in the EB direction and 5:00 AM to 10:00 AM, Monday through Friday and Sundays, from 12:00 PM to 8:00 PM, in the WB direction. The final stage, once funding is acquired, will expand ramp metering infrastructure along EB and WB I-80 on-ramps between Leisure Town Road in Vacaville and Old David Road near the Solano-Yolo County line. **Figure 4-4** illustrates the current active ramp metering locations along the I-80 East Corridor.

Other ITS/TOS Elements

In addition to the operation of ramp meters within the I-80 East Corridor, there are also ITS and TOS components used to identify, measure and manage recurrent and non-recurrent events as they happen along the Corridor. These include Vehicle Mainline Detection Systems, CCTV, CMS, EMS, informational message signs, variable message signs, HAR, and TMS. See **Figures 4-5** and **4-6** as well as **Table 4-6** for the type, quantity, and location of the ITS/TOS assets located along the I-80 East Corridor

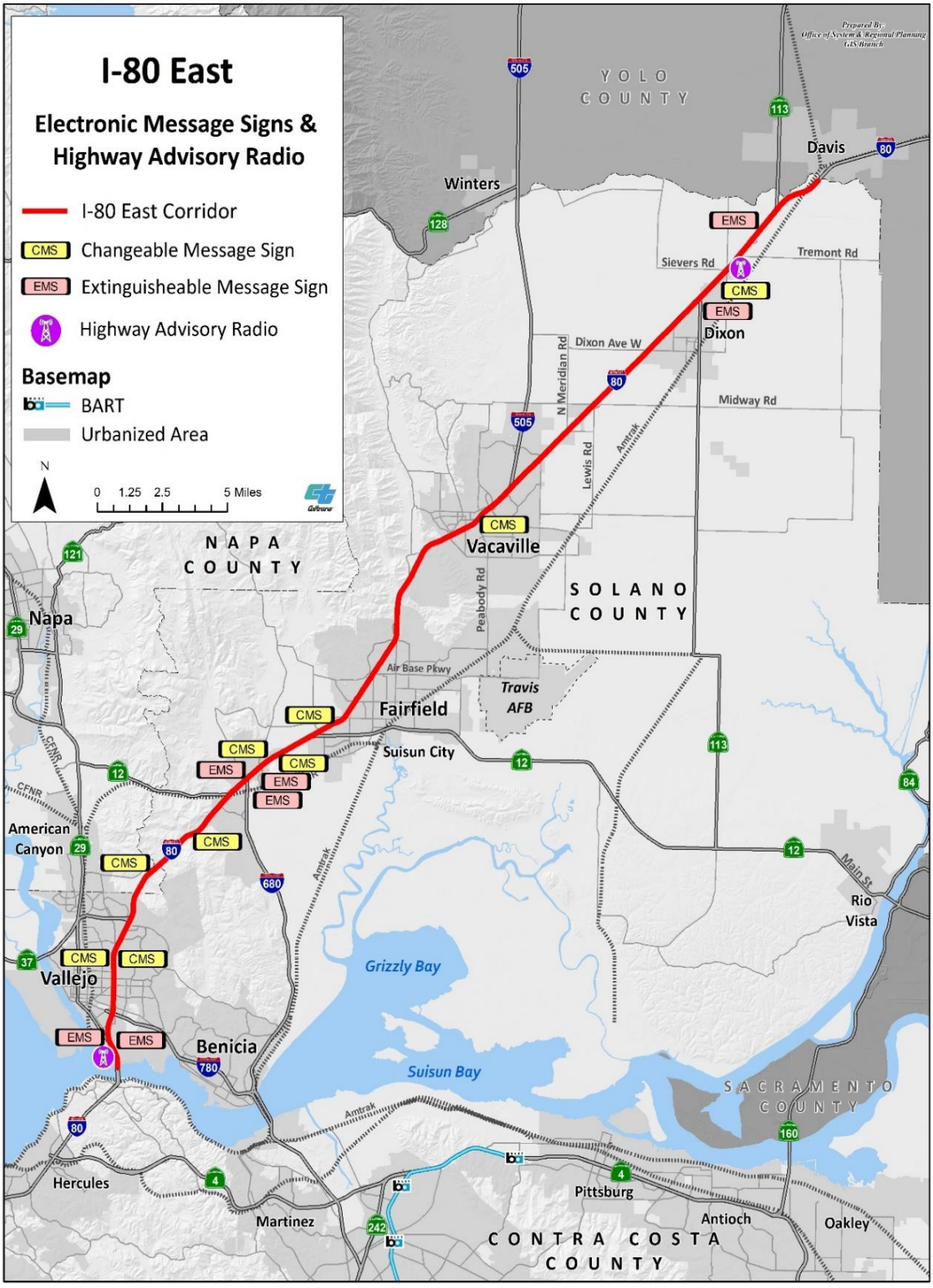
[35] http://www.sta.ca.gov/docManager/1000004419/Ramp%20Metering%20Staging%20and%20Imple_Plan_Final%207-1-13_wAppen.pdf

Figure 4-4. *I-80 East Corridor Ramp Metering Locations*



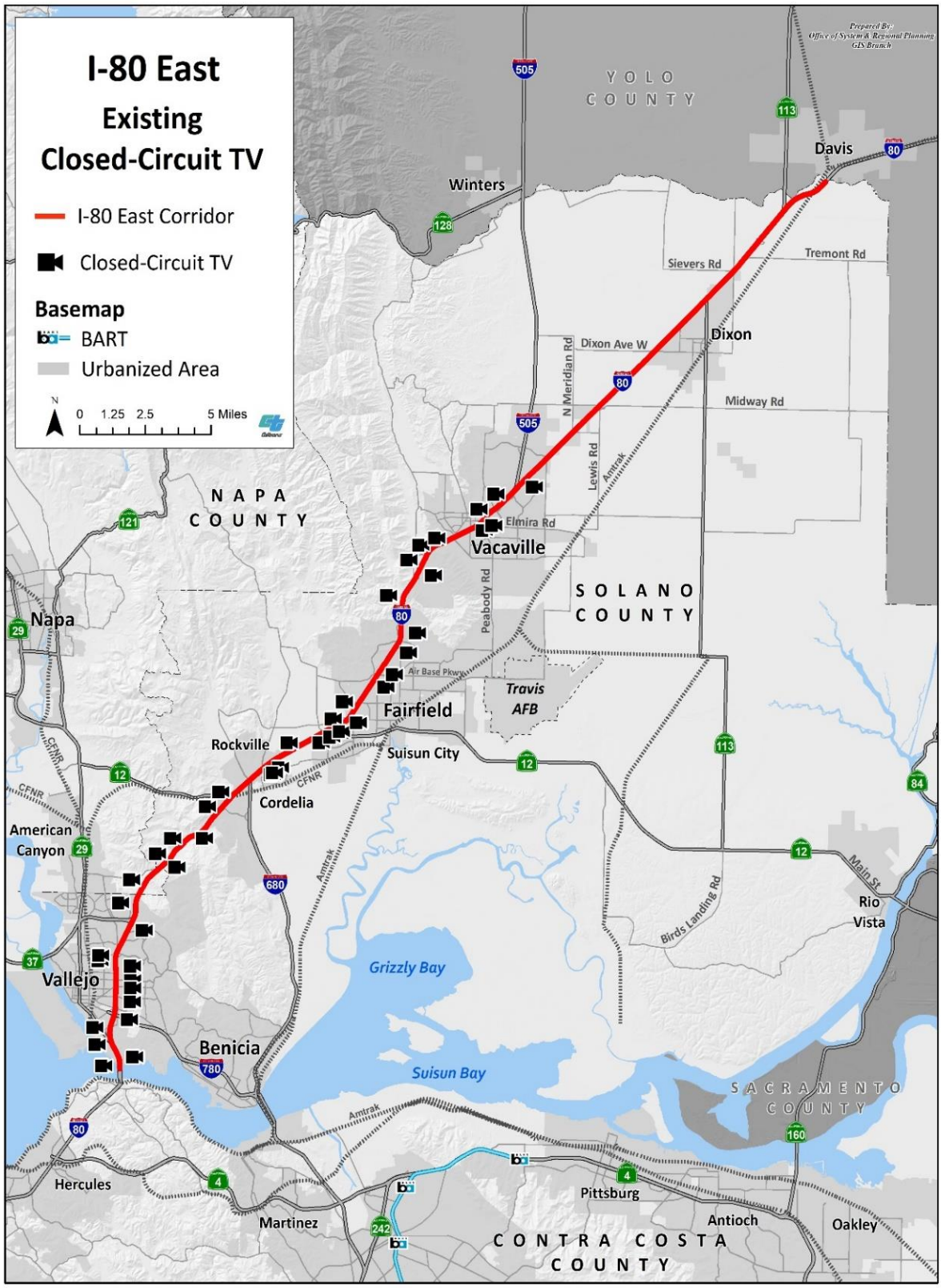
Source: Caltrans, District 4, GIS and Technical Support Branch, 2019

Figure 4-5. *I-80 East Corridor Existing CMS/EMS Messages Sign*



Source: Caltrans, District 4, GIS and Technical Support Branch, 2019

Figure 4-6. *I-80 East Corridor Existing CCTV Locations*



Source: Caltrans, District 4, GIS and Technical Support Branch, 2019

Table 4-6. *Other ITS/TOS Elements*

TOS Element	Direction	Segment 1 (5.63 miles)	Segment 2 (7.21 miles)	Segment 3 (15.52 miles)	Segment 4 (16.36 miles)
CCTVs	EB	7	3	15	0
	WB	5	4	9	0
CMS/EMS	EB	1	2	2	2
	WB	2	2	2	1
HAR	-	1	0	0	1
TMS	EB	10	19	43	21
	WB	12	14	38	19

4.6 Transportation Demand Management

Transportation demand management (also known as traffic demand management or travel demand management, all TDM) is a broad application of projects and strategies aimed at reducing travel demand or shifting the demand to other modes, other routes, or other times.

Policy and program driven projects include:

- Alternative mode travel incentives
- Carpool van incentives
- Subsidized transit passes
- Parking management programs
- Guaranteed ride home programs
- Alternative mode trip planning websites and applications

Local TDM Examples

The Solano Mobility Call Center is a personalized service center whose staff answers residents' questions regarding transportation options such as participating in carpool and vanpool programs, providing personalized bus route directions, and determining ADA eligibility for paratransit.

In order to close crucial first and last mile gaps between transit and employment sites, Solano Mobility has partnered with Lyft to provide commuters discounted rides. In order to receive a discounted ride a commuter must sign up in advance and use Lyft to travel from either a Solano Express Transit Center or a Capital Corridor station. As of May 2019, this program had 70 participants and 541 total trips taken.

STA currently runs a vanpool program for Solano and Napa counties that provides startup assistance and support for vanpools to/from Solano, Sacramento, Napa, and Yolo Counties. Solano County has the most active vanpool fleet in the San Francisco Bay Area, with 42 percent of all Bay Area vanpools originating in the County. As of 2019 there are 203 vanpools currently active in Solano County, totaling 2,337 riders. Travel-time savings are a key component in deciding to choose carpooling and vanpooling over driving alone. Express lane implementation, along with other planned improvements in the I-80 East Corridor and subsequent significant time savings, should have a positive impact on carpooling and vanpooling rates.

In order to decrease Single Occupancy Vehicle usage when commuting, Solano Mobility is working with employers so that they can better provide commute incentives to their employees. The employers are

given an online Employer Toolkit that outlines the many programs and rewards that employees are eligible for. In order to accrue many of the benefits provided by this program, employees will log their commute-related trips within an online database (commuterinfo.net) that will make them eligible for prizes or gift cards. Additionally, this online database will host all of Solano Mobility's TDM strategies in one integrated platform and allow an employer to survey and build a comprehensive commuter benefits program.

4.7 Broadband

California Governor's Executive Order S-23-06 Twenty-first Century Government established the California Broadband Task Force, consisting of Caltrans and other public and private stakeholders, to identify opportunities to facilitate broadband installation across the state. Assembly Bill 1549 of 2016 requires Caltrans to notify broadband deployment organizations on construction methods suitable for broadband installation to bring together private and public partnership for opportunities to increase advanced communication technologies. Caltrans developed the *Incorporating Wired Broadband Facility on State Highway Right-of-Way User Guide*, providing guidelines for wired broadband providers about Caltrans processes to incorporate wired broadband facilities in State highway right-of-way.

In 2018, CTC's Comprehensive Multimodal Corridor Plan Guidelines identify the need to install conduit along certain California highways for future deployment of broadband fiber to service the needs and demands of a wide range of users. The California Advanced Services Fund (CASF) funded 17 regional broadband consortia across the state to identify "Strategic Broadband Corridors" that should become part of future Caltrans planning in an effort to provide broadband services to areas currently without broadband access and to build out facilities in underserved areas.

I-80 East is among the proposed strategic broadband corridors to be implemented during early phases, as recommended by the East Bay Broadband consortium. See **Figure 4-7** for a map of all the regional consortium priority strategic broadband corridors.

