




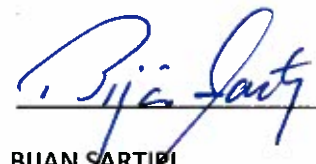
## I-780 Transportation Concept Report (TCR)



The Transportation Concept Report (TCR) is a Caltrans long-range planning document that informs the regional transportation planning process. TCRs provide information on the current corridor transportation facilities, recommended improvements, and highway concept for a 25-year planning horizon. Any projects identified in the TCR will require environmental and engineering studies before final approval and are subject to change.

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This TCR will be posted on the Caltrans District 4 System Planning website at:  
<http://www.dot.ca.gov/dist4/systemplanning/>

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# I. Introduction

## Preface

A Transportation Concept Report (TCR) defines the “concept” or configuration of a State owned/operated facility, projecting to a 25-year planning horizon. The TCR describes corridor characteristics such as the existing transportation network and land use, and projects the long-range corridor travel needs. A TCR is not meant to be an encyclopedia of corridor information, but a statement by the Department on what the future facility should be to better manage future travel demand.

TCRs are being developed for all 56 statutorily identified State Routes in District 4. This TCR provides a concept for I-780.

In order to recommend specific corridor improvements, an analysis is performed based on projected demand and growth in the corridor (current and planned land uses, existing operating conditions, and planned and programmed improvements) in relation to regional/State policy. Long-range performance expectations and potential deficiencies are identified. All conclusions are developed in conjunction with internal and external partners.

While considering the transportation network of the corridor as a whole, including other modes, Caltrans recognizes that its authority applies to the State Highway System.

## Purpose and Need for a TCR

California Government Code 65086 states that “...the Department of Transportation as owner-operator of the State Highway System (SHS) shall carry out long-term state highway system planning to identify future highway improvement.” These plans are currently identified as TCRs. Guided by regional, State, and federal policies and guidelines, this TCR is focused on anticipating future improvements primarily needed to address a 25-year planning horizon.

## State’s Interregional Responsibility

The SHS serves primarily interregional and regional travel demand. While this is not to preclude SHS access to specific destinations such as public facilities or major tourist attractions, development and modification of the SHS is conducted in the context of the mobility of regional and statewide to-and-through movement of people and goods.

California Senate Bill 45 (SB45) of 1998 stipulates that the State will nominate transportation improvements that facilitate the movement of people and goods between the State’s 43 transportation regions as well as to and through the State. To this end, the State is responsible for developing highway system performance standards pertinent to accommodating interregional travel demand, and specifying corridor facility concepts that improve interregional travel through

the State Highway System. The corridor concepts indicated in TCRs reflect the State's priorities regarding the accommodation of interregional, regional, and local travel needs.

### TCR Plan Consistency

Transportation Concept Reports are consistent with several levels of government policy and direction. Applicable federal and State legislation and plans, such as the *Safe Accountable Flexible Efficient Transportation Equity Act (SAFETEA-LU)*, the *California Transportation Plan 2030 (CTP 2030)*, and the *Interregional Transportation Strategic Plan (ITSP)*, provide the foundation for this TCR. The current State Highway Operation and Protection Program (SHOPP), a program of maintenance, safety, and rehabilitation improvements, and the State Transportation Improvement Program (STIP) are also considered in the development of this TCR.

A full discussion of federal, State, and regional transportation planning efforts and policies related to Corridor Plans are included in the Appendices. A new federal transportation bill (MAP-21) was passed in July of this year. Updates of State and regional plans are expected to replace the current documents and guidance within the next year.

## II. Concept Summary

### I-780 25-Year Concept

Segment	County	Segment Description	Existing Facility	25-year Concept
Segment A (PM 0.7-7.4)	SOL	I-680 to Curtola Parkway	4F	4F

F = Freeway

### Corridor Concept Rationale

I-780 was planned and partially constructed before the Benicia-Martinez Bridge was built (1962). It was conceived as part of the Bay Area orbital freeway system around the outer Bay Area (I-680/I-280), but with the opening of the bridge and stronger radial traffic flows (San Francisco and Sacramento) it is now a local feeder to I-80 and I-680. Traffic has grown with the suburbanization of jobs and residential growth, though it is relatively low for similar facilities, having an AADT (Average Annual Daily Traffic) of 61,000 in 2010. Recent improvements to the I-780/680 interchange have eliminated any significant recurring congestion. Therefore, the 25-year concept is to maintain the present 4F (four-lane freeway) concept.

### III. Corridor Overview

#### Corridor Description

The corridor extends from the Benicia-Martinez Bridge to Vallejo north of the Carquinez Strait. I-780 is a seven-mile four-lane freeway linking I-680 in Benicia to I-80 in Vallejo. Curtola Parkway (four-lane local surface street) acts as an extension to downtown Vallejo and is contiguous with I-780. It connects to State Route (SR) 29.

I-780 Corridor Overview Map



Source: Caltrans D4 GIS



Once west of I-80, where the freeway transitions into Curtola Parkway, the Average Daily Traffic decreases by over 65 percent. There are extensive networks of local streets in Benicia and Vallejo, but between these two cities the network is limited and the freeway is the most direct connector for local traffic.

The route is generally level, though dropping to 10 feet in elevation adjacent to the Carquinez Strait before entering Vallejo, where it rises to 250 feet. Specific facility information for I-780 is described as follows.

**I-780 Facility Description**

County	Post Mile (PM)	Facility	Description
SOL	0.7-7.4	4 - lane Freeway	Connector Freeway

**Demographics**

Solano County is no longer expected to be the fastest growing county in the Bay Area (ABAG 2009) and will have one of the lower absolute growth increases, if the Initial Vision Scenario of the region’s Bay Area Plan is adopted (see Land Use Planning). There still will be growth and its impact will depend very much on the type, and whether it is car or transit-oriented. Recently, growth has been very auto-centric, but with planning moving towards Smart Growth and increased fuel/energy costs, this may change over the next 25 years.

Vallejo was predicted by ABAG (Association of Bay Area Governments) to increase in population by 50,000 from the present 114,000, with the redevelopment of Mare Island accounting for much of this increase. However, with the 2009 ABAG projections it is now expected to be half that. Elsewhere in the corridor, growth is expected to consist of density increases in existing urban areas. It is important to note that the number of Bay Area residents 65 and older is expected to increase 84 percent between 2000 and 2020. With the increasingly aging population, the importance of non-commute, off-peak travel demand is expected to grow and there will be an increase in the demand for transit, particularly off-peak transit.

In the following table, the second column shows how the ABAG projections for Solano County have changed. It compares those from 2007 to the latest 2009 projections (Projection Change 2007-9).

