State Route 4

Corridor System Management Plan

October 2010

appendices

CALTRANS DISTRICT 4

corridor system management plans


4
Richmond
Martinez
Oakland
Concord
242
EXIT
½ MILE
Port Chicago
Highway
¼ MILE

State Route 4

Appendix
(supporting documents)

A.1 Intelligent Transportation Systems

A.2 Freeway Agreements

A.3 Corridor Mobility Improvement Account Project Fact Sheets

A.4 Corridor Segment Data Sheets

A.5 Programmed/Planned Improvement List

A.6 10-Year Pavement Management Plan – Contra Costa County SR-4

A.7 Metropolitan Transportation Commission Resolution No. 3794

A.8 Corridor Concept

A.9 Acronyms List

A.1 INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Statewide and Regional ITS Architectures

The California Statewide ITS Architecture (November 2004), along with its companion Regional ITS Architectures, are frameworks created to aid the deployment and integration of regional ITS systems and programs. These frameworks are intended to assist future larger scale integrations of transportation information systems. They are modeled after the National ITS Architecture (NITSA) and developed according to the Federal Highway Administration's (FHWA) "Final Rule on the National ITS Architecture" (23 CFR 940) and the Federal Transit Administration's (FTA) "Policy on the National ITS Architecture" (23 CFR 655). These frameworks identify project stakeholders and their roles in ITS deployments, functional requirements for ITS, standards to coordinate with other ITS deployments, and project sequencing. At the state level, the California Statewide ITS Architecture is used to guide the planning of transportation communications systems, equipment, and related facilities with a focus on interregional deployments and integration. The regional and statewide ITS architectures are required by federal regulations, and all major ITS projects must conform to the architecture as a condition of federal funding.

The MTC completed the *Regional ITS Architecture and Strategic Plan* in October 2004, and the Commission subsequently adopted it through the *Transportation 2030 Plan* in February 2005. The Regional ITS Architecture is an integrated part of the San Francisco Bay Area Regional ITS Plan, a roadmap for transportation systems integration in the Bay Area over the next 10 years. The architecture is an important tool used by MTC and partner agencies to better reflect integration opportunities and operational needs into the transportation planning process.

This regional ITS architecture has a time horizon with a particular focus on those systems and interfaces that are likely to be implemented in the next ten years. The architecture covers the broad spectrum of Intelligent Transportation Systems, including Traffic Management, Transit Management, Traveler Information, Emergency Management, and Emergency/Incident Management over this time horizon. The Bay Area Regional ITS Architecture is a living document with changes made based on recommendations of the Regional ITS Architecture Maintenance Committee members.

Caltrans District 4 Traffic Management Center (TMC)

The ITS infrastructure in the Bay Area includes deployment of ITS field elements, such as CCTV, Changeable Message Signs (CMS), Highway Advisory Radio (HAR), Traffic Monitoring Stations (TMS), and Ramp Metering (RM) which enable traffic monitoring and management at the Caltrans District 4 TMC. The TMC is housed in the Caltrans District 4 office in downtown Oakland. The facility is co-staffed by Caltrans Maintenance and Operations workers, California Highway Patrol (CHP) officers, and operators for the 511 regional traveler information system. The main software collects data from field devices and generates the speed map display, places dynamic icons on the map, supplies real-time data to external systems such as 511.org, Performance evaluation Measuring System (PeMS), and the TMC archives, and then emails detector station data to interested parties, and provides a user interface for ramp meters.

Existing and Planned Detection

Traffic detection coverage in the SR-4 corridor varies. Most, if not all, of the detection in the SR-4 corridor is paired in order to provide data for both the east and west directions. In the western end of the corridor, between I-80 and Cummings Skyway and Alhambra Boulevard and I-680, the existing detection is separated by distances of no more than a half mile. Key detection gaps have recently been filled using State Highway Operations, Preservation and Protection (SHOPP) funds augmented by the 2006 state infrastructure bond. Figure A.1.1 displays the Traffic Monitoring Stations along the SR-4 CSMP Corridor.

Bay Area 511

The Bay Area 511 Program (511) is a comprehensive, multi-modal traveler information service which makes traveler information accessible via phone and internet (www.511.org). 511 operates 24 hours a day, seven days a week with free phone service available in the nine-county Bay Area. 511 unifies several traveler information programs into a one-stop resource for transit, traffic, rideshare and bicycle information, and provides up-to-the-minute information on traffic conditions, incidents and driving times. 511 also provides schedule, route and fare information for the Bay Area's public transportation services. 511 is also a source of valuable transportation system data for public and private partner agencies. The Bay Area 511 program is managed by a partnership of public agencies: MTC, CHP, and Caltrans.