MTC's Regional Communication Strategic Investment Plan

Building on the strategies to enhance the regional communications network, the 2013 Bay Area Regional Communications Plan factored in additional programs (Express Lanes, Integrated Corridor Management, Freeway Performance Initiative), and considered new priorities from local and regional stakeholders throughout the Bay Area. This Plan introduced a "Regional Communication Fiber Ring" around the San Francisco Bay, aimed to reduce lease-line recurring costs, upgrade existing infrastructure and share data among agencies.

The Bay Area Regional Communications Plan is being updated to create a Regional Communication Strategic Investment Plan. This plan will propose projects and create a roadmap for future investments. It will enable MTC, Caltrans, and other regional stakeholders to develop a regional communication~~s~~ network can potentially support future broadband deployment in the Bay Area. The draft proposed "fiber ring" includes US 101, I-80 West, I-80 East, I-580, I-680, I-880 and other priority corridors.

Regional Communications Infrastructure

The existing regional communications infrastructure includes the following components:

- Seventeen Bay Loop Microwave sites owned and operated by the Bay Area Regional Interoperable Communications Systems Authority (BayRICS)
- BART fiber communications infrastructure along their right-of-way throughout the Bay Area. Caltrans has sixteen access points to BART fiber strands. The City of San Jose, City of San Francisco, City of Oakland, and the City of Dublin also have connections to BART fiber communications infrastructure.
- Caltrain Positive Train Control Project. Caltrain right-of-way/infrastructure is currently the most available alignment for shared infrastructure, but other systems like the future High-Speed Rail alignment may create additional opportunities.

Sub-Regional Communications Infrastructure

There is also sub-regional infrastructure found within the I-80 East Corridor. Existing communications infrastructure within the I-80 East sub-region consists of approximately 20 miles of conduit and fiber along I-80 East between Vallejo and Red Top Road within Caltrain's right-of-way. Future planned extensions and conversions of the existing Managed Lanes along I-80 include expansion of the conduit and fiber network to I-505 in Vacaville. It also includes the expansion of the ITS architecture in order to upgrade ramp metering operations along the Corridor.

In addition to the existing infrastructure, future transportation projects such as express lanes projects may also offer opportunities to help support broadband expansion. See Chapter 7 for future transportation projects within the Corridor.

Figure 4-7. *Strategic Broadband Corridors*

4.8 Freight Network, Facilities, and Trip Generators

I-80 East is identified on the federally-designated National Highway Freight Network (NHFN) as a 'Primary Highway Freight System (PHFS) route. The NHFN consists of the following elements: PHFS, portions of the Interstate System not part of the PHFS (Non-PHFS Interstates), Critical Rural Freight Corridors (CRFCs), and Critical Urban Freight Corridors (CUFCs). The route is a primary access route between San Francisco, the East Bay and the Sacramento Valley. It connects the Port of Oakland and Oakland International Airport (via I 880) and the ports of San Francisco and Redwood City (via US 101) and is used for intraregional goods movement. In the North Bay, I-80 is a major connecting route to the Port of Benicia and the agricultural and manufacturing producers in Solano County. The route in its entirety is part of the STAA National Network.[36] The State is committed to a broader, long-term vision for accelerating the transition of California's multimodal freight system from its already robust stature, to a safer, more efficient and reliable, and less polluting freight system. California Freight Mobility Plan 2020, to be approved in Summer 2020, responds to these needs through various initiatives and contains an extensive set of projects.

Table 4-7. *Truck Traffic Data 2016*

I-80 Truck Traffic 2016				
SOL I-80 East CMCP Segments	*CC/Sol Co. Line to SR 37*	*SR 37 to I-680*	*I-680 to I-505*	*I-505 to Sol/Yolo Co. Line*
Total Average Annual Daily Truck Traffic (AADTT)	7,186	12,630	9.818	8,910
Total Truck Share (% of AADT)	5.17	5.74	5.25	6.70
5+ Axle AADTT	4,471	7,366	5,822	5,097
5+ Axle Trucks Share (% of AADTT)	64.0	58.0	59.0	57.0

As shown in **Table 4-7**, traffic data of 2016 shows truck volumes within the I-80 East Corridor with the highest volumes being reported between SR 37 and I-680. It also illustrates that even with significant swings in truck volumes across the four CMCP segments as the route intersects with outer State Highway routes, fluctuations in trucks as a share of total vehicle traffic and the share of trucks with five or more axles are generally moderate.

Solano County contains major manufacturing industries that are vital for California and the national economy, as shown in Figure 4-8. For example, the county serves as a recognized source for advanced manufacturing and technologies, and I-80 East acts as an important conduit in the supply and delivery of such industry goods-products. Leading job creation in the county are durable and wholesale good manufactures including ST John Company (industrial burners), Clorox (specialty polishing and sanitation

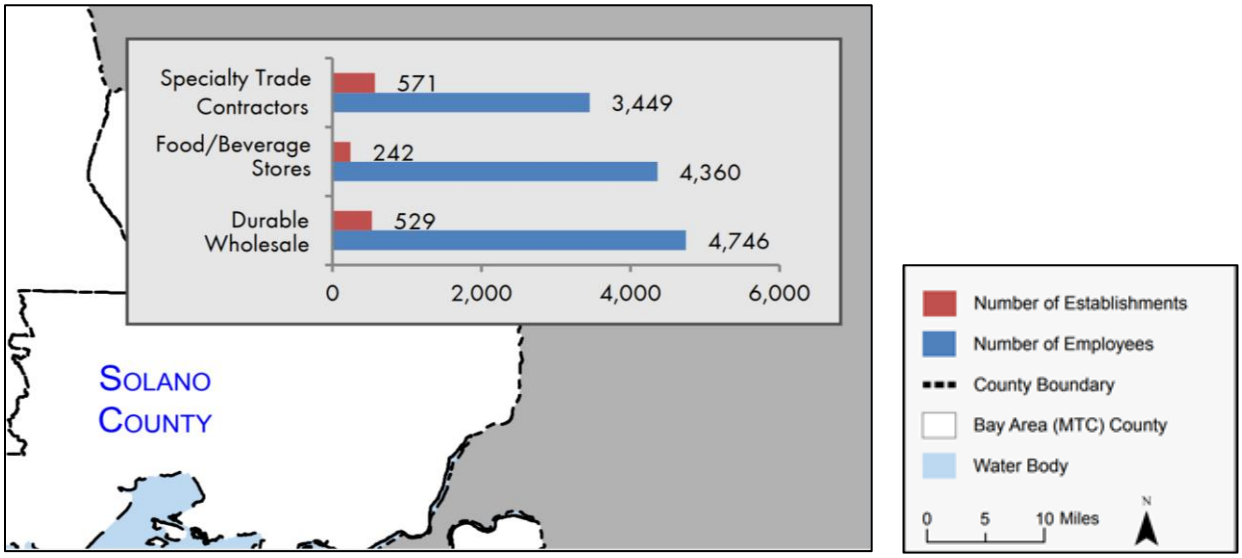
[36] According to FHWA, the National Network was authorized by the Surface Transportation Assistance Act of 1982 (P.L. 97-424) and specified in the U.S. Code of Federal Regulations (23 CFR 658) to require states to allow conventional combinations on "the Interstate System and those portions of the Federal-aid Primary System … serving to link principal cities and densely developed portions of the States … [on] high volume route[s] utilized extensively by large vehicles for interstate commerce … [which do] not have any unusual characteristics causing current or anticipated safety problems." Conventional combinations are tractors with one semitrailer up to 48 feet in length or with one 28-foot semitrailer and one 28-foot trailer, and can be up to 102 inches wide. https://ops.fhwa.dot.gov/freight/infrastructure/national_network.htm.

products), Genentech (Biotechnological products), and Anheuser Busch (Beverage production). Solano County is also home to the Travis Airforce Base, "Gateway to the Pacific" and the 60th Air Mobility Command, representing the largest air mobility organization in the Air Force handling more cargo and passengers than any other military air terminal in the United States.

Other major establishments in the region that rely on I-80 East consist of the University of California, at Davis campus, The Anheuser-Busch manufacturing facility, healthcare facilities (North Bay Medical Center in Fairfield and Kaiser Permanente Vacaville Medical Center) and regional shopping outlets (Paradise Valley Plaza in Fairfield and Vacaville Premium Outlets).

Furthermore, the previous discussed Priority Production Areas (PPAs) in Section 3.6 will likely generate freight demand as development progresses.

Figure 4-8. *Solano County Top Three Goods Movement Industries by Employment*

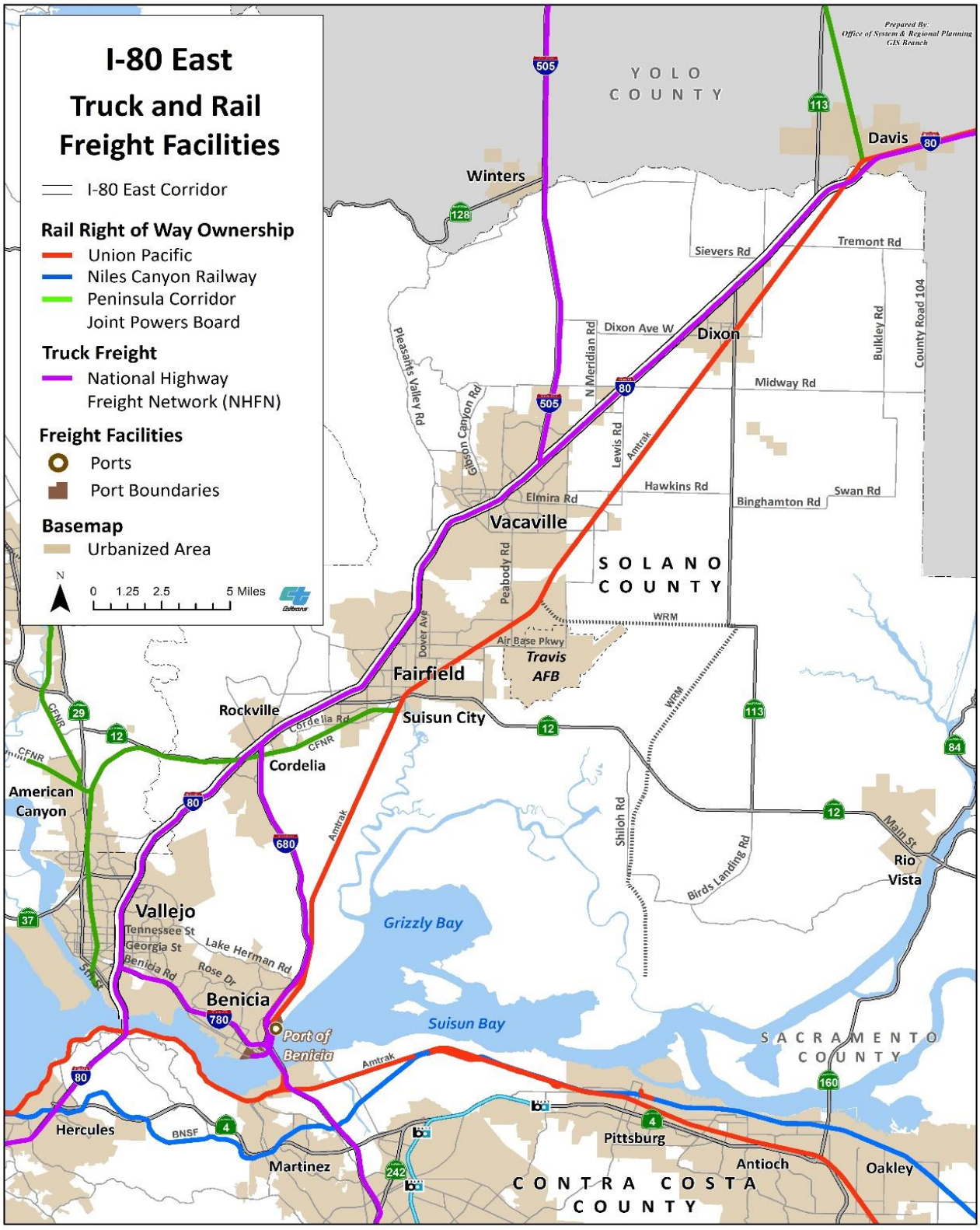


Source: Dun & Bradstreet Business Establishment Data, 2014

Regionally, freight facilities along the I-80 East Corridor are discussed in MTC's 2016 San Francisco Bay Area Goods Movement Plan. The route is also part of the study called Northern California Megaregion Goods Movement Study by MTC, with support from Caltrans, the San Joaquin Council of Governments (SJCOG), the Sacramento Area Council of Governments (SACOG) and the Association of Monterey Bay Area Governments (AMBAG). The mega-region contains many goods movement clusters (also known as freight-dependent industries), and I-80 is critical in connecting the Bay Area to the Sacramento Valley/Central Valley. Together these reports will serve as the long-range regional goods movement plans for the San Francisco Bay Area and will help shape future freight policies at the regional level. **Figure 4-9** shows truck delay on major Bay Area highway corridors and **Figure 4-10** shows Truck and Rail freight facilities within the I-80 East Corridor.