**Population and Job Growth in the nine Bay Area Counties (2009-2035)**

COUNTY	POPULATION				JOBS			% Jobs to Population	% Region's Population
	Projection Change 2007-9	2009	2035	% Change 2009-35	2009	2035	% Change 2009-35	2035	2035
Alameda	3	1,505,300	1,996,000	33	730,270	1,040,000	42	52	22
Contra Costa	2	1,023,400	1,323,000	29	379,030	556,000	47	42	15
Marin	-3	252,600	274,000	8	135,370	158,000	17	58	3
Napa	-4	133,700	149,000	11	70,690	91,000	29	61	2
San Francisco	1	795,800	969,000	22	553,090	807,000	46	83	11
San Mateo	4	721,900	893,000	24	337,350	506,000	50	57	10
Santa Clara	2	1,763,000	2,431,000	38	872,860	1,413,000	62	58	27
Solano	-13	421,600	507,000	20	150,520	212,000	41	42	6
Sonoma	-1	478,800	562,000	17	220,460	325,000	47	58	6
<b>Bay Area</b>	<b>1</b>	<b>7,096,100</b>	<b>9,104,000</b>	<b>28</b>	<b>3,449,640</b>	<b>5,108,000</b>	<b>48</b>	<b>56</b>	<b>100</b>

Source: Association of Bay Area Governments 2009

## Land Use & Transportation Planning

### Description

Industrial development is present along I-80 and I-680, at either end of the I-780 corridor while development along I-780 is mainly residential. Benicia (27,000 population) and Vallejo (120,000) are the main population centers. The corridor’s commercial centers are found in downtown Benicia and in Vallejo west of I-80. Major retail centers are found outside the corridor along I-80 and in Central Contra Costa County. The corridor was highlighted in the 2001 Greenbelt Alliance report as an area where the existing greenbelt was under high risk of development. This particularly applies to the area north of Benicia, which is open farmland set in the hills facing the Carquinez Strait. Urban development within Benicia and Vallejo is residential, mainly from the 1950s onward outside the historic downtowns. In Vallejo much of the city could be characterized as “dense sprawl”

(897 housing units/square mile per 2010 US Census), in particular when compared to Benicia, where densities are lower (719 housing units/square mile), probably due to its topography.

While residential densities are moderately high, retail is spread out and car-oriented. The current recession has had a major impact on the corridor with little new development proposed.

### I-780 Corridor Land Use and Development Areas



Source: Caltrans D4 GIS

### Land Use Planning

The Metropolitan Transportation Commission (MTC) 2040 Regional Transportation Plan (RTP) or Plan Bay Area, will incorporate the implementation of SB 375 through the designation of Priority Development Areas (PDAs), among other measures.

PDAs are locally-identified, infill development opportunity areas within existing communities. They are generally areas of at least 100 acres where there is local commitment to developing more housing along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment served by transit. To be eligible to become a PDA, an area has to be within an existing community, near existing or planned fixed transit or served by comparable bus service, and planned for more housing. Within the I-780 corridor there are two designated PDAs. One centered on the waterfront and downtown area in Vallejo, the other on the downtown area of Benicia. Benicia has also identified the Benicia Business Park as a potential PDA or Growth Opportunity Area (GOA).

A 2010 survey by the Association of Bay Area Governments (ABAG) indicated that planned PDAs in the Bay Area expect to add approximately 209,000 housing units and 607,000 jobs over the next 25 years. As a result, in 2035 there are anticipated to be nearly 579,000 housing units and 1.6 million jobs in the region's planned PDAs. These numbers indicate that, while the 92 planned PDAs included in this assessment account for a little over one percent of the land area of the Bay Area, they are planned to accommodate 32 percent of the housing growth and 37 percent of the job growth forecasted in ABAG's *Projections and Priorities 2009: Building Momentum*. However, it is expected that the majority of this growth will take place in the inner Bay Area cities, if only because the majority of PDAs are found in these areas. This process is proposing a lower than previously expected growth in Solano County, with about 30 percent of both employment and household county growth in the I-780 corridor.

MTC/ABAG have chosen a preferred option and developed a list of projects associated with it (see I-780 Corridor Project List on page 28). This preferred option is, as of August 2012, undergoing environmental review.

Solano County also has the Orderly Growth Initiative, adopted by the Board of Supervisors in 1994. It seeks to protect open and agricultural land and keep urban development within the cities of the County.

### Transportation Planning Studies

The Solano Transportation Authority (STA) in conjunction with its partners, including Caltrans, has undertaken a number of transportation studies over the last ten years. Two of these studies have incorporated the I-780 corridor in their findings. These were the 2004 "I-80/I-680/I-780 Transit Study" and the 2010 "Solano Highways Operations Study". While looking at all modes these studies did not integrate their findings. The two major studies and recommended projects therein are listed below.

### **I-80/I-680/I-780 TRANSIT STUDY (INTER-CITY TRANSIT ONLY)**

Recommended projects:

- HOV lanes on Curtola Parkway to I-80 westbound
- Park and Ride Lots: Vallejo I-80 (2), Vallejo I-80/I-780 and Benicia I-780 (3)
- Enhanced express bus service from Vallejo to El Cerrito BART (Route 80) and additional Benicia service
- Direct Benicia to Walnut Creek BART bus service (extension from Pleasant Hill BART)