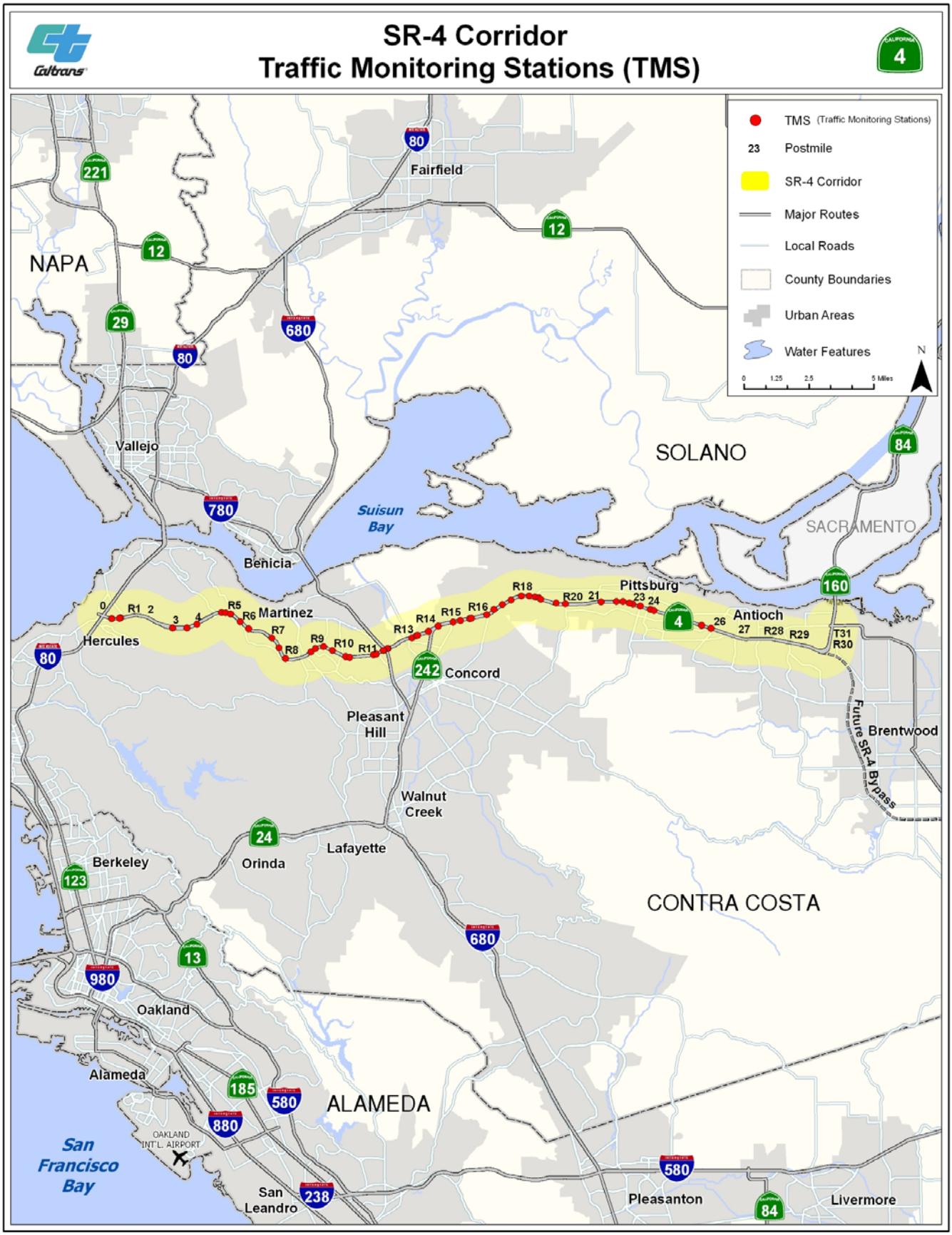


Figure A.1.1. Traffic Monitoring Stations along the SR-4 CSMP Corridor.