Figure 4-9. *Bay Area Corridor Delay, PM*

Figure 4-10. *Truck and Rail Facilities within the I-80 East Corridor*



Source: Caltrans, District 4, GIS and Technical Support Branch, 2019

Cordelia Commercial Vehicle Enforcement Facility

Located in unincorporated Solano County at the convergence of two major Interstates (I-80 and I-680) and one State Route (SR 12), the Cordelia east bound and west bound Commercial Vehicle Enforcement Facility (CCVEF) has been a beacon for truck safety inspection and regulation in the North Bay for over sixty years. Conveniently repositioned in 2013, the eastbound CCVEF now leads in commercial safety with one of the most advanced technological systems in the United States through the Intelligent Imaging System's Smart Roadside Inspection System (SRS). The project has resulted in a 19 percent increase in commercial traffic flowing through the facility while minimizing the impact on commute times and lessening traffic congestion on the I-80 Corridor.

By 2016, the eastbound facility conducted 13 percent more inspections than the westbound facility, thus highlighting the need to improve the underperforming, yet still effective, westbound facility. The existing westbound facility has become outdated with insufficient capacity and does not include the state-of-the-art technology needed for today's truck inspections. The planned truck scales facility will be relocated 0.7 mile east from its current location and will provide a new braided off-ramp connection and new ramp connection to/from westbound I-80. The project will result in the following benefits:

- Increased processing capacity of the truck scales up to 1,000 trucks per hour;
- Increased queue capacity and a reduction in congestion;
- Reduction in rear-end accidents along I-80 and;
- Improved corridor operations by increasing weaving distances between adjacent interchanges

Chapter 5 – Current and Future Conditions

5.1 Existing Conditions

The existing conditions for the I-80 East Corridor were derived from the following reports:

- The I-80 East Comprehensive Corridor Plan (February 2018). The plan's limits are from Contra Costa/Solano County line (SOL -80, PM 0.00) to the Solano/Yolo County line (SOL -80, PM 44.25).
- The Solano County I-80 Ramp Metering Study and Implementation Plan (April 2017). The study limits are from the I-80/Redwood Road Interchange in Vallejo (SOL -80, PM 3.58) to the I-80/I-505 Interchange in Vacaville (SOL -80, PM 28.27).
- The Project Report and accompanying Final Traffic Operations Analysis Report for the I-80 East Managed Lane Project (April 2014). The study limits are from Red Top Road (SOLI-80, PM 11.40) in Fairfield to the I-80/I-505 (SOL -80, PM R28.27) Interchange in Vacaville,
- The Metropolitan Transportation Commission's Travel Model One (December 2016)
- The Solano-Napa Activity-Based Model

Each source was utilized to provide information on existing and future traffic volumes, known bottlenecks, and measures of corridor performance based on current and future conditions. Where data was not available in the sources above, Caltrans Traffic Census and Traffic Accident Surveillance and Analysis System-Transportation Systems Network (TASAS-TSN) were used to fill the gaps to provide a general assessment of freeway performance and to complement existing project reports and study information.

I-80 East within the study limits of the CCP is a six to ten-lane fully access-controlled facility with three to five lanes in each direction. Auxiliary lanes exist at various locations along I-80 East to facilitate merging and weaving between interchanges. Currently HOV lanes exist between Red Top Road and east of the Air Base Parkway Interchange.

AADT and Traffic Volumes

The traffic volumes dataset was derived from the MTC Travel Model One and the Caltrans Traffic Census. Travel Model One defines the AM peak period as 6:00 a.m. to 10:00 a.m. and PM peak period as 3:00 p.m. to 7:00 p.m., Monday through Friday. Using Caltrans Traffic Census data, the annual average daily traffic (AADT) volumes on the freeway mainline are highest in the urbanized area of the County (Segments 2 and 3) where volumes range from 184,000 to 231,000.

In 2015, traffic volumes for the WB AM peak period across all four segments (Figure 3-1) of the I-80 East Corridor varied from 17,252 to 36,284 total vehicles. In the EB direction during the PM peak period, volumes varied from 19,258 to 33,339 total vehicles across four corridor segments. The highest peak period directional volumes were reported in Segment 3 during the WB AM and EB PM peak periods. The lowest peak directional volumes were reported in Segment 4 during the WB AM peak period and EB PM peak period. **Table 5-1** summarizes AADT, total average daily peak period traffic volumes for the I-80 East Corridor.

Table 5-1. *2015 I-80 East Corridor Peak Period Traffic Volumes*

Segment	1		2		3		4	
2015 AADT	**146,000**		**231,000**		**184,000**		**137,000**	
2015	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**
AM Peak Period	13,921	24,355	13,062	23,968	17,226	36,284	15,496	17,252
PM Peak Period	23,602	15,802	24,495	14,456	33,339	20,918	19,258	18,170

Source: MTC Travel Demand One, December 2017

AADT and Truck Volume

The Traffic Census data, displayed in **Table 5-2** also shows that truck traffic represents about four to seven percent of total traffic on the I-80 East Corridor. East of North Texas Street in Fairfield, truck volumes generally account for less than four percent of total traffic. However, east of the I-80/I-505 Interchange in Vacaville, trucks account for over eight percent of total traffic volumes.

Table 5-2. *2017 AADT and Truck Percentage*

Segment	Location	Trucks of Total Traffic	Trucks Five or More Axles
1	SR 37	5.2%	62%
2	I-680/SR 12	5.7%	58%
3	I-505	5.6%	47%
4	Sol/Yolo Co. Line	8.7%	60%

Source: Caltrans Traffic Census Database http://www.dot.ca.gov/trafficops/census/

Vehicle Occupancy

Based on occupancy data gathered from MTC's Travel Model One, vehicles with two or more persons represent about ten to eleven percent of all vehicles on the I-80 East Corridor. Increasing the HOV definition to three or more persons per vehicle, the percentage share of HOV vehicles reduces to approximately five to seven percent along the Corridor. Eligible users of HOV lanes include buses, vanpools, certain clean air vehicles, and motorcycles. **Table 5-3** summarizes directional projected HOV occupancy percentage shares during the AM and PM peak periods.

Table5-3. *Vehicle Occupancy*

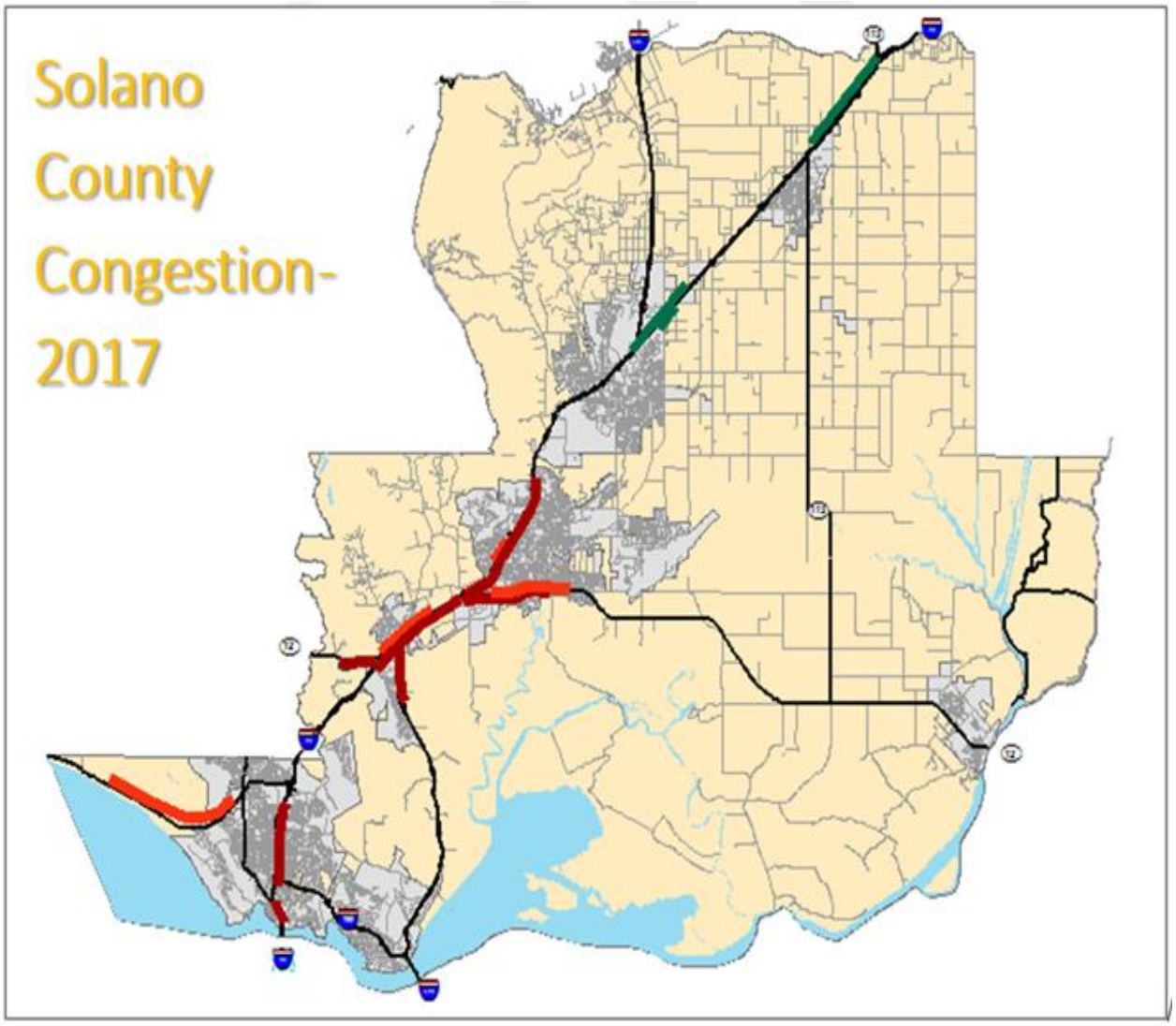
Route	Time / Direction	2+ HOV %	3+ HOV %
I-80 East Corridor	AM / EB	10%	5%
	AM / WB	10%	5%
	PM / EB	11%	7%
	PM / WB	11%	7%

Source: MTC Travel Demand One, December 2017

Freeway Congestion

Figure 5-1 displays current EB (red) and WB (green and orange) limits of current recurring weekday peak period congestion along the I-80 East Corridor. Data on weekend congestion levels and locations is not provided due to constraints in the modeling.

Figure 5-1. *Current Peak Period Congestion in Solano County*



Source: Solano Napa Travel Demand Model, December 2017

Bottlenecks

Figure 5-2 displays and **Table 5-4** lists recurring weekday bottlenecks in the GP lanes and describes their location, direction, and queue characteristics. Each location is described in terms of:

The information sources were the I-80 East CCP, Solano County I-80 Ramp Metering Study and Implementation Plan, and the Solano I-80 Ramp Metering – Stage II Implementation Before & After Study. In addition, HOV lanes also experience congestion due to operational degradation of the GP lanes. Due to the location of HOV lane termini near high demand off-ramps, degradation of the GP and HOV lanes along the Corridor occurs during periods of high demand.

Figure 5-2. *I-80 East Corridor Existing Bottlenecks and Queues (Between I-680 and I-505 Only)*