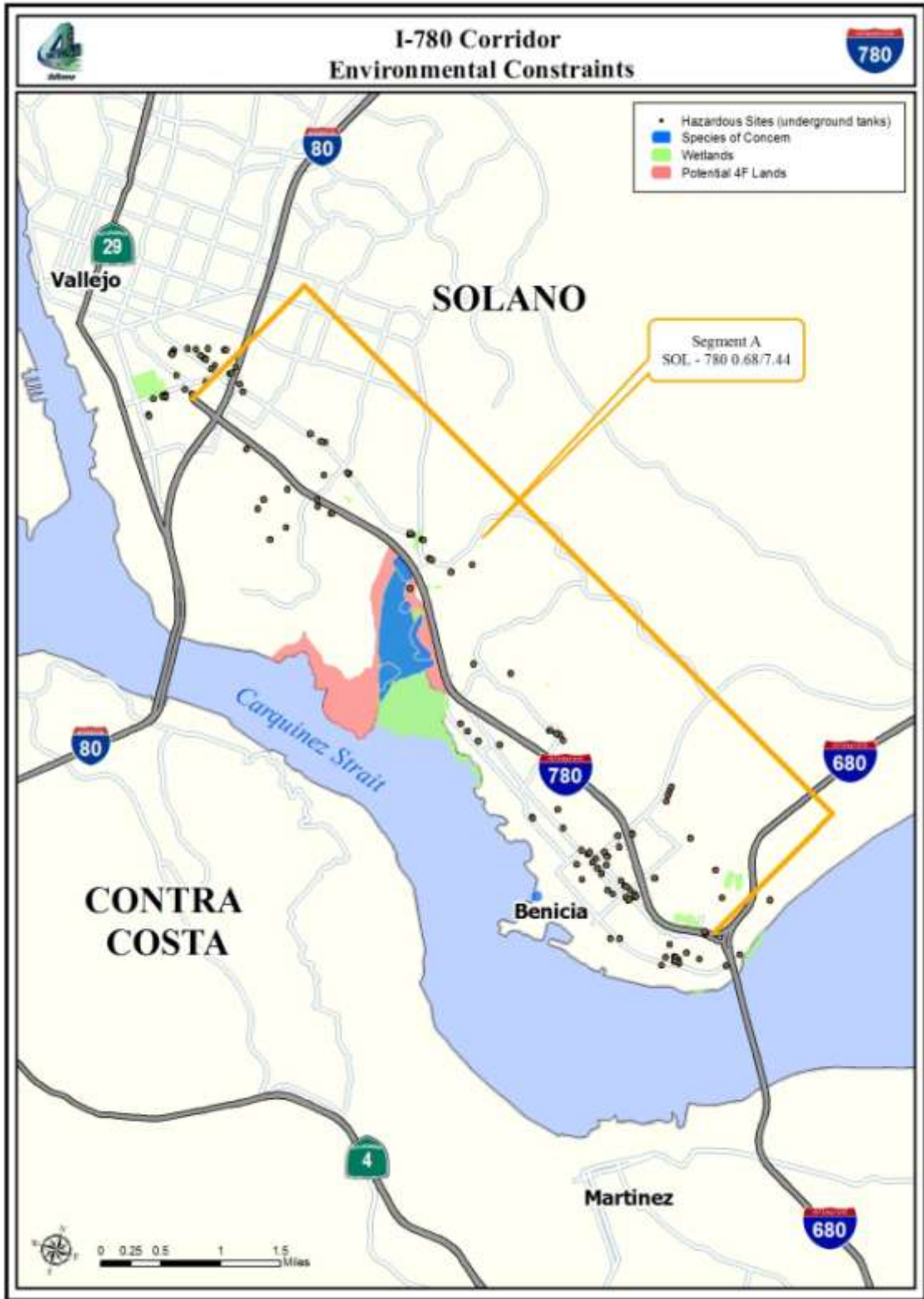
### **SOLANO HIGHWAYS OPERATIONS STUDY**

Recommended projects in the I-780 corridor:

- Ramp metering at local access interchanges
- Additional (third) WB lane from Glen Gove Road to Cedar Street
- Auxiliary lane EB between Spruce and Glen Cove Street
- Auxiliary lane EB between Columbus Parkway and Military West

## **Environmental Constraints**

The following environmental map illustrates known environmental constraints for the corridor. These may include the presence of hazardous materials or facilities, habitats of threatened or potentially threatened species, fragile wetlands, and/or historic bridges or other structures. This information needs to be taken into consideration when proposing any improvements or modifications to state facilities within the corridor.



Source: Caltrans D4 GIS

## Route Designations

Freeway & Expressway (F&E)	Freeway
Functional Classification	Federal-Aid Urban State Highway
Trucking Designations	STAA Terminal Access Route*
Trucking Facilities	None
National Highway System (NHS)	None
Scenic Highway	No
Lifeline Corridor	No
Traffic Operations System (TOS) facilities	N/A
Interregional Road System (IRRS)	No
Metropolitan Planning Organization/ (MPO) /Regional Transportation Planning Agency (RTPA) /Congestion Management Agency (CMA)	MPO/RTPA Metropolitan Transportation Commission (MTC) , Solano Transportation Authority (STA)

\* Surface Transportation Assistance Act (STAA) of 1982 is governing the movement of trucks and trailers with specific combinations, lengths, or widths. A STAA truck is a truck with a 48-foot semitrailer, an unlimited overall length, and an unlimited kingpin-to-rear-axle (KPRA) distance.

## Trip Information

### Commuting

Despite its position connecting two major freeway corridors (I-80 and I-680) the significance of I-780 is mainly for local trips between these other corridors and local destinations. I-680 and I-80 provide access to major regional and interregional destinations. I-680 has facilitated longer distance commuting to Silicon Valley/San Jose, while I-80 provides connections to the other Solano County population centers and beyond, as well as San Francisco and the East Bay. There are HOV lanes (three-person requirement) on I-80 through Alameda and Contra Costa Counties to the Bay Bridge. Almost a third of traffic on I-780 is local, continuing/originating on Curtola Parkway into Vallejo.

### Goods Movement

I-780 is a STAA Terminal Access Route, allowing longer trucks than are normally permitted. Despite major refineries at both ends of the route truck traffic is relatively low at around 2,700 AADT (five percent of traffic), of which 40 percent are five-axle (Caltrans 2010 Traffic Volumes Book). This reflects the primarily local nature of I-780 traffic. Mare Island in Vallejo was an important Naval Shipyard, but was decommissioned in the 1990s. The main commercial port activity today is the Vallejo passenger ferry service to San Francisco. There are important port facilities (car import storage) near the Benicia-Martinez Bridge, but these have little impact on corridor traffic.

### Recreational

Benicia is an historic/tourist destination of regional significance, and Benicia State Recreation Area (SRA) is in the corridor. A bike/pedestrian bridge at Columbus Parkway has been constructed to improve non-motorized access to the Benicia SRA. It is part of the San Francisco Bay Trail. The trail will eventually link the Benicia Bridge to the Carquinez Bridge, along the north shore of the Carquinez Strait, but is at present discontinuous.

### Traffic Information

The Annual Average Daily Traffic (AADT) (2010) for I-780 reaches 61,000 at the intersection with I-80, though a third of traffic continues to/originates on Curtola Parkway. The AADT is relatively low for four-lane freeway facility.

### Transit Services

Transit services in the corridor are shaped by the presence of the Carquinez Strait and the county line to the south. The formerly independent “local” transit services in both Benicia and Vallejo were brought under a single organization, SolTrans, in 2011. This reorganization was mainly done to reduce costs, but it is hoped that it will improve coordination too. Bus services in Vallejo are extensive in the area they cover, but low in frequency and circuitous. In addition, there are no late night services and few buses at weekends.