A.2 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. It does not bind the State to construct on a particular schedule or staging. In the event that the freeway is fully constructed, it shows which streets may be closed or connected to the freeway; it shows which streets and roads may be separated from the freeway; it shows the location of frontage roads; and it shows how streets may be relocated, extended or otherwise modified to maintain traffic circulation in relation to the freeway. Locations of railroad and pedestrian structures, as well as those for other non-motorized facilities, should also be shown. 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 California Freeway and Expressway System has a large financial investment in access control to insure safety and operational integrity of the highways. The legislative intent for requiring Freeway Agreements is to obtain the local agency's support of local road closures and changes to the local circulation system and to protect property rights and to assure adequate service to the community. Access control is necessary on the freeway or expressway so that current and future traffic safety and operations are not compromised. Freeway Agreements are used as the basis for establishment of Maintenance Agreements with local agencies, but are not used as Maintenance Agreements.

It is recognized that during the design and construction phases of a project, it is sometimes necessary to make revisions that are not in conformance with the current agreement. It is also recognized that the revisions vary greatly in magnitude and importance. A history of freeway agreements in the SR-4 CSMP Corridor is in Table A.2.1.

Table A.2.1. SR-4 CSMP Corridor Freeway Agreement History.

County	Route	Post Mile	Agreement #	Approval Date	Stakeholders
CC	4	CC-4-0/0.9 & CC-80-9.9/10.4	1085	11/24/98	City of Hercules
CC	4	CC-4-0.09/4.5	1096	12/13/60	City of Hercules
CC	4	CC-4-4.5/8.4	1097	4/14/64	Contra Costa County
CC	4	CC-4-7.9/8.8	1098	3/18/64	City of Martinez
CC	4	CC-4-8.8/12.2	1099	2/19/69	City of Martinez
CC	4	CC-4-9.1/12.3	1100	2/18/69	Contra Costa County
CC	4	CC-4-12.3-12.9	1101	5/5/81	Contra Costa County
CC	4	CC-4-12.9/14.7	1102	10/9/78	Contra Costa County
CC	4	CC-4-13.6/16.7	1103	10/9/78	Contra Costa County
CC	4	CC-4-16.7/20.9	1103	10/9/78	Contra Costa County
CC	4	CC-4-22.6/23.0	1088	6/20/49	City of Pittsburg
CC	4	CC-4-23.0/23.1	1089	6/20/49	City of Pittsburg
CC	4	CC-4-23.1/23.8	1090	2/20/51	Contra Costa County
CC	4	CC-4-23.8/24.2	1091	7/25/1969	Contra Costa County
CC	4	CC-4-24.2/25.0	1092	7/23/1968	City of Pittsburg
CC	4	CC-4-25.0/26.5	1093	9/13/1994	City of Antioch
CC	4	CC-4-26.5/28.7	1094	3/1/1965	City of Antioch
CC	4	CC-4-28.7/31.13 & CC-160-0.00/1.3	1095	1/5/1966	Contra Costa County

A.3 CORRIDOR MOBILITY IMPROVEMENT ACCOUNT (CMIA) PROJECT FACTSHEET

A.3.1 SR-4 Somersville Road to SR-160 Widening Project.

SR 4 EAST WIDENING PROJECT
FACT SHEET

The Project
This is a Proposition 1B - Transportation Bond project funded by the Corridor Mobility Improvement Account program. The State Route (SR) 4 East Widening Project will widen SR 4 from four to eight lanes between Somersville Road and Hillcrest Avenue and from four to six lanes from Hillcrest Avenue to the proposed SR 160/SR 4 Bypass. The widening will include a High Occupancy Vehicle (HOV) lane in each direction, a wide median to accommodate the implementation of future mass transit (eBART), and reconstruction of the interchanges at Somersville Road, Contra Loma/L Street, G Street Overcrossing, and partial reconstruction of Lone Tree Way/A Street, Cavallo Road Undercrossing, and Hillcrest Avenue.

The Need
SR 4 is an important statewide east-west interregional route providing connectivity from I-80 in Hercules across Contra Costa County to San Joaquin County. SR 4 is also one of the most congested freeways in the Bay Area due to the rapid development in East Contra Costa County. BART was extended to Bay Point in 1997 and is well utilized in the corridor, serving commuters to the East Bay and San Francisco.