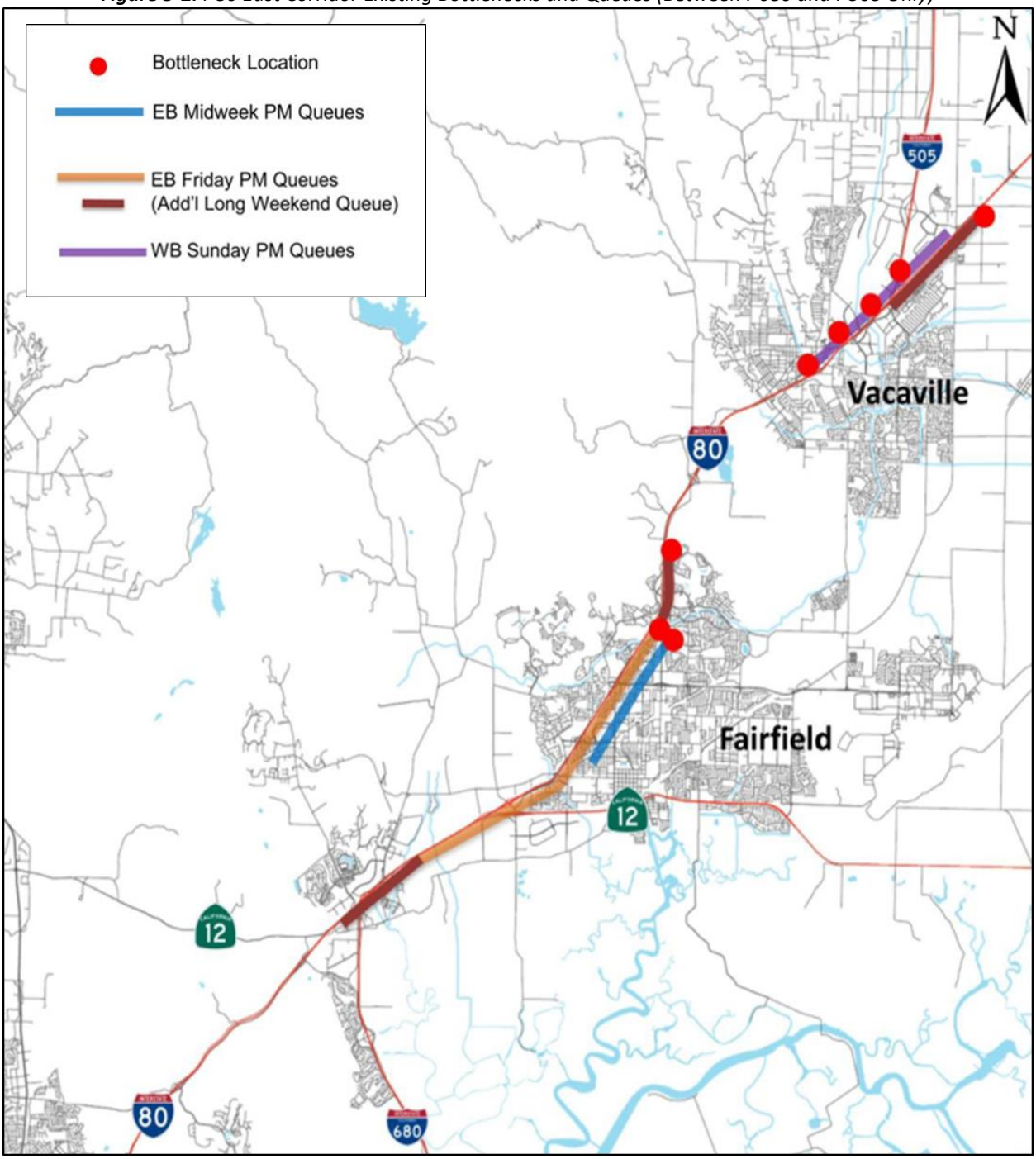


Table 5-4. *2015 Bottlenecks*

Time / Direction	Location Number	Location Description	Queue Length	End of the Queue
PM / EB	1	Tennessee Street on-ramp to Redwood Street eastbound off-ramp. Peak period volumes combined with drivers entering the corridor from Tennessee Street result in a mainline bottleneck.	1.0+ mi	I-780, and on occasion to I-80 Willow Ave in Contra Costa County
	2	Between the I-680 NB connector on-ramp and the Suisun Valley Road off-ramp with queues extending to Green Valley Road.	1.0+ mi	Green Valley Road
	3	Travis Boulevard on-ramp due to mainline volumes combined with high weave, merge volumes from the Travis Boulevard on-ramp and Airbase Parkway off-ramp. At times this secondary bottleneck can be hidden due to the primary bottleneck at North Texas Street.	3.0+ mi	To near EB CCVEF
	4	West of the N. Texas Street off-ramp, where the end of the eastbound HOV lane is combined with the drop of the rightmost GP lane, resulting in a mainline bottleneck.	2.0+ mi	Travis Boulevard and on occasion extending to I-680 (typically during long weekends/holiday Fridays)
	5	West of Weber Road where the rightmost GP lane drops results in mainline bottleneck. Queue typically extends to east of Leisure Town Road.	1.5 mi	I-80 Leisure Town Road Interchange
	6	West of Richards Boulevard rightmost GP lane drop resulting in a mainline bottleneck.	3.5 mi	I-80 Kidwell Road Interchange
AM / WB	1	Redwood Street on-ramp and Tennessee Street off-ramp. Queue is a result of overlapping downstream bottlenecks.	2.4 mi	Near Broadway off-ramp
	2	Redwood Street on-ramp and Tennessee Street off-ramp. Queue is a result of overlapping downstream bottlenecks.	1.3+ mi	Secondary bottleneck to Tennessee St.
	3	Georgia Street on-ramp to I-780 off-ramp. Primary downstream bottleneck impacting Redwood and Tennessee Street secondary bottleneck.	0.75 mi	Near Woodside Road Interchange
	4	SR 12 West connector to westbound I-80/southbound I-680 connector ramp due to converging high merging, weaving volumes.	1.0 mi	Past WB CCVEF

Source: I-80 East CSMP, Solano County I-80 Ramp Metering Study and Implementation Plan

<u>Ramp Metering</u>

Through implementation of the I-80 East Ramp Metering Implementation Plan and the Solano Highway Partnership (SoHIP), ramp metering is currently operational in both the EB and WB directions between

Tennessee Street in Vallejo and I-505 in Vacaville. Ramp meters are enabled Monday through Friday in the WB direction from 5:00 a.m. to 10:00 a.m. and in the EB direction from 12:00 p.m. to 8:00 p.m. They are also enabled on Sundays from 12:00 p.m. to 8:00 p.m. in the WB direction.

Summary of 2015 Conditions

As corridor volumes trend upward, overall peak-hour volumes at critical junctions and interchanges will increase and some congestion may begin to spill over into segments that currently experience lower traffic volumes and better performance. Post-2015 deployment of ramp meters along the I-80 East Corridor have helped improve Level of Service (LOS), vehicle traffic flows and travel times during the of the AM and PM peak periods. Future corridor reliability, efficiency and performance will depend on the completion of major projects on the mainline such as the I-80/I-680/SR 12 Interchange Project and the extension and conversion of the existing I-80 HOV lanes to express lanes, as well as multimodal improvements. Other strategies may include interchange consolidation and rebuilding, especially in Segment 1 in Vallejo and funding of the last phase (Phase III) of the I-80 East Ramp Metering Implementation Plan between the Yolo and Contra Costa County lines through Solano County. Key projects include the reconstruction of the westbound CCVEF and the organization of a TSMO strategy amongst local, County and State transportation representatives.

5.2 Future Operating Conditions and Alternatives

The intent of this section is to provide a high-level overview of future freeway performance and summarize future conditions of the I-80 East Corridor. The traffic analysis examines long-term conditions in 2040, based on performance outputs from MTC's Travel Demand One.

Findings for future conditions analysis includes an evaluation of the benefits of the planned I-80 Express Lanes Project and the I-80/I-680/SR 12 Interchange Improvement Project. The I-80 Express Lanes Project will maintain the current number of mixed-flow lanes in the Corridor and convert the existing HOV lanes into High Occupancy Toll (HOT) lanes as well as extend these lanes to just east of the I-80/I-505 Interchange. The I-80/I-680/SR 12 Interchange Project, remains a high priority for the county and region. Once completed, the project will feature a realignment of I-680, an improved direct connector between I-80 and SR 12, HOV direct connectors between I-80 and I-680 as well as improved ramp access and connection to the local road network.

Traffic Volumes

Table 5-5 provides Year 2040 average daily peak period traffic volumes and assumes the previously mentioned projects, and others in PBA 2040 that have been completed. **Table 5-5** also shows the percent change from 2015 of average daily peak period traffic.

In 2040, forecasted WB, AM peak hour traffic demand across all four segments of the I-80 East Corridor will vary between 22,053 and 41,890 total vehicles. In the EB, PM peak period direction, volumes will vary between 24,021 and 37,703 total vehicles across all four corridor segments. The highest peak period directional volumes were reported in Segment 3 during the WB AM peak and EB PM peak periods. SOV vehicles continue to account for the majority of traffic with HOV vehicles representing nearly ten percent of total traffic.

***Table 5-5**. 2040 I-80 East Corridor Average Daily Peak Period Traffic*

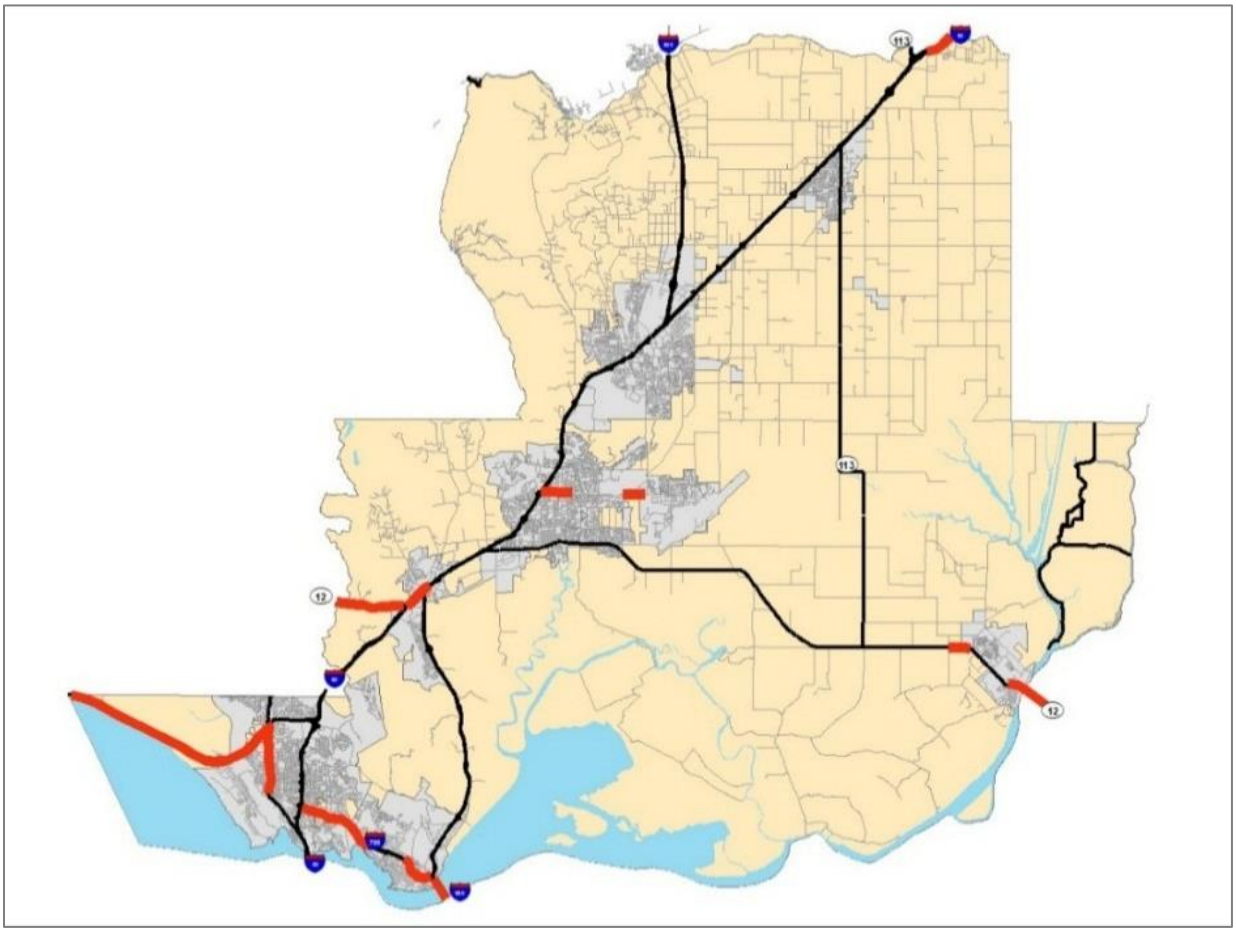
Segment	1		2		3		4	
2040	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**
AM Peak Period	16,127	25,688	12,417	27,267	19,290	41,890	20,142	22,053
Percent Change From 2015	+15.8%	+5.5%	-4.9%	+13.8%	+12.0%	+15.4%	+30.0%	+27.8%
PM Peak Period	24,157	17,611	24,021	13,731	37,703	22,329	24,717	23,418
Percent Change From 2015	+2.3%	+11.4%	-1.9%	-5.0%	+13.1%	+6.7%	+28.3%	+28.9%

Source: MTC Travel Demand One, December 2017

Freeway Congestion

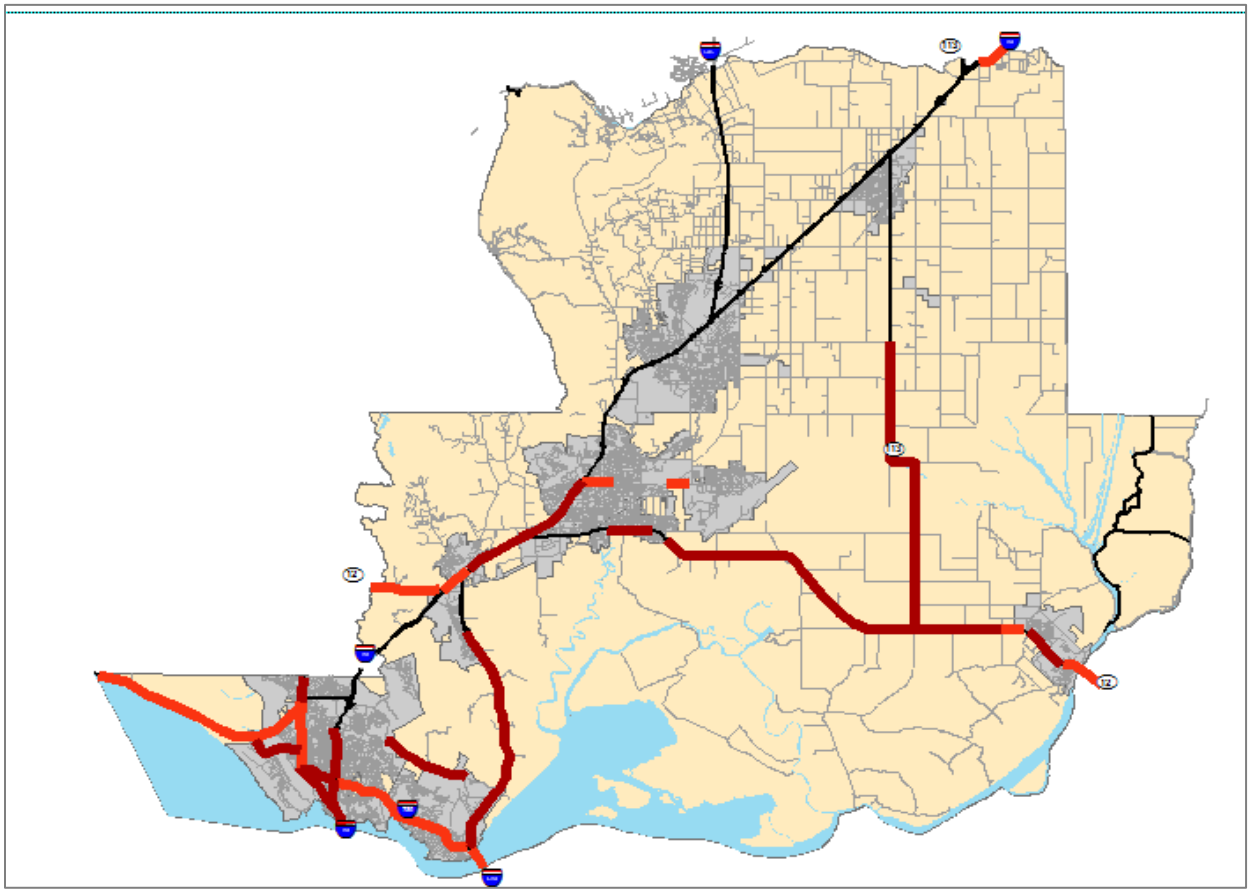
Figures 5-3 and 5-4 represent forecast congestion (red) in 2040 both with and without planned network improvements. Further discussion on recommended strategies, projects and benefits, aligned with previously established corridor goals and objectives is provided in Chapter 7.