Regional/inter-city bus services are provided under the banner “Solano Express”, collaboration by local transit agencies and the Solano Transportation Authority (STA). Express buses connect to BART; with the Number 80 bus providing a 15-30 minute interval service from Vallejo to the El Cerrito Del Norte BART station, and the Route 78 bus a 30-60 interval service to Pleasant Hill BART via Benicia.

Also from Vallejo, there is direct ferry service to San Francisco, called Baylink, supplemented by express buses. Except for infrequent Amtrak buses there are no transit services west to Marin and Sonoma along SR-37. Amtrak has a station in Martinez, served by the Capitol Corridor (San Jose/Sacramento) and the San Joaquin (Oakland/Bakersfield/Los Angeles), and also serves as a local transit hub. Amtrak buses (from Martinez to Santa Rosa/Eureka) call at Vallejo (SR-37 at Sonoma Blvd.) using I-780 via the Benicia-Martinez Bridge. There is no transit service that connects directly



with Amtrak. Via the new bike path on the Benicia-Martinez Bridge the station is six miles from downtown Benicia.



**Vallejo Transit Center:** The attractive new Transit Center links the downtown bus terminal to the ferry, though it can be up to a ¼ mile walk between the two. A 1,200 space free parking facility for the ferry is being constructed between the two. (Photos: Courtesy of Mike Jones)

## Bicycle and Pedestrian Facilities

Throughout most of the corridor there are local streets adjacent to the freeway, however, between western end of Military West (PM 4.0) and Columbus Parkway (PM 4.8) there is no practical parallel access, except along the Bay Trail in the Benicia SRA. There is non-motorized access over the Carquinez/Zampa Bridge (I-80) since 2003, and over the Benicia/Martinez Bridge (I-680) since 2009. Neither bridge is particularly well located for bike commuters, but the option is there. There are bicycle/pedestrian crossings of I-780 at 3<sup>rd</sup> Street in Benicia, Home Acres Avenue in Vallejo, and Curtola Parkway (extension of I-780) at Beach Street. Laurel Street is a local street crossing of I-780 just east of the I-780/I-80 interchange; however, it has very narrow sidewalks. The recently constructed bike/pedestrian crossing at State Park Road improves access to the Benicia State Recreation Area, as well as the Bay Trail and Bay Ridge Trail.

South of I-780 most of Benicia is walkable and the downtown is being developed as a PDA. Benicia has also developed a number of shoreline parklets in association with the Bay Trail. These parklets give residents easy access to the shoreline. Although Vallejo is much denser, its mostly auto-centric design - wide streets and narrow sidewalks - discourages walking trips even in many older areas. Often sidewalks are too narrow for two people to walk side by side and driveways project into the sidewalks, which makes walking difficult for people with strollers, luggage or disabilities. In terms of the overall bicycle and pedestrian network in Vallejo, I-80 acts as a significant barrier to east-west bicycle/pedestrian travel within the city with few crossing opportunities.

Improvement projects are planned for Military West Road in Benicia and Sonoma Boulevard in downtown Vallejo to make these roads more amenable to all modes, not just cars. Caltrans is replacing the I-780 overcrossing at Laurel Road, which runs parallel to I-80 in Vallejo east of the I-80/I-780 interchange. The project will also provide new sidewalks replacing the existing substandard ones. This bridge is an important local connector for cars and pedestrians and on a bike route. Projects are planned to complete proposed alignments of the Bay Trail, extending it west from Benicia SRA to the Carquinez Bridge.



**Freeway Crossings** (l to r): Dedicated bike/ped crossing over I-780 at Home Acres, Benicia Road crossing of I-80 parallel to I-780, the new dedicated bike/ped crossing of I-780 at State Park Road. (Photos: Courtesy of Mike Jones)

## Additional Issues

### Reduction of VMT

I-780 is generally not near capacity therefore HOV/HOT strategies will not be appropriate for this corridor. It will be difficult to introduce measures to increase vehicle occupancy and decrease VMT within the corridor. However, the HOV by-passes on the Benicia and Carquinez Bridges and the extension of HOV lanes on I-80 to the Carquinez Bridge provide incentives and solutions to encourage HOV trips to the west from the corridor.

### HOV Capacity

The regional bus services in the I-780 corridor rely on the I-80 HOV lanes, yet there are present and future capacity constraints on the HOV system. Existing transit services are already being delayed in the I-80 HOV lanes, despite a three-person requirement for carpools, with over 1,700 vehicles (2010) using the lane in the peak hour. The Caltrans High-Occupancy Toll Lane Project Study Report (2011) equates this to 101 percent utilization. The regional HOT/HOV strategy is unclear regarding the I-80 HOV policy. The 2007 HOT lane report, conducted by MTC in cooperation with Caltrans, mentions the idea of a second HOV lane, either from converting an existing or adding an additional lane. Adding a new lane would be very costly and would increase VMT. Alternatively, the existing HOV lane could be restricted to transit and vanpools only or the three-person requirement increased to four-person. Conversion to HOT lanes is also mentioned in the report, but only in regard to the counter-commute direction where there is some excess HOV capacity.

### Transit

There are local and regional transit services. They are currently very limited in the evenings and on weekends, which makes transit very uncompetitive with the car, especially as there is limited congestion within the corridor. SolTrans has plans to move from a five to a six-day standard schedule, thereby greatly improving Saturday services.

The Vallejo Ferry to and from San Francisco reaches capacity on both weekdays and weekends. It offers a combined local bus/ferry pass for those connecting from other transit services. Cars are the main access mode to the ferry service. The new transit center has significantly increased the availability of parking and all parking remains free, a disincentive to using transit. This is somewhat in conflict with the designation of the Downtown/Waterfront area as a PDA.

Most regional transit services from Solano County connect with BART at Pleasant Hill or El Cerrito del Norte BART stations. This has future implications as BART is already near or at capacity. Bus feeder service connecting to BART might therefore not be a sustainable model for transit expansion in the I-780/80 corridors. The alternative of adding express buses to run directly to San Francisco is limited by available HOV-lane capacity on I-80. Also, bus services on the freeway are less flexible than those going to BART, which connects passengers to the full BART system, easily reaching intermediate destinations (Walnut Creek, Oakland, Dublin, Fremont, or even San Francisco or Oakland Airports). Freeway buses would be limited to San Francisco.

Rail services from Martinez to Oakland, San Francisco, and Sacramento are not competitive to road based options (transit or car) in frequency or time. However, there is planned additional regional rail service between Oakland and Auburn to improve frequencies and provide local stops on the route of the existing Capitol Corridor.