***Figure 5-3.** Forecast Peak Period Congestion in Solano County with Network Improvements*



Source: Solano Napa Travel Demand Model, December 2017

Figure 5-4. *Forecast Peak Period Congestion in Solano County Without Network Improvements*



Source: Solano Napa Travel Demand Model, December 2017

Vehicle Occupancy 2040

In 2040, compared to 2015, the percentage of HOV vehicles with two or more persons is projected to remain roughly the same. On average, HOV vehicles continue to represent approximately ten percent of all vehicles along the Corridor. **Table 5-6** summarizes 2040 directional HOV occupancy percentage shares during the AM and PM peak periods.

Table 5-6. *I-80 East Corridor Vehicle Occupancy (2040) – Peak Periods*

Route	Time/Direction	2+ HOV %	3+ HOV %
I-80 East Corridor	AM EB	12%	5%
	AM WB	7%	5%
	PM EB	10%	7%
	PM WB	11%	7%

Source: MTC Travel Demand One Version 4, December 2017

Summary of 2040 Conditions

Overall, planned and programmed improvement projects along the I-80 East Corridor will produce significant benefits. These benefits include increases in corridor efficiency, safety, capacity and reliability. However, these improvements may also produce increased levels of VMT within the Corridor. This increase is potentially a reflection of two factors. First, with improved capacity and throughput, vehicles can more freely travel along the corridor, thus reducing overall travel times. Secondly, improved travel times and reliability may also draw more vehicles into the Corridor. Many of these vehicles may also qualify for the planned express lanes including carpools, clean-air vehicles, buses, and vanpools. Therefore, projected increases in VMT may be offset by increased vehicle occupancy rate where the Corridor carries more person-throughput without a significant increase in vehicle- throughput.

Chapter 6: Public Outreach

The following includes a review of public outreach efforts and activities that have occurred in Solano County, concerning plans or projects with implications to the I-80 Corridor. **Table 6-1** below summarizes the outreach that is described throughout this chapter. *Appendix A* offers a more detailed breakdown of efforts and activities in Solano County.

Table 6-1. *Summary of Public Outreach*

Source Title	Plan/Study/Project
2020 Solano Transportation Authority Comprehensive Transportation Plan	Plan
Solano Transportation Authority Transit Study - SolTrans/FAST Route Consolidation (2019)	Plan/Project
Plan Bay Area 2040	Plan
Plan Bay Area 2050	Plan
Caltrans District 4 Bike Plan (2018)	Plan
I-80/I-680/SR-12 Interchange Project	Project
I-80 Managed Lanes Project	Project

6.1 2020 Solano Transportation Authority Comprehensive Transportation Plan

The Comprehensive Transportation Plan (CTP) serves as STA's primary long-range planning document that guides and prioritizes the STA's investments in transportation. The 2020 CTP updated the Active Transportation element of the plan as well as the Land Use and Equity Chapters.

In order to solicit input from the public, STA organized a number of informal "pop up" information booths at a variety of community events in each city such as seasonal events and farmers markets. Next, two waves of workshops and townhalls open to the public, in Fall 2018 and 2019 took place at city centers throughout the county. At these venues, residents had an opportunity to comment on the first draft of their cities' priority bicycle and pedestrian projects and partake in an interactive activity where they would highlight the five most important active transportation corridors in their city.

Aside from these larger scale instances of public outreach, a total of seven Project Development Team (PDT) meetings were held between September 2018 and January 2019. Selected members of the public met with STA active transportation planning staff, the consultant, and their city officials to discuss the plans implementation. Concurrently, STA staff met with the both its citizen based advisory committees, the Bicycle Advisory Committee and Pedestrian Advisory Committee to keep them up to date with the plans progress.

In January 2019, the STA Board authorized STA staff to include an Equity Chapter as part the update to the CTP. In order to develop this chapter, an STA Equity Working Group was established, comprising of policy makers, advocates, non-profit organizations, and Solano County residents. The group's primary purpose was to discuss issues of equity within the county, how they relate to transportation, and how STA can be more proactive in addressing inequities. The Working Group helped draft the chapter's Transportation Equity Guiding Principles and solicited feedback from the public on the draft principles over the course of two in person and one Facebook Live Transportation Equity Guiding Principles Public Workshop events that took place during June of 2019. By incorporating feedback from these public outreach events, STA has developed a set of 5 Equity Guiding Principles, revised its mission statement to be more inclusive, and gained approval of its Equity Chapter of the CTP by the STA board at the April 2020 Meeting.

6.2 Solano Transportation Authority Transit Study - SolTrans/FAST Route Consolidation

A major recommendation from the STA 2014 80/680/780 Transit Study was the consolidation of the SolTrans and FAST commuter bus service. To solicit public input on the matter, STA disseminated proposed service change information through multilingual newspaper ads, social media announcements, bus advertisements, as well as online and paper surveys, public workshop and pop-up events and the creation of an Intercity Transit Consortium. The success of this robust public outreach was measured in how it shaped the development of the service plan by resolving rider concerns about the I-80 traffics impact on route transit on time and travel time delays, the increasing cost of connecting transit services like BART and the lack of redundant bus transit options at Walnut Creek BART Station for people heading to Bay Area job centers, as well as stakeholders and operators' apprehension that the consolidated commuter service proposal would benefit areas outside of Solano County while ignoring intra-county local bus service deficiencies.

As the Consolidation Service Plan was taking shape, additional workshops and surveys were conducted to determine the scheduling and headways of the buses in the plan. As a result, modifications were made by reducing service between Vallejo and Walnut Creek BART, added morning and afternoon peak service between Suisun City and El Cerrito Del Norte BART and lengthened the period for boarding so riders could board sooner instead of waiting in a queue. To evaluate the effectiveness of these SolTrans/FAST service consolidations, a ridership study was conducted in 2018 that supported the recent changes and the consolidation of two lines between Vallejo and El Cerrito Del Norte BART into a single route with expanded service. Following the approval of these changes in late 2018, by the STA and SolTrans Boards, the changes were put into effect on July 1, 2019.

6.3 Plan Bay Area 2040

The MTC and the Association of Bay Area Governments (ABAG) began working in 2014 to update Plan Bay Area, the RTP/SCS for the San Francisco Bay Area. The Plan Bay Area 2040 (PBA 2040, 2017) considers how and where the region should accommodate growth projected to 2040[37].

A comprehensive program of public involvement activities was a key part of MTC's long-range planning process Many participated in RTP public open houses and other meetings, telephone and internet surveys, and more. The STA, Solano County, local cities and Caltrans so participated in the development of the Plan, by conducting a public work at Fairfield City Hall in Spring 2015 as did regional agencies, including the Bay Conservation and Development Commission and the Bay Area Air Quality Management District. Community-based organizations and advocacy groups representing the diverse interests of the Bay Area were active participants throughout the process, as were regional transportation partners. Native American Tribes were also consulted. RTP projects along the I-80 East Corridor are included in Chapter 7.

6.4 Plan Bay Area 2050

As discussed earlier, MTC is developing Plan Bay Area 2050 (PBA 2050), the region's next RTP/SCS and an update to PBA 2040. In June 2019, the STA TAC and Board approved a draft list of major projects for consideration, including projects within the I-80 East Corridor. These projects were submitted to MTC/ABAG. As part of the update, public meetings were held in late 2019 by representatives of STA, Solano County and local jurisdictions to discuss and seek approval for projects that should be considered in PBA 2050 for Solano County.

In February 2020, the STA TAC and Board approved a revised list of projects that also included planning level programming for transit, bike and ped projects that would complement the capital infrastructure projects. Projects within the I-80 East Corridor- are included in Chapter 7 of this CMCP. MTC/ABAG will adopt the project list for PBA 2050 in 2021.

6.5 Caltrans District 4 Bike Plan

Caltrans developed the District 4 Bike Plan in 2018, first in the State. With the assistance from a public engagement consultant, Caltrans District 4 staff designed and carried out an inclusive outreach process in 2017 with the goal of collecting input from a broad cross-section of Bay Area communities to help identify bicycle needs on and across the State highways and prioritize recommended projects. The tools used for public outreach included focus group discussion to engage with traditionally under-represented communities, creating a Technical Advisory Committee, community workshops, online survey, webinars and online project comment tools. One of the highlights from these public outreach activities is the use of technology to assist with gathering additional input from Bay Area residents. For instance, an interactive mapping survey

[37] Plan Bay Area 2040: Public Engagement Report, dated 2017.

recorded over 3,490 respondents to answer questions and provided 20,157 map "pins" to indicate their bicycling experience across the State transportation system.

6.6 I-80/I-680/SR-12 Interchange Project

This project proposes capacity, operational and connectivity improvements to the I-80/I-680/SR 12 Interchange. Some of the project phases (Packages 1 and 2) have been completed while other are nearing construction (Phase 2A). During the early planning phases of the project, STA conducted an informal open house event in Fairfield in May 2003, where residents were presented with maps depicting preliminary assessment of possible wetland and biological impacts resulting from the project. In February 2004, the Cordelia Commercial Vehicle Inspection Facility (CCVIF)/Truck Scale Relocation Study was initiated as part of the Interchange project to identify problem areas and possible solutions.

Later that year in October, due to increased public input and recent data, a number of preliminary interchange and CCVIF project alternatives were developed as the projects took shape. Two years later in April 2006, striving to get public input on the I-80/I-680/SR-12 Interchange project preliminary alternatives and the relocation of the CCVIF, STA held four public hearings throughout the County.

In Spring 2008, STA facilitated a project scoping meeting for elected officials, agencies and interested parties, where maps and graphics of the Interchange and CCVIF relocation projects and a formal presentation of the projects was given. In addition to the public hearings and project scoping meetings, a four-page I-80/I-680/SR-12 Interchange newsletter was developed with project information, updates, milestones, and engagement opportunities, and ways to learn more about the project.

6.7 Solano I-80 Managed Lanes Project

The Solano County I-80 Managed Lanes Project aims to convert the existing HOV lanes from Red Top Road to Air Base Parkway to express lanes and add new express lanes from Air Base Parkway to east of the I-80/I-505 Interchange. The project is seeking funding from the Solutions for Congested Corridors Program (SCCP) Cycle 2.

In order to build public interest and support for the project, STA, its stakeholders and local jurisdictions have collaborated and coordinated with local and regional stakeholders to organize workshops and town hall events that took place between December 2019 and February 2020. Each event included the distribution of materials such as project fact sheets and an informative presentation designed to encourage discussion about the project and gain valuable comments and concerns from members of the public. As work on this project continues, STA will organize public outreach events and update social media regularly in order to keep the public and stakeholders up to date.

Chapter 7: Recommended Strategies

7.1 Project Lists

This section presents the recommended projects within the I-80 East Corridor. There are three major project categories: 1) highway and transit projects, 2) active transportation projects, and 3) projects in the SHOPP and the Ten-Year SHOPP Plan/Project Book.

Highway and Transit Projects

As shown in **Table 7-1**, the first group of projects include highway and transit projects. The list includes projects in Plan Bay Area 2040 (2017), the Bay Area's current RTP, as well as additional projects submitted by STA to be included in future RTP updates such as the current update, Plan Bay Area 2050.

The recommended highway strategies include managed lane projects, other operational improvements such as auxiliary lanes, interchange reconfiguration, and local arterial projects that will help improve the safety and operations of the Corridor.

The recommended transit strategies consist of a variety of projects. Transit capital projects include the upgrade of the existing express bus service to include features of a bus rapid transit (BRT) service, enhanced train stations and transit centers, as well as other programs/projects to improve accessibility, mobility and multimodal streetscapes within the Corridor.

Table 7-1 also includes information on when a project is expected to be ready for construction. Projects are grouped into short, medium and long-term time frames based on the following criteria:

- Short-term: within four years (by Fiscal Year 2023/2024)
- Mid-term: between four and ten years (by Fiscal Year 2029/2030)
- Long-term: more than ten years

Timeframe information is not provided for the programmatic categories because these programs are general and may contain multiple projects to be implemented over time.

Table 7-1. *Recommended I-80 East Corridor Future Highway and Transit Projects*
(not in priority order)

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
Highway Projects											
SOL/ ALA	Managed Lanes	80	0.02 (SOL)	3.80 (ALA)	I-80 Express Lanes in both directions Carquinez Bridge to Bay Bridge	Express Lanes on westbound I-80 from Carquinez Bridge Toll Plaza to Powell St. and on eastbound I-80 from Powell St to Cummings Skyway. Add new express lane on eastbound I-80 from Cummings Skyway to Carquinez Bridge.	$81.00	X			17-10-0053
SOL	Managed Lanes	80	0.80	5.60	I-80 Express Lanes through Vallejo (Carquinez Bridge to SR 37)	Construct Express Lane on I-80 from Carquinez Bridge to SR 37 in both directions.	$100.00			X	MTC PBA 2050***
SOL	Managed Lanes	80	5.60	10.40	I-80 Express Lanes SR 37 to Red Top Road	Construct Express Lane on I-80 from SR 37 to Red Top Road in both directions.	$65.00			X	MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Managed Lanes	80	10.40	30.30	I-80 Express Lanes (Red Top Rd. to I-505)	The Solano I-80 Managed Lanes Project (project) will construct approximately 18 miles of managed lanes in the I-80 corridor through conversion of existing HOV lanes to express lanes from west of Red Top Road to east of Air Base Parkway and highway widening for new express lanes from east of Air Base Parkway to east of I-505	$275.00	X			17-10-0059 17-10-0044
SOL	Managed Lanes	80	13.22 (I-80)	13.00 (I-680)	I-680 Express Lanes: I-80 westbound to I-680 southbound and I-680 northbound to I-80 eastbound direct connectors	Express lanes on I-680/I-80 Interchange in Solano County - widen to add express lane direct connectors I-80 westbound to I-680 southbound and I-680 northbound to I-80 eastbound. This complements the larger interchange project of RTP ID 17-08-0009.	$140.00		X		17-10-0061
SOL	Interchange	80	4.43	4.43	Redwood Parkway Interchange, Phase 2	Improve Interchange at Redwood Parkway	$66.00			X	17-08-0010

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Interchange	80	10.80	17.00	I-80/I-680/SR 12 Interchange (Packages 2-7)	Packages 2-7 provide direct connectivity from I-680 NB to SR12 WB, widens I-680 and I-80 near the Interchange, and improves connections to Red Top road off-ramp. Express lane direct connectors are included in RTPID 17-10-0061.	$380.00			X	17-08-0009
SOL	Interchange	80	R23.13	R23.13	Lagoon Valley Interchange	Widen Lagoon Valley Road Bridge for additional left turn capacity. Sidewalk, intersection signal improvements at ramps, approach roadway work. TIF funded.	$10.00			X	MTC PBA 2050***
SOL	Interchange	80	29.86	29.86	Widen Vaca Valley I/C	Widen Vaca Valley bridge over I-80 from 2-lanes to 4-lanes	$15.00			X	I-80 CCP
SOL	Interchange	80	35.50	35.50	West A St and I-80 Interchange Upgrade	Upgrade in phases the existing I-80 on-ramp and reconstruct the existing roadway overcrossing.	$25.00		X		MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Interchange	80	36.80	36.80	Pitt School Rd and I-80 Interchange Upgrade	Improvements include widening the overcrossing structures to four lanes and on- and off-ramp improvements particularly on the eastside of Pitt School Rd. Project may be implemented in phases over the next ten years. Improvements to area roadways.	$25.00			X	MTC PBA 2050***
SOL	Interchange	80	38.30	38.30	Hwy 113 and I-80 Interchange Improvements	Improvements to the area's roadways required to improve traffic circulation.	$25.00		X		MTC PBA 2050***
SOL	Interchange	80	38.30	38.30	Milk Farm Rd and I-80 Interchange Upgrade	Interchange improvements consistent with finding of I-80/I-680/I-780 Major Investment and Corridor Study completed by Solano Transportation Authority and Caltrans. May include relocation of Milk Farm Rd. Project may be implemented in phases. Increased traffic due to development (mostly the northeast quadrant) will require the need to improve the existing interchange.	$25.00		X		MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Interchange	80	39.70	39.70	Pedrick Rd and I-80 Interchange Upgrade	Improvements include realignment of both on-ramps and relocation of Sparling and Sievers Roads. Project may be implemented in phases depending on the pace of development.	$25.00			X	MTC PBA 2050***
SOL	Overcrossing	80	8.10	8.10	American Canyon Overcrossing	N/A				X	MTC PBA 2050***
SOL	Auxiliary Lanes	80	12.80	19.20	Provide auxiliary lanes on I-80 in eastbound and westbound directions from I-680 to Airbase Parkway	Project provides auxiliary lanes on I-80 in the EB & WB directions from I-680 to Airbase Parkway; and remove the I-80/Auto Mall Parkway hook ramps and Collector-Distributor road slip-ramp.	$57.00			X	17-08-0011

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Truck Scales	80	14.40	14.60	I-80 Westbound Cordelia Truck Scales Relocation Project	Project upgrades existing truck scales on WB I-80 in Solano County. Existing westbound truck scales are located on the most congested freeway segment of I-80 in Solano County. Scales are outdated and cannot process the current and future truck volumes on WB I-80. Trucks are slow to enter and leave the scales because of short ramps, adding to existing traffic congestion and safety issues on I-80.	$250.00		X		17-08-0017
SOL	Freeway Connector	80	28.35	28.35	I-505/I-80 Connector	Remove/Reconstruct/Realign 80/505/East Monte Vista Avenue/Orange Drive connections and bridges	$85.00			X	MTC PBA 2050***
SOL	Operational Improvement	Var	Var	Var	Roadway Operations	This category includes projects that improve roadway, intersection, or interchange operations, ITS, as well as other transportation system management. This project also includes a realigning of SR 113 around downtown Dixon to I-80.	$59.00		X		17-08-0008

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Road Widening	Off	N/A	N/A	Suisun Valley Rd Expansion Study and Implementation	Analysis of by-pass traffic on Suisun Valley Road from I-80 to Napa County line; Implementation of recommended improvements	$30.00		X		MTC PBA 2050***
SOL	Road Widening	Off	N/A	N/A	Widen Orange Drive to EB I-80	Intersection and ramp widening at Orange/Lawrence with I-80 EB	$5.00		X		MTC PBA 2050***
SOL	Road Widening	Off	N/A	N/A	Widen Vaca Valley Parkway	Widen to six lanes between I-505 and I-80	$5.00		X		MTC PBA 2050***
SOL	Road Widening	Off	N/A	N/A	Construct four-lane Jepson Parkway from Route 12 to Leisure Town Road at I-80	Constructs Phase B in Vacaville and Phase 1B and 1C in Fairfield.	$45.00		X		17-08-0012
SOL	*Programmatic Category*	N/A	N/A	N/A	*Minor Highway Improvements*	*Minor highway extension or new lane (less than 1/4 mile); Interchange modification (no additional capacity)*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Minor Roadway Improvements*	*Minor local road extension or new lanes (less than 1/4 mile)*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Minor Freight Improvements*	*Construction of new, or improvements to existing, rest areas and truck weigh stations; Improvements to existing freight terminals (not expansion)*	*$10.00*				MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	*Programmatic Category*	N/A	N/A	N/A	*Routine Operations and Maintenance*	*Routine patching and pothole repair; Litter control, sweeping and cleaning; Signal operations; Communications; Lighting; Transit operations and fare collection; Transit preventative maintenance; Toll operations and fare collection*	*$10.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Management Systems*	*Incident Management; Signal coordination; ITS; TOS/CMS*	*$1.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Safety and Security*	*Railroad/highway crossings and warning devices*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Travel Demand Management*	*Car and bike share; Alternative fuel vehicles and facilities; Parking programs; Carpool/vanpool, ridesharing activities; Information, marketing and outreach; Traveler information*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Intersection Improvements*	*Intersection channelization; Intersection signalization at individual intersections*	*$2.00*				MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	*Programmatic Category*	N/A	N/A	N/A	*Multimodal Streetscape Improvements*	*Minor bicycle and/or pedestrian facility gap closure; ADA compliance; Landscaping; Lighting; Streetscape improvements; Minor road diet (less than 1/4 mile)*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Planning*	*Planning and research that does not lead directly to construction*	*$30.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Emission Reduction Technologies*	*N/A*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Corridor Studies*	*Study and implement adaptive signal timing on various corridors within Solano County*	*$5.00*				MTC PBA 2050***
Transit Projects											
SOL	BRT	Var	Var	Var	Solano Express Bus to BRT-lite Transition: Capital Improvements and Implementation	Transition from Express Bus and build out a functioning BRT-lite system in Solano County. Implement improvements including Transit Signal Prioritization (TSP), adaptive signal timing, and ramp metering	$26.00			X	MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Parking	Off	N/A	N/A	Fairfield-Vacaville Train Station Building, Access, and Parking	Construction of a station building to provide shelter and seating for transit passengers. Construction of an access road into the station to improve route efficiency, and safe ingress and egress for buses, pedestrians, and bicyclists. Parking lot expansion and enhancements including safety features, lighting, parking lot solar array, and additional amenities.	$90.00	X			17-08-0014
SOL	Parking	Off	N/A	N/A	Vallejo Station Parking Structure Phase B	Vallejo: Baylink Ferry Terminal; Construct two phased parking structure to consolidate surface parking for ferry operations; create a pedestrian link between bus transit facility and existing ferry terminal building adjacent to ferry parking structure.	$30.00	X			17-08-0016
SOL	Parking	Off	N/A	N/A	Fairfield Transportation Center (FTC) - Phase 2	Construct additional parking spaces, access improvements, and transit improvements in and around the FTC	$4.00			X	MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	Parking	Off	N/A	N/A	Solano Express Blue Line Park and Ride Facility	Relocate existing park and ride on Hwy 113 from downtown Dixon to the north side of I-80 in the vicinity of the on and off ramps.	$6.00		X		MTC PBA 2050***
SOL	Parking	Off	N/A	N/A	Transit and Downtown Parking Structure	Construct a new parking garage to meet parking demand near the Suisun-Fairfield Amtrak Station and new housing developments	$30.00		X		MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Minor Transit Improvements*	*Minor/routine expansions to fleet and service; Purchase ferry vessels (that can be accommodated by existing facilities or new facilities); Construction of small passenger shelters and information kiosks; Small-scale/ bus terminals and transfer points; Public transit-human services projects and programs; ADA compliance; Associated transit improvements (including bike/pedestrian access improvements; Alternative fuel vehicles and facilities*	*$20.00*				MTC PBA 2050***

Co.	Project Type	Route	Begin Post Mile	End Post Mile	Project Title	Description	Cost* ($M)	Short-Term** (0-4 Years)	Medium-Term (4-10 Years)	Long-Term (10+ Years)	RTP ID/ Source
SOL	*Programmatic Category*	N/A	N/A	N/A	*Routine Operations and Maintenance*	*Routine patching and pothole repair; Litter control, sweeping and cleaning; Signal operations; Communications; Lighting; Transit operations and fare collection; Transit preventative maintenance; Toll operations and fare collection*	*$10.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Multimodal Streetscape Improvements*	*Minor bicycle and/or pedestrian facility gap closure; ADA compliance; Landscaping; Lighting; Streetscape improvements; Minor road diet (less than 1/4 mile)*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Emission Reduction Technologies*	*N/A*	*$5.00*				MTC PBA 2050***
SOL	*Programmatic Category*	N/A	N/A	N/A	*Corridor Studies*	*Study and implement adaptive signal timing on various corridors within Solano County*	*$5.00*				MTC PBA 2050***

* Cost estimates in current dollars

** Expected for construction to begin

*** Projects submitted to MTC for consideration in Plan Bay Area 2050, the Bay Area's next Regional Transportation Plan/Sustainable Communities Strategy, to be adopted in 2021.

Active Transportation Projects

Table 7-2 lists recommended bicycle and pedestrian projects within the I-80 East Corridor, such as regional trails and improvements at freeway crossings. Bicycle projects are based on projects from the District 4 Bike Plan, as well as existing countywide and local active transportation plans, such as the Solano Countywide Bicycle Transportation Plan (2012) and the Solano Countywide Pedestrian Transportation Plan (2012). With some exceptions, most projects focus on freeway crossings, especially those at freeway interchange locations, because freeways often represent a major barrier within the bicycle and pedestrian networks. Local projects are included if it is on a major road crossing I-80, provides access to major transit hubs or helps enhance the countywide bike and pedestrian networks. Trail projects in the vicinity of I-80 are also included.