### **Non-motorized**

In Vallejo, auto-centric street design discourages walking and biking trips in many areas and I-80 acts as a significant barrier to east-west bicycle/pedestrian travel. This limits overall accessibility for non-motorized travel.

### **Budget and Economy**

The budget deficit in California has presented serious problems to transit operators, in particular the availability of funds for operations and new vehicles. Transit operators are concerned about the stability of existing funding and, therefore, wary of expansion of services.

The worldwide economic recession has had an impact on both jobs and housing demand. The latest Average Daily Traffic counts (2010) for highways reflect this situation and are lower than in previous years. Transit ridership is also down in many cases. While 2010 figures are shown, the situation described in the TCR reflects the higher levels of traffic and ridership and the growth predicted in ABAG's 2009 projections. This assumes that demand will grow after the recession.

### **Climate Change/Sea Level Rise**

The State estimates an increase in sea level of six inches by 2030 and 13 inches by 2050 from 2000 levels. Specifically, ABAG predicts a 16 inch rise would directly impact I-780 for a small section where it runs adjacent to the Benicia SRA. Any maintenance or improvement work in this area should take this into account and beware of impacts to local streets (Benicia Road and Columbus Parkway) and non-motorized access. The rest of the corridor would not be significantly impacted except for some potential flooding of reclaimed land adjacent to the downtown in Benicia.



**Locations in Corridor Susceptible to Sea Level Rise (L to R):** Low lying tidal land just north of I-780 (adjacent to Benicia Rd.), Bay Trail in Benicia SRA (there is no other practical non-motorized route in the corridor), and Benicia Marina, in Downtown Benicia, where reclaimed land could be susceptible to rising sea-levels. (Photo: Courtesy of Mike Jones)

## IV. Corridor Segmentation

A transportation corridor can be divided into segments based on the following criteria:

- District boundaries
- County boundaries
- Urban/Rural boundaries
- Major changes in traffic volume
- Changes in the number of lanes
- Significant changes in grade/terrain
- Changes in route function including recreational, trucking, commuting, etc.
- Freeway Agreements

Applying these criteria, the I-780 corridor is of one segment only.

I-780 Corridor Segment



Source: Caltrans D4 GIS

Segment A	
FEATURES	DATA
County, City	Solano, Benicia to Vallejo
Facility Type	I-780 (Solano)
Existing Facility	4F
2035 Year Concept	4F
Segment Characteristics	
Segment Limits	I-680 Benicia to Curtola Parkway
Begin/ End Post Mile	Solano I-780 0.7 to 7.4
Length	6.7 miles
HOV lanes (PM to PM)	none
Truck Facilities Weigh Stations	none
Truck Facilities Truck Parking	none
Multi-Modal Facilities	
Bicycle Facilities	No bicycle access on freeway
Priority Development/Growth Opportunity Areas PDA/GOA	PDA's planned for Downtown Benicia and Downtown/ Waterfront Vallejo. GOA Benicia Business Park.
Park and Ride Facilities	I-80 Benicia Road, I-80 Magazine St., I-80 Curtola Parkway, I-780 at East 2nd Street, I-680 Industrial Way.
Traffic Data	
Average Annual Daily Traffic (AADT) 2010	60,000 (excluding west of I-80)
AADT 2035	90,000
Peak Hour Volumes 2010	4,800
Peak Hour Volumes 2035	7,800



Volume to Capacity (V/C) Ratio 2010**	0.6
V/C Ratio 2035	0.97
LOS 2030	C
Daily Truck Volumes 2010	2,900
Truck Traffic Truck Percentage of AADT	5%
5+ Axle Truck Percentage of Truck AADT	40%
Accident Data* (Aug 07 - Aug 10)	
Fatality + Injury Rate	0.26
Statewide Fatality + Injury Rate	1.02
Total Accident Rate	0.75
Statewide Total Accident Rate	2.26

\* per million vehicle miles

\*\* 2,000 vehicles per lane per hour = capacity



Facility: Segment 1 of 1; 4-Freeway

Freeway Inventory I-780



## V. Corridor Concept Development

The corridor concept conveys the Department’s vision for a route with respect to corridor capacity and operations for a 25-year planning horizon. The concept takes into account factors such as interregional, regional, and local travel demand, including commuting, freight movement, recreational needs, and land use.

The corridor concept is derived from

- Facility “route concepts” established in the 1980s Route Concept Reports
- Facility and operational concepts established for the 24 major District corridors in an effort conducted by Caltrans Planning and Operations in 2001-02
- Information contained in plans to improve freeway operations and performance regionwide
- Local and regional input
- Freeway Agreements

### I-780 25-Year Concept

Segment	County	Segment Description	Existing Facility	25-year Concept
Segment A (PM 0.7-7.4)	SOL	I-680 to Curtola Parkway	4F	4F

**F = Freeway, 4 = # lanes**

## Transportation Concept Rationale

The I-780 freeway was planned and partially constructed before the Benicia-Martinez Bridge was built (1962) and improved (2007). Originally, it was part of I-680 before that freeway was extended to Cordelia and I-780 became a local feeder to I-80 and I-680. Traffic has grown with the suburbanization of jobs and residential growth, but is still operating below capacity. Recent improvements to the I-780/I-680 interchange have eliminated any significant recurring congestion. Therefore, the 25-year concept is to maintain the present 4F (four-lane freeway) concept.

Future investment plans for the corridor, in the Regional Transportation Plan 2035, are focused on transit (bus, rail and ferry) and HOV projects outside the corridor. Coordination between these various elements is needed to determine a balance of services that will enhance their effectiveness while recognizing capacity constraints in the I-80 and I-680 corridors.

A particular issue for this corridor (and the adjacent ones) will be where to place expanded transit capacity for trips towards San Francisco given the capacity constraints on the existing highway and rail systems. Current plans for transit expansion cover bus, train and ferry services, as well as the construction of additional “park and ride” capacity. Transit plans need to identify the type of service they support (“park & ride” service, door-to-door service) and be coordinated with plans for ferry and highway improvements in

order to provide the necessary infrastructure for that type of service. Planning for future transit also needs to take into account changing demographics, equity, future population growth as well as the mandate to reduce overall VMT as per AB 32. The implementation of SB 375 in the 2040 RTP, Plan Bay Area, will require some rethinking of future transportation priorities in the corridor.

The transit options are conceptually:

- On-highway via I-80 direct buses to San Francisco
- Transfer via I-80 and I-680 to BART at Pleasant Hill and El Cerrito del Norte
- Off-system via ferry and rail

The following table lists some of the constraints associated with the different transit options. Access to these I-80/I-680 services will require planning but will not be so constrained due to the low congestion in the corridor.