Table 7-2. *Recommended Active Transportation Improvement Projects*
(not in priority order)

#	Project Type	Co.	Location/Title	Description	Cost Estimate	Source
1	Corridor Improvement- Class I	SOL	Maritime Academy Dr.	Install Class I path to connect the Bay Area Ridge Trail, San Francisco Bay Trail, and Carquinez Strait Loop Trail.	<$250,000	D4 Bike Plan - Project List
2	New separated crossing	SOL	Maritime Academy Dr.	STA is working with Caltrans to include Class I undercrossing at the SR-29 off ramp when the bridge is replaced	>$7M	D4 Bike Plan - Project List
3	Minor interchange improvements (signage and striping)- Class II	SOL	Georgia St.	Consider minor ramp reconfiguration to eliminate slip lanes	<$250,000	D4 Bike Plan - Project List
4	Minor interchange improvements (signage and striping)- Class II	SOL	Solano Ave.	Improve bicycle accommodation at interchange on Solano Avenue	<$250,000	D4 Bike Plan - Project List
5	Interchange reconstruction - ramps only- Class II	SOL	Tennessee St.	Explore reconfiguring to diamond interchange, and providing bicycle facility on Tennessee Street across the freeway	>$7M	D4 Bike Plan - Project List
6	Minor interchange improvements (signage and striping)- Class II	SOL	American Canyon Rd.	STA-planned Class II bike lanes on McGary Road from Vallejo City Limits to Hiddenbrooke Parkway	<$250,000	D4 Bike Plan - Project List
7	Minor interchange improvements (signage and striping)- Class II	SOL	Red Top Rd.	Explore improved bicycle facilities at interchange.	$250,000 - $1.5M	D4 Bike Plan - Project List
8	Minor interchange improvements (signage and striping)- Class II	SOL	W Texas St.	Provide bike signal and phase for Linear Bike Trail movement through interchange area. Coordinate with City of Fairfield's West Texas Gateway Project that will connect Linear Park Path to Fairfield Transit Center.	<$250,000	D4 Bike Plan - Project List
9	Interchange reconstruction - ramps only- Class II	SOL	Travis Blvd.	Install bike lanes across interchange to connect with bike lanes on Travis Boulevard. Reconstruct and square up ramps.	>$7M	D4 Bike Plan - Project List

#	Project Type	Co.	Location/Title	Description	Cost Estimate	Source
10	Interchange reconstruction - ramps only- Class IV	SOL	Air Base Pkwy.	Complete gap in existing bike lanes across interchange. Reconstruct and square up ramps. Explore installing Class IV separated bikeway if possible, because of high speeds and wide ROW thru interchange.	>$7M	D4 Bike Plan - Project List
11	Interchange reconstruction - ramps only- Class II	SOL	Alamo Dr.	Explore reconstructing ramps to and from northbound I-80	>$7M	D4 Bike Plan - Project List
12	New separated crossing	SOL	Elmira Rd.	STA-planned Ulatis Creek Trail segment connecting Ulatis Drive to Leisure Town Road. Phase I is Class I path along creek alignment; Phase II is bicycle facilities on Allison Drive to I-80. Cost estimate around 1 million.	>$7M	D4 Bike Plan - Project List
13	Minor interchange improvements (signage and striping)- Class II	SOL	Allison Dr.	Improve bicycle accommodation at interchange on Allison Drive	<$250,000	D4 Bike Plan - Project List
14	Interchange reconstruction - ramps only- Class I	SOL	Leisure Town Rd.	STA-planned Class I shared use path on Leisure Town Road from I-80 to Ulatis Creek	>$7M	D4 Bike Plan - Project List
15	Minor interchange improvements (signage and striping)- Class II	SOL	Pitt School Rd.	Explore bike facility installation on Pitt School Road over I-80 to connect to continuous Class II bike lanes on Pitt School Road between Vacaville and Dixon	<$250,000	D4 Bike Plan - Project List
16	Road Diet	SOL	Benicia Rd. Road Diet	Reduce Benicia Road from four-lanes to two-lanes from Beach street (Vallejo) to-I-80, add bike lanes and on-street parking, widen sidewalks.	$7M	MTC PBA 2050**
17	Road Diet	SOL	West Texas St. Road Diet	Reconfigure West Texas Street from Beck Ave from five lanes to two lanes with raised center median, Class II Bike Lanes, upgraded signals and enhanced pedestrian crossings	$11M	MTC PBA 2050**

*Project cost ranges are provided for projects from the D4 Bike Plan

** Projects submitted to MTC for consideration in Plan Bay Area 2050, the Bay Area's next Regional Transportation Plan/Sustainable Communities Strategy, to be adopted in 2021

State Highway Operations and Protection Program (SHOPP)

SHOPP is a four-year program for operating and maintaining the State Highway System (SHS) that is updated every two years. It is Caltrans primary tool to implement the fix-it-first policy for the SHS. Within each SHOPP cycle, priorities are evaluated to match funding and performance measures as they relate to the goals established in the Caltrans Strategic Management Plan, such as Safety, Sustainability, Livability, Economy and System Performance. As projects are selected and developed, they must also address Complete Streets, the Americans with Disabilities Act (ADA), sea level rise, and issues such as wildlife connectivity and fish passage. The SHOPP is limited to maintenance, safety, and rehabilitation projects on existing State highways and bridges, with generally no projects that add new traffic capacity. In addition to managing the condition of the physical infrastructure, SHOPP projects also include safety improvements, operational improvements, environmental mitigation, TOS, freight improvements and system resiliency and adaptation to climate change.

In accordance with Assembly Bill 515, Caltrans also prepares a ten-year State Highway System Management Plan (SHSMP) that is updated every two years. The SHSMP presents a performance-driven and integrated management plan for the SHS in California. It operationalizes the California Transportation Asset Management Plan (TAMP), mandated by Senate Bill 486. The 2019 SHSMP was approved on May 16, 2019 and describes the SHS needs, investments and resulting performance projects for the 10-year period spanning July 2019 to June 2029. A ten-year project book called 2019 Ten-Year Project Book has been developed to accompany the SHSMP. It lists projects to be carried out by existing and future SHOPP programs within the 10-year period.

The SHOPP project list shown in **Table 7-3** includes projects in 2020 SHOPP program to be adopted by CTC in 2020 as well as projects from the 2019 Ten-Year Project Book that accompanies the 2019 SHSMP.

Table 7-3. *SHOPP Projects*

County	Route	Postmile	EA/ SHOPP ID	Description/ Activty Category	Project Cost* ($K)	SHOPP Cycle
SOL	80	1.8/5.7	2Q640	Install best management practices (storm water mitigation) at Route 80 within Very High/High Trash Generation Areas. Sustainability/Climate Change.	$1,080	2020
SOL	80	1.14/42.36	0J600	In and near Dixon and Vacaville, at McCune Creek Bridge No. 23 -0084L/R; on Route 505 at Horse Creek Bridge No. 23-0077L. Bridge preventative maintenance. Bridge – Health.	$4,618	2020
SOL	80	11.3/38	0Q190	In and near Fairfield, Vacaville, and Dixon, from Red Top Road to Route 113 at var locations; on Route 680 near Benicia and Fairfield, from Contra Costa County line to Route 80 (PM R0.0R/13.0) at var locations. Construct permanent BMP's to achieve Statewide NPDES permit compliance units for trash capture. Sustainability/Climate Change.	$10,000	2020
SOL	80	15/30.7	0K640	In and near Fairfield and Vacaville, from 1.5 miles east of Suisun Valley Rd / Pittman Rd to 0.8 mile east of Leisure Town Rd / Vaca Valley Pkwy. Rehabilitate pavement, upgrade facilities to ADA) standards, upgrade guardrail and Transportation Management System (TMS) elements. Pavement.	$31,893	2020

* Project cost are subject to change

7.2 Project Evaluation

A qualitative evaluation was conducted to gauge how a project would help meet the Corridor Goals outlined in Chapter 2 Corridor Goals, Objectives and Performance Measures. Depending on the level of impact, a project would receive a high (H), medium (M) or low (L) grade under each of the eight goals. Programmatic categories were not graded.

Project evaluation was based on a qualitative application of the performance objectives and discussions with the Corridor Development Team. Generally, a project received a "high" score if it would meet most of the objectives associated with the goal. Projects were assumed to reduce VMT and increase person throughput if they provided infrastructure or transit service that supports carpooling, taking transit, walking or biking. The largest multimodal projects in terms of size were assumed to significantly reduce vehicle demand or alleviate bottlenecks such that traffic would flow smoothly, leading to lower likelihood of rear-end collisions and increases in safety. Projects that directly improved conditions on I-80 were also considered to most strongly advance the Corridor Goals. Interchange improvement projects were crossed compared to **Table 7-2** and bike and pedestrian improvements were assumed to be part of the interchange project scope when applicable. Projects of the same type generally received similar ratings.

Table 7-4 presents the evaluation results for highway and transit projects. Ratings were developed in consultation with CDT members. Because of the differences in assumptions and evaluation methodology, a comparison between project types would not yield a meaningful conclusion. Instead, the evaluation results mainly help demonstrate how projects would likely advance the Corridor Goals. Achieving the entire set of Corridor Goals is dependent on the implementation of the whole package of multimodal projects recommended in this chapter.

Table 7-4. *I-80 CMCP Project Evaluation Results – Highway and Transit Projects (not in priority order)*

Co.	Project Type	Title	Cost Estimate ($M)	Goal #1 Safety	Goal #2 Congestion Reduction	Goal #3 Reliability	Goal #4 Accessible/ Multimodal System	Goal #5 Pollution & GHG Reduction	Goal #6 Economic Prosperity	Goal #7 Asset Management	Goal #8 Efficient Land Use*
Highway Projects											
SOL	Managed Lanes	I-80 Express Lanes in both directions: Carquinez Bridge to Bay Bridge	$81.00	H	H	H	M	M	H	H	H
SOL	Managed Lanes	I-80 Express Lanes (Carquinez Bridge to SR 37)	$100.00	H	H	H	H	H	H	H	H
SOL	Managed Lanes	I-80 Express Lanes SR 37 to Red Top Road	$65.00	H	H	H	H	H	H	H	H
SOL	Managed Lanes	I-80 Express Lanes (Red Top Rd. to I-505)	$275.00	H	H	H	H	H	H	H	H
SOL	Managed Lanes	I-680 Express Lanes: I-80 westbound to I-680 southbound and I-680 northbound to	$140.00	H	H	H	M	H	H	H	M

Co.	Project Type	Title	Cost Estimate ($M)	Goal #1 Safety	Goal #2 Congestion Reduction	Goal #3 Reliability	Goal #4 Accessible/ Multimodal System	Goal #5 Pollution & GHG Reduction	Goal #6 Economic Prosperity	Goal #7 Asset Management	Goal #8 Efficient Land Use*
		I-80 eastbound direct connectors									
SOL	Interchange	Redwood Parkway Interchange, Phase 2	$66.00	H	M	M	M	L	M	M	M
SOL	Interchange	I-80/I-680/SR 12 Interchange (Packages 2-7)	$380.00	M	H	M	L	L	H	M	M
SOL	Interchange	Lagoon Valley Interchange	$10.00	H		M	M	L	M	M	L
SOL	Interchange	Widen Vaca Valley I/C	$15.00	H	M	M	L	L	M	M	M
SOL	Interchange	West A St and I-80 Interchange Upgrade	$25.00	H	M	M	M	L	M	M	L

Co.	Project Type	Title	Cost Estimate ($M)	Goal #1 Safety	Goal #2 Congestion Reduction	Goal #3 Reliability	Goal #4 Accessible/ Multimodal System	Goal #5 Pollution & GHG Reduction	Goal #6 Economic Prosperity	Goal #7 Asset Management	Goal #8 Efficient Land Use*
SOL	Interchange	Pitt School Rd and I-80 Interchange Upgrade	$25.00	H	M	M	M	L	M	M	L
SOL	Interchange	Hwy 113 and I-80 Interchange Improvements	$25.00	H	M	M	L	L	M	M	L
SOL	Interchange	Milk Farm Rd and I-80 Interchange Upgrade	$25.00	H	M	M	L	L	M	M	L
SOL	Interchange	Pedrick Rd and I-80 Interchange Upgrade	$25.00	H	M	M	L	L	M	M	L
SOL	Overcrossing	American Canyon Overcrossing		H	M	M	M	L	M	M	L

Co.	Project Type	Title	Cost Estimate ($M)	Goal #1 Safety	Goal #2 Congestion Reduction	Goal #3 Reliability	Goal #4 Accessible/ Multimodal System	Goal #5 Pollution & GHG Reduction	Goal #6 Economic Prosperity	Goal #7 Asset Management	Goal #8 Efficient Land Use*
SOL	Auxiliary Lanes	Provide auxiliary lanes on I-80 in eastbound and westbound directions from I-680 to Airbase Parkway	$57.00	H	M	M	M	M	M	M	M
SOL	Truck Scales	I-80 Westbound Cordelia Truck Scales Relocation Project	$250.00	H	M	M	M	L	H	M	L
SOL	Freeway Connector	I-505/I-80 Connector	$85.00	H	M	M	L	L	M	M	M
SOL	Operational Improvement	Roadway Operations	$59.00	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	Road Widening	Suisun Valley Rd Expansion Study and Implementation	$30.00	M	M	L	L	L	L	L	L
SOL	Road Widening	Widen Orange Drive to EB I-80	$5.00	M	L	L	L	L	L	L	L