**Transit Option for the I-780 Corridor - Constraints and Opportunities**

Transit Option	Constraint	Possible Solution(s)
Highway	HOV capacity on <b>I-80</b> and lack of HOV on <b>SR-24 (via I-680)</b>	<b>I-80:</b> Increase HOV requirement to 4 per vehicle, eliminate carpools or add additional HOV lane  <b>SR-24:</b> Add or convert lane to HOV
Transfer	<b>BART</b> : Capacity to/from San Francisco	Add capacity to existing BART services  Provide alternative to BART at closer in stations (Bus Rapid Transit)
Off Highway	<b>Rail:</b> Capacity on Capitol Corridor route  <b>Ferry:</b> Parking at Vallejo Ferry terminal	<b>Rail:</b> Add capacity or move some freight traffic to off-peak  <b>Ferry:</b> Improve transit connectivity or add routes (Benicia?)

## General Corridor Strategies

### VMT Reduction Strategies

- Support further development of intercity transit services (ferry, rail, BRT).
- Encourage and work with cities and county to improve access and connectivity for biking and walking by removal of existing barriers to these modes.

### Operational Strategies

- Improve reliability/time benefits of connecting HOV systems.

### ITS Strategy

- The ITS strategy for the corridor will need to be developed around the long-term transit/HOV plans.

### Goods Movement Strategies

- Maintain existing conditions for freight services on I-780.

### Transit Strategies

- Off-peak and late-night transit services should be provided.
- Support PDAs through local transit and non-motorized connections to regional transit services.

### Land Use Strategies

- Local land use strategies should be developed around transit and support future transit investments.
- Implementation of PDAs and measures to increase density/vitality of existing urban areas.

### Bicycle and Pedestrian Strategies

- Improve bicycle and pedestrian access across I-780 and I-80, by providing either separate crossings or improving existing crossings with bike lanes, continuous sidewalks, lighting, cleaning and maintenance.
- Support improvements to bicycle and pedestrian connectivity in existing urban areas and completion of San Francisco Bay Trail and Bay Area Ridge Trail.

## Corridor Project List

**STIP 2012** No projects

### SHOPP 2012

- Bridge replacement at Laurel St. (EA4G450) Caltrans is replacing the Laurel Road overcrossing.

### RTP 2035

- RTP # 22629 Construct new Vallejo Baylink Ferry Terminal including additional parking, upgrade of bus transfer facilities and pedestrian access improvements

**Draft 2040 RTP:** Project list includes the following projects in the I-780 corridor:

- RTP # 240313 Multimodal improvements on Military West Highway in Benicia (\$3M)
- RTP # 22794 Expansion of Curtola Transit Center in Vallejo (\$18M)

## Appendices

### Appendix A - Pertinent Federal, State, and Regional Transportation Plans, Policies, Legislation, and Programs

#### Federal

##### **Safe, Accountable, Flexible, Efficient Transportation Equity Act, A Legacy for Users (SAFETEA-LU)**

This federal law authorized transportation funding through 2009 and established new requirements for statewide and metropolitan transportation planning. The act authorized all federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009. Congress has renewed its funding formulas ten times after its expiration date, until replacing the bill with Moving Ahead for Progress in the 21st Century Act in 2012.

##### **MAP-21- Federal Transportation Bill**

Moving Ahead for Progress in the 21st Century Act (MAP-21), the new 2-year transportation bill was passed in July 2012.

##### **Federal Transportation Improvement Program (FTIP)**

All federally funded projects, and regionally significant projects (regardless of funding), must be listed in the FTIP per federal law. A project is not eligible to be programmed in the FTIP until it is programmed in the State Transportation Improvement Program (STIP) or in the State Highway Operations and Protection Program (SHOPP). Other types of funding (Federal Demonstration, Congestion Mitigation and Air Quality (CMAQ), Transportation Enhancement Activities (TEA), and Surface Transportation Program (STP) must be officially approved before the projects can be included in the FTIP.

##### **The American Recovery and Reinvestment Act of 2009 (ARRA)**

On Feb. 13, 2009, Congress passed the American Recovery and Reinvestment Act of 2009 at the urging of President Obama, who signed it into law four days later. A direct response to the economic crisis, the Recovery Act has three immediate goals:

- Create new jobs and save existing ones
- Spur economic activity and invest in long-term growth
- Foster unprecedented levels of accountability and transparency in government spending
- The Recovery Act intends to achieve those goals by:
  - Providing \$288 billion in tax cuts and benefits for millions of working families and businesses
  - Increasing federal funds for education and health care as well as entitlement programs (such as extending unemployment benefits) by \$224 billion
  - Making \$275 billion available for federal contracts, grants and loans

## **State**

### **California Transportation Plan (CTP), April 2006**

The “CTP 2030” is a statewide, long-range transportation policy plan that provides for the movement of people, goods, services, and information. The CTP offers a blueprint to guide future transportation decisions and investments that will ensure California's ability to compete globally, provide safe and effective mobility for all persons, better link transportation and land use decisions, improve air quality, and reduce petroleum energy consumption.

### **California Interregional Blueprint (CIB)**

SB 391(Liu 2009) requires the State’s long-range transportation plan to meet California’s climate change goals under Assembly Bill (AB) 32 (see graphic below). In response to these statutes, Caltrans is preparing a state-level transportation blueprint to articulate the State’s vision for an integrated, multi-modal interregional transportation system that complements regional transportation plans and land use visions. The CIB will integrate the State’s long-range modal plans and Caltrans-sponsored programs with the latest technology and tools to enhance our ability to plan for and manage the transportation system. The CIB Draft Interim Report was released in May 2012, the final document is expected to come out in December 2012. The CIB will become the foundation for the development of the CTP 2040, that will be delivered by December 2015.

### **Interregional Transportation Strategic Plan (ITSP)**

Caltrans prepared the 1998 ITSP to consolidate and communicate key elements of its ongoing long- and short-range planning. It serves as a counterpart to the Regional Transportation Plans prepared by the 43 Regional Transportation Planning Agencies in California. Caltrans addresses the State Highway system in detail, with special emphasis on the statutorily-identified Interregional Road System (IRRS). The IRRS serves interregional movement of people and goods. There are 87 IRRS routes, including SR-29.

### **State Transportation Improvement Program (STIP)**

The STIP is a listing of all capital improvement projects that are expected to receive an allocation of state transportation funds. The California Transportation Commission (CTC) biennially adopts and submits the STIP to the Legislature and Governor. The STIP is a resource management document to assist state and local entities to plan and implement transportation improvements and to utilize available resources in a cost-effective manner.

### **Regional Transportation Improvement Program (RTIP)**

The Regional Transportation Improvement Program is a sub-element of the State Transportation Improvement Program (STIP). The Metropolitan Transportation Commission is responsible for developing regional project priorities for the RTIP for the nine counties of the Bay Area. The biennial RTIP is then submitted to the California Transportation Commission for inclusion in the STIP.

### **Interregional Transportation Improvement Program (ITIP)**

The ITIP is a sub-element of the State Transportation Improvement Program. The statutes of 1997, Chapter 622-Senate Bill (SB) 45- established the Interregional Improvement Program (IIP) which includes projects to improve State highways, intercity passenger rail system, and projects to improve interregional movement of people and goods.

### **State Highway Operation and Protection Program (SHOPP)**

Caltrans prepares the SHOPP for the expenditure of transportation funds for major capital improvements necessary to preserve and protect the State Highway System. The SHOPP is a four-year funding program. SHOPP projects include capital improvements for maintenance, safety, and rehabilitation of State highways and bridges. The [10-Year SHOPP](#) anticipates long-term projected expansion and maintenance needs.

### **Senate Bill 45 (SB 45)**

SB 45 establishes guidelines for the California Transportation Commission to administer the allocation of funds appropriated from the Public Transportation Account for capital transportation projects designed to improve transportation facilities.

### **California Strategic Growth Plan, January 2007**

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

### **Transportation System Development Plan (TSDP)**

The TSDP is a listing of Caltrans recommended capacity- increasing improvements on State Highways. The purpose of the TSDP is to identify a comprehensive, reasonable and effective range of transportation improvements in modal categories to improve interregional and regional mobility and intermodal transfer of people and goods on State Highways and major travel corridors.

### **District System Management Plan (DSMP)**

The DSMP provides a vehicle for the development of multi-modal and multi-jurisdictional transportation strategies. These strategies must be based on an analysis that is developed in partnership with regional and local agencies. The DSMP is the State's counterpart to the Regional Transportation Plan (RTP) for the region.

### **Regional Blueprint Planning Program**

The Regional Blueprint Planning Program supports the smart growth element of the Strategic Growth Plan by promoting smart land use choices at the regional and local levels. The Regional Blueprint Planning Program was a grant program that supported Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs) to conduct comprehensive scenario planning. Using consensus-building and a broad-based visioning approach it's goal was to envision future land use patterns and their

potential impacts on a region's transportation system, housing supply, jobs/housing balance, resource management and other protections. The Blueprint planning effort in the San Francisco Bay Area is the Focus our Vision (FOCUS) program, which is lead by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) with support from the Bay Area Air Quality Management District (BAAQMD) the Bay Conservation and Development Commission (BCDC), and Caltrans. These agencies and local governments participated in the Regional Blueprint Planning Program since the program's inception in 2005, receiving grants for all four years, and now carry on regional blueprint goals through the FOCUS program.

#### **Goods Movement Action Plan (GMAP), January 2007**

The Goods movement Action Plan is a key component of California's Strategic Growth Plan and will guide allocation of \$3.1 billion of the \$19.9 billion approved by voters in the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006 (Proposition 1B). The GMAP identifies projects for consideration in the California Transportation Commission's allocation of \$2 billion for infrastructure investment. The Air Resources Board will allocate the remaining \$1 billion for emission reduction projects related to Goods movement.

#### **California State Rail Plan, March 2008**

California's Vision for Intercity Passenger Rail Transportation in California is guided by the Governor's Strategic Growth Plan, The Global Warming Solutions Act, Assembly Bill (AB)32, the California Transportation Plan (2025), and the Department of Transportation's Mission/Vision and Strategic Goals. Caltrans prepares a ten-year Rail Plan that includes both passenger and freight rail elements. The Rail Plan is updated every two years.

#### **Caltrans Deputy Directive 64-R1 - Complete Streets - Integrating the Transportation System**

Caltrans fully considers the needs of non-motorized travelers including pedestrians, bicyclists and persons with disabilities in all programming, planning, maintenance, construction, operations, and project development activities and products.

#### **State Assembly Bill 32 (AB 32) - Global Warming Solutions Act, September 2006**

This bill requires the State's greenhouse gas emissions to be reduced to 1990 levels by the year 2020. Caltrans' strategy to reduce global warming emissions has two elements. The first is to make transportation systems more efficient through operational improvements. The second is to integrate emission reduction measures into the planning, development, operations and maintenance of transportation elements.

#### **Senate Bill 375 (SB-375) - Addressing Greenhouse Gas Emissions from the Transportation Sector**

SB 375 provides a means for achieving AB 32 goals from cars and light trucks. The transportation sector contributes over 40 percent of the GHGs throughout the state. Automobiles and light trucks alone contribute almost 30 percent. SB-375 requires the California Air Resources Board (ARB) to develop regional greenhouse gas (GHG) emission reduction targets for cars and light trucks for each of the 18 Metropolitan Planning Organizations (MPOs). Through their planning processes, each of the MPOs are required to develop plans to meet their regional GHG reduction target. This would be accomplished through either the financially constrained "sustainable communities strategy" as part of their regional transportation plan (RTP) or an unconstrained alternative planning strategy. SB-375 also provides streamlining of California Environmental Quality Act (CEQA) requirements for specific residential and mixed-use developments.



### **Caltrans - Climate Action Plan**

Greenhouse gas (GHG) emissions and the related subject of global climate change are emerging as critical issues for the transportation community. The California Department of Transportation (Caltrans) recognizes the significance of cleaner, more energy efficient transportation. On June 1, 2005 the State established climate change emissions reduction targets for California which lead to development of the Climate Action Program. This program highlights reducing congestion and improving efficiency of transportation systems through smart land use, operational improvements, and Intelligent Transportation Systems (objectives of the State's Strategic Growth Plan). The Climate Action Plan approach also includes institutionalizing energy efficiency and GHG emission reduction measures and technology into planning, project development, operations, and maintenance of transportation facilities, fleets, buildings, and equipment.

### **Corridor Mobility Improvement Account (CMIA)**

The California Transportation Commission (CTC) adopted the \$4.5 billion Corridor Mobility Improvement Account (CMIA) program, the first commitment of funds from the \$19.9 billion transportation infrastructure bond approved by California voters as Proposition 1B in November 2006. The statewide CMIA program includes nearly \$1.3 billion in Bay Area projects, plus an additional commitment of \$405 million through the State Highway Operations and Protection Program (SHOPP) for replacement of Doyle Drive in San Francisco. This brings the total amount programmed for Bay Area transportation projects to roughly \$1.7 billion. Source: [www.mtc.ca.gov](http://www.mtc.ca.gov)

In 2007 the CTC adopted a resolution stating that "...the Commission expects Caltrans and regional agencies to preserve the mobility gains of urban corridor capacity improvements over time that will be described in Corridor System Management Plans (CSMPs)." A CSMP is a transportation planning document that will study the facility based on comprehensive performance assessments and evaluations. The strategies are phased and include both operational and more traditional long-range capital expansion strategies. The strategies take into account transit usage, projections, and interactions with arterial network, and connection to State Highways. Each CSMP presents an analysis of existing and future traffic conditions and proposes traffic management strategies and capital improvements to maintain and enhance mobility within each corridor with a CMIA-funded project.