Co.	Project Type	Title	Cost Estimate ($M)	Goal #1 Safety	Goal #2 Congestion Reduction	Goal #3 Reliability	Goal #4 Accessible/ Multimodal System	Goal #5 Pollution & GHG Reduction	Goal #6 Economic Prosperity	Goal #7 Asset Management	Goal #8 Efficient Land Use*
SOL	Road Widening	Widen Vaca Valley Parkway	$5.00	M	L	L	L	L	L	L	L
SOL	Road Widening	Construct 4-lane Jepson Parkway from Route 12 to Leisure Town Road at I-80	$45.00	H	M	M	H	M	M	M	L
SOL	*Programmatic Category*	*Minor Highway Improvements*	*$5.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Minor Roadway Improvements*	*$5.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Minor Freight Improvements*	*$10.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Routine Operations and Maintenance*	*$10.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

Co.	Project Type	Title	Cost Estimate ($M)	Goal #1 Safety	Goal #2 Congestion Reduction	Goal #3 Reliability	Goal #4 Accessible/ Multimodal System	Goal #5 Pollution & GHG Reduction	Goal #6 Economic Prosperity	Goal #7 Asset Management	Goal #8 Efficient Land Use*
SOL	*Programmatic Category*	*Management Systems*	*$1.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Safety and Security*	*$5.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Travel Demand Management*	*$5.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Intersection Improvements*	*$2.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Multimodal Streetscape Improvements*	*$5.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Planning*	*$30.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Emission Reduction Technologies*	*$5.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

Co.	Project Type	Title	Cost Estimate ($M)	Goal #1 Safety	Goal #2 Congestion Reduction	Goal #3 Reliability	Goal #4 Accessible/ Multimodal System	Goal #5 Pollution & GHG Reduction	Goal #6 Economic Prosperity	Goal #7 Asset Management	Goal #8 Efficient Land Use*
SOL	*Programmatic Category*	*Corridor Studies*	*$5.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Transit Projects											
SOL	Bus Rapid Transit (BRT)	Solano Express Bus to BRT-lite Transition: Capital Improvements and Implementation	$26.00	H	H	H	H	M	M	H	M
SOL	Parking	Fairfield-Vacaville Train Station Building, Access, and Parking	$90.00	H	M	M	H	M	M	M	M
SOL	Parking	Vallejo Station Parking Structure Phase B	$30.00	H	M	M	H	M	M	M	M
SOL	Parking	Fairfield Transportation Center - Phase 2	$4.00	H	M	M	H	M	M	M	M
SOL	Parking	Solano Express Blue Line Park and Ride Facility	$6.00	H	M	M	H	M	M	M	M

Co.	Project Type	Title	Cost Estimate ($M)	Goal #1 Safety	Goal #2 Congestion Reduction	Goal #3 Reliability	Goal #4 Accessible/ Multimodal System	Goal #5 Pollution & GHG Reduction	Goal #6 Economic Prosperity	Goal #7 Asset Management	Goal #8 Efficient Land Use*
SOL	Parking	Transit and Downtown Parking Structure	$30.00	H	M	M	H	M	M	M	M
SOL	*Programmatic Category*	*Minor Transit Improvements*	*$20.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Routine Operations and Maintenance*	*$10.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Multimodal Streetscape Improvements*	*$5.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Planning*	*$30.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
SOL	*Programmatic Category*	*Emission Reduction Technologies*	*$5.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

Co.	Project Type	Title	Cost Estimate ($M)	Goal #1 Safety	Goal #2 Congestion Reduction	Goal #3 Reliability	Goal #4 Accessible/ Multimodal System	Goal #5 Pollution & GHG Reduction	Goal #6 Economic Prosperity	Goal #7 Asset Management	Goal #8 Efficient Land Use*
SOL	*Programmatic Category*	*Corridor Studies*	*$5.00*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

* Corridor Goals are paraphrased. See Chapter 2 for complete description.

I-80 East Comprehensive Multimodal Corridor Plan Appendices

Appendix A. Public Outreach Activities

Date Completed	Outreach Audience	Methodology of Counts	Number of Recipients	Subject and Type of Outreach	Public Meeting	Focus Group	Website	Publications/ Letters	Information Session	Media	Event	E Mail Outreach
3/6/2003	General Public	Sign In Sheets	~20	I-80/I-680/SR-12 Interchange	Yes						Informational Open House	
5/12/2003	General Public	Sign In Sheets	~20	I-80/I-680/SR-12 Interchange	Yes						Public Scoping Meeting Presentation	
February 2004	General Public	Email Distribution List	~20	I-80/I-680/SR-12 Interchange				Newsletter: Traffic Forecasting				Yes
October 2004	General Public	Email Distribution List	~20	I-80/I-680/SR-12 Interchange				Newsletter: Existing Conditions Support				Yes
April 2006	General Public	Email Distribution List	~20	I-80/I-680/SR-12 Interchange				Newsletter: 2035 Traffic Projections				Yes
December 2006	General Public	Sign In Sheets	~25	I-80/I-680/SR-12 Interchange	Yes						Public Hearing	
October 2007	General Public	Sign In Sheets	~25	I-80/I-680/SR-12 Interchange	Yes						Public Hearing	
February 2008	General Public	Sign In Sheets	~25	I-80/I-680/SR-12 Interchange	Yes						Public Hearing	
May 2008	General Public	Sign In Sheets	~25	I-80/I-680/SR-12 Interchange	Yes						Public Hearing	
March 2009	General Public	Sign In Sheets	~25	I-80/I-680/SR-12 Interchange	Yes						Informational Open House	

Date Completed	Outreach Audience	Methodology of Counts	Number of Recipients	Subject and Type of Outreach	Public Meeting	Focus Group	Website	Publications/ Letters	Information Session	Media	Event	E Mail Outreach
April 2015- June 2015	Solano County Residents			SolTrans/ Fast Consolidation			Yes	Local Newspaper Outreach		Yes		Yes
1/2015 - 12/ 2015	Solano County Residents			SolTrans/ Fast Consolidation			Yes	Social Media Advertisements		Yes		Yes
5/7/15	Solano County Residents		20-30	Plan Bay Area 2040	Yes		Yes			Yes	Public Open House, Fairfield	Yes
July 2015	Solano County Residents	Online Survey Distribution List		SolTrans/ Fast Consolidation			Yes	Online Bus Ridership Survey				Yes
6/13/16	Solano County Residents			Plan Bay Area 2040	Yes		Yes			Yes	Public Open House, Fairfield	Yes
5/11/17	Solano County Residents			Plan Bay Area 2040	Yes		Yes			Yes	Public Open House, Fairfield	Yes
9/14/2017	Benicia Residents	Survey Distribution List		SolTrans/ Fast Consolidation				In Person Survey			City of Benicia Public Workshop	Yes
9/21/2017	Vallejo Residents	Survey Distribution List		SolTrans/ Fast Consolidation				In Person Survey			City of Vallejo Public Workshop	Yes
10/5/17	Solano County Residents		20-30	Caltrans District 4 Bike Plan	Yes		Yes	Online Survey		Yes	Community Workshop, Vallejo	Yes
2/28/2018	Fairfield Residents	Survey Distribution List		SolTrans/ Fast Consolidation				In Person Survey			City of Fairfield Public Workshop	Yes
9/25/2018	Solano County Residents	Online Survey Distribution List	15-25	SolTrans/ Fast Consolidation				In Person/Online Survey			Sol Trans Driver Townhall	Yes

Date Completed	Outreach Audience	Methodology of Counts	Number of Recipients	Subject and Type of Outreach	Public Meeting	Focus Group	Website	Publications/ Letters	Information Session	Media	Event	E Mail Outreach
10/11/2018	Solano County Residents	Online Survey Distribution List	15-25	SolTrans/ Fast Consolidation				In Person/Online Survey			Benicia Farmer's Market	Yes
10/27/2018	Solano County Residents	Online Survey Distribution List	15-25	SolTrans/ Fast Consolidation				In Person/Online Survey			Florence Douglas Senior Center Meeting	Yes
11/1/2018	Solano County Residents	Online Survey Distribution List	15-25	SolTrans/ Fast Consolidation				In Person/Online Survey			Vallejo Farmers Market	Yes
11/2/2018	Solano County Residents	Online Survey Distribution List	15-25	SolTrans/ Fast Consolidation				In Person/Online Survey	Yes		Solano County Community College	Yes
12/4/2018	Solano County Residents	Online Survey Distribution List	15-25	SolTrans/ Fast Consolidation				In Person/Online Survey			SolTrans Pedestrian Advisory Committee Meeting	Yes
9/30/2018	Solano County Residents	Sign In Sheets	~50	Active Transportation Plan			Yes		Yes		Jelly Belly Candy Palooza in Fairfield	
10/6/2018	Solano County Residents	Sign In Sheets	~25	Active Transportation Plan			Yes		Yes		Art, Wine, and Chocolate Festival in Suisun City	
10/14/2018	Solano County Residents	Sign In Sheets	~50	Active Transportation Plan			Yes		Yes		Bass Derby in Rio Vista	
10/18/2018	Solano County Residents	Sign In Sheets	~50	Active Transportation Plan			Yes		Yes		Benicia Farmer's Market	
11/3/2018	Solano County Residents	Sign In Sheets	~20	Active Transportation Plan			Yes		Yes		Vallejo Farmers Market	

Date Completed	Outreach Audience	Methodology of Counts	Number of Recipients	Subject and Type of Outreach	Public Meeting	Focus Group	Website	Publications/ Letters	Information Session	Media	Event	E Mail Outreach
11/27/2018	Solano County Residents	Sign In Sheets	~40	Active Transportation Plan			Yes		Yes		Merriment on Main in Vacaville	
12/6/2018	Solano County Residents	Sign In Sheets	~50	Active Transportation Plan			Yes		Yes		Tree Lighting Festival in Dixon	
5/28/19	Solano County Residents	Sign In Sheets	20-30	Plan Bay Area 2050	Yes		Yes				Sol Express Intercity Transit Consortium	
9/19/2019	Suisun City Residents	Sign In Sheets	10-20	Active Transportation Plan	Yes		Yes				In Person Community Meeting	
10/17/2019	Benicia Residents	Sign In Sheets	10-20	Active Transportation Plan	Yes		Yes				In Person Community Meeting	
10/23/2019	Rio Vista Residents	Sign In Sheets	10-20	Active Transportation Plan	Yes		Yes				In Person Community Meeting	
11/6/2019	Dixon Residents	Sign In Sheets	10-20	Active Transportation Plan	Yes		Yes				In Person Community Meeting	
11/13/2019	Vacaville Residents	Sign In Sheets	10-20	Active Transportation Plan	Yes		Yes				In Person Community Meeting	
11/14/2019	Fairfield Residents	Sign In Sheets	10-20	Active Transportation Plan	Yes		Yes				In Person Community Meeting	
11/19/2019	Vallejo Residents	Sign In Sheets	10-20	Active Transportation Plan	Yes		Yes				In Person Community Meeting	
6/26/2019	General Public	Sign In Sheets	15	CTP Equity Chapter	Yes	Yes						
6/27/2019	General Public	Sign In Sheets	20	CTP Equity Chapter	Yes	Yes						

Date Completed	Outreach Audience	Methodology of Counts	Number of Recipients	Subject and Type of Outreach	Public Meeting	Focus Group	Website	Publications/ Letters	Information Session	Media	Event	E Mail Outreach
6/29/2020	General Public	Facebook Live View Counter	100	CTP Equity Chapter						Yes	Facebook Live	
12/5/2019	Solano County Residents	Sign In Sheets	~50-100	I-80 Managed Lanes				Fact Sheets		Presentation at Spirit of Solano Luncheon	Yes	
12/5/2019	Solano County Residents	Sign In Sheets	~50-100	I-80 Managed Lanes				Fact Sheets		Presentation at CALPIO/PRSA Winter Mixer	Yes	
12/9/2019	Sacramento APAPA Members	Sign In Sheets	~50-100	I-80 Managed Lanes				Fact Sheets		Presentation at APAP Sacramento Chapter Holiday Party	Yes	
12/12/2019	Sacramento ECD Members	Sign In Sheets	~500-600	I-80 Managed Lanes				Fact Sheets		Presentation at Greater Sacramento EDC Dinner	Yes	
1/28/2020	Bay Area Transportation Council	Sign In Sheets	~50-100	I-80 Managed Lanes				Fact Sheets		Presentation at Bay Area Council Transportation Committee Meeting	Yes	
2/19/2020	Vallejo Residents	Sign In Sheets	~50-100	I-80 Managed Lanes				Fact Sheets		Presentation at Vallejo State of the City Dinner	Yes	
2/20/2020	Solano EDC Members	Sign In Sheets	~50-100	I-80 Managed Lanes				Fact Sheets		Presentation at Solano EDC Annual Dinner	Yes	
2/20/2020	Sacramento Metro Chamber Attendees	Sign In Sheets	~50-100	I-80 Managed Lanes				Fact Sheets		Presentation at Sacramento Metro Chamber Mixer	Yes	