### **Freeway Performance Initiative (FPI)**

The FPI is the Metropolitan Transportation Commission's effort to improve the operations, safety and management of the Bay Area's freeway network by deploying system management strategies, completing the HOV lane system, addressing regional freight issues, and closing key freeway infrastructure gaps. Information from the FPI will be incorporated into CSMPs.

### **Trade Corridors Improvement Fund (TCIF)**

Proposition 1B established the TCIF that included a total of \$3.1 billion for Goods movement-related programs, of which \$2 billion is set aside for infrastructure improvements statewide. There are no TCIF-funded projects in Napa County.

## Region

### **2035 Regional Transportation Plan (RTP)**

*Transportation 2035 Plan for the San Francisco Bay Area* - The Metropolitan Transportation Commission is responsible for adopting the RTP for the nine-county San Francisco Bay Area. The RTP defines a 25 year vision for the region's transportation network. The Plan is updated every four years. A 2013 update, titled Plan Bay Area is currently underway. This RTP update will be finalized in the spring of 2013 and will include Sustainable Communities Strategy, per SB-375 requirement). This law requires that the region reduce transportation related greenhouse gas emissions through joint planning efforts.

### **Priority Development Areas (PDA)**

The Focus Our Vision (FOCUS) program, sponsored by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) with support from the Bay Area Air Quality Management District (BAAQMD) the Bay Conservation and Development Commission (BCDC) and Caltrans, seeks to work with local governments and others in the Bay Area to collaboratively address issues such as high housing costs, traffic congestion, and protection of natural resources. As the Regional Blueprint Planning Program for the Bay Area, the primary goal of FOCUS is to encourage future growth near transit and in the existing communities that surround the San Francisco Bay. The goal is to enhance existing neighborhoods and provide housing and transportation choices for all residents.

In the summer of 2007, local governments in the Bay Area were invited to apply for regional designation of an area within their community as a Priority Development Area (PDA). PDAs are infill development opportunities within existing communities. These communities welcome more residents; they are committed to creating more housing choices in locations easily accessible to transit, jobs, shopping and services. To be eligible to become a PDA, an area had to be within an existing community, near existing or planned fixed transit or served by comparable bus service, and planned for more housing.

To meet the PDA transit criteria an area must have fixed rail or ferry service, be proximate to a planned transit project identified by the Metropolitan Transportation Commission's (MTC) Resolution 3434, or have bus service with minimum headways of 20 minutes during peak weekday commute periods.

## County

**The Solano Comprehensive Transportation Plan** (CTP 2030) for Solano County envisions, directs, and prioritizes the transportation needs of Solano County through the year 2030.

### **Solano Highways Operations Study (SOHIP 2010)**

Highway Operational Study for State Highways in Solano County.

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

Intercity Bus Service Study for Solano County.

## Appendix B - Additional Corridor Data I-780 –Solano County

### I-780 Corridor Data Summary

Route	I-780
Corridor Concept	4F
2035 Year Corridor Concept:	4F
<b>ROUTE CHARACTERISTICS</b>	
Corridor Description	Freeway linking I-80 in Vallejo to I-680 in Benicia.
State Route and Interstate Intersections	I-680, I-80
Cities Traversed	Benicia, Vallejo
Interregional Significance	I-780 has a low interregional significance even though it links two freeways; most traffic is local.
Terrain	No Grade
Parallel Arterials	Military West Highway , Benicia Road, Columbus Highway
Existing Conditions	4-lane freeway
Functional Classification	Freeway
Trucking Designations	STAA Terminal Access Route (Surface Transportation Assistance Act)
Trucking Facilities	None
National Highway System	Interstate
Scenic Highway	No
Lifeline Corridor	No
Traffic Operations System (TOS) Facilities	No
IRRS (Interregional Road System)	No
<b>REGIONAL INFORMATION</b>	
Metropolitan Planning Organization (MPO)	Metropolitan Transportation Commission (MTC)
Congestion Management Agency (CMA)	Solano Transportation Authority (STA)

**Transportation Concept Report I- 780**

Air Quality Basin	San Francisco Bay Area Air Basin
Air Quality District	Bay Area Air Quality Management District
BAAQMD Attainment Achieved	Attained CO
BAAQMD Attainment Not Achieved	Not attained Ozone & PM10
<b>COLLISION DATA</b>	
Fatality and Injury Rate	0.26
Statewide Fatality and Injury Rate	1.02
Total Accident Rate	0.75
Statewide Total Accident Rate	2.26
<b>INTERMODAL FACILITIES</b>	
Park & Ride Lots	I-80 Benicia Road, I-80 Magazine Street, I-80 Curtola Parkway, I-780 at East 2nd Street
<b>MODAL SPLIT (SOLANO COUNTY 2009)</b>	
Bicycle	0.4%
Walk	1.6%
Drive Alone	73.3%
Car Pool	17.7%
Public Transit	2.7%
Work at Home	3.1%
Other	0.9%

### Appendix C – I-780 Freeway Agreements

The Freeway Agreement documents the understanding between Caltrans and the local agency relating to the planned traffic circulation features of the proposed facility. Agreements are often executed many years before construction is anticipated and they form the basis for future planning, not only by Caltrans but by public and private interests in the community.

The legislative intent for requiring Freeway Agreements is to obtain local agency support of local road closures, changes to the local circulation system, and to protect property rights and assure adequate service to the community. The agreements may be modified at any time by mutual consent of the parties involved as may become necessary. Four Freeway Agreements exist for I-780 as listed below:

Agreement #	Length/miles	City or County	PM1	PM2	Date/Notes
1339	3.3	Benicia	Sol-780-0.7	Sol-780-4.0	1973
1343	3.0	Vallejo/Benicia	Sol-780-4.2	Sol-780-7.2	1956
1344	0.6	Vallejo	Sol-780-5.5	Sol-780-6.1	1986 Supercedes part #1343
1345	0.4	Vallejo	Sol-780-6.1	Sol-780-6.5	1986 Supercedes part #1343