Benefits
The proposed project would complete the last remaining SR4 freeway widening and HOV lane extension to the east, where it would connect with a new SR 4 Bypass currently under construction. The project will alleviate traffic delays, improve operations, and enhance safety by widening the roadway, reconstructing interchanges and including HOV lanes in each direction.

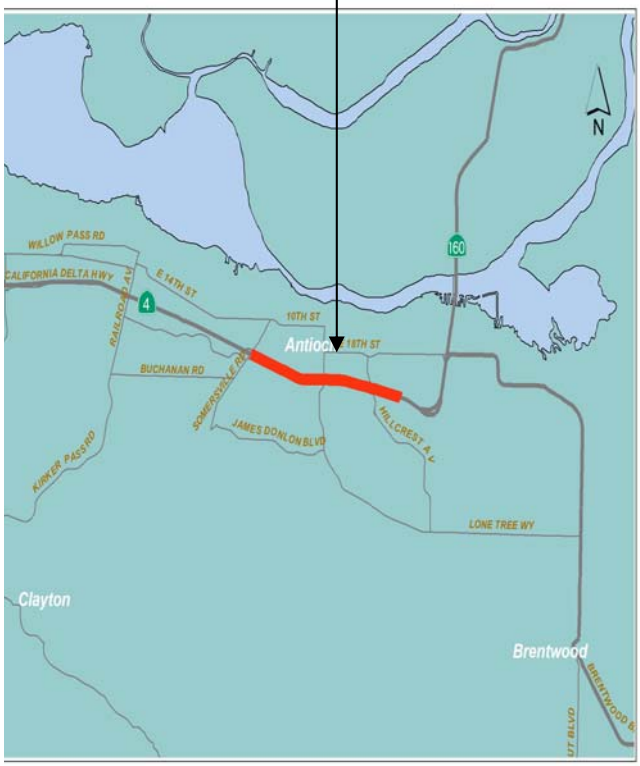
Partnership
This project is developed through a partnership between the Contra Transportation Authority and the San Francisco Bay Area Rapid Transit District.

Project Status
The project is in the design phase. The environmental document was completed in July 2005. The design phase is expected to be completed by Summer 2010.

Project Costs
The total cost for this project is estimated at $445 million.

Project Schedule
Start Construction: Fall 2010
Finish Construction: Fall 2014

Summary
The SR 4 East Widening Project will widen SR 4 to provide one HOV and three mix-flow traffic lanes in each direction, reconstruct interchanges, alleviate existing traffic congestion, accommodate future travel demand and reduce future congestion. It will also provide a wide median to accommodate the implementation of eBART.



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A.4 CORRIDOR SEGMENT DATA SHEETS

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SR-4 **Segment A** DATA	
TITLE	**DATA**
Features	**Data**
County, City	Contra Costa County, Hercules, Rodeo
Facility type	Expressway
Existing Facility	4E
2035 Year Concept	4E
Segment Characteristics	
Segment Limits	I-80/State Route 4 IC - Christie Avenue Underpass
Begin/ End Post Mile	CC 0.0-3.60
Length	2.1
Terrain	Rolling
Land Use	Urban
Grade % (Postmile to Postmile)	3-6%
Auxiliary Lanes	No
HOV lanes	No
Parallel Arterials	Franklin Canyon Road, Cummings Skyway
Scenic Highway	No
Assembly District	11,14
Senate District	7
Multi Modal	
Bikeways/Bike lanes	Allowed on Facility
Transit Provider	WESTCAT - J, 30Z
Rail Station(s)	Amtrak-Martinez
Park and Ride	I-80/Sycamore Avenue (252), I-80/ Willow Avenue (85)
Traffic Information	
Actual Fatality + Injury Rate (3-yr period)	0.28
Statewide Fatality + Injury Rate	0.46
Actual Total Accident Rate (3-yr period)	0.69
Statewide Total Accident Rate	1.17
AADT 2008	37,500
AADT 2035	62,000
Vehicle Hours of Delay 2008 (AM Peak) + Direction	N/A (conventional hwy)
Vehicle Hours of Delay 2008 (PM Peak) + Direction	N/A (conventional hwy)
EB Volumes 2007 (PM)	2,128
WB Volumes 2007 (AM)	1,574
EB Volumes 2030 (PM)	3,402
WB Volumes 2030 (AM)	2,253
Truck Volumes 2008	2,181
Truck Traffic: Truck percentage of AADT	6.23

Contra Costa SR - 4 Segment A PM 0.00 - 3.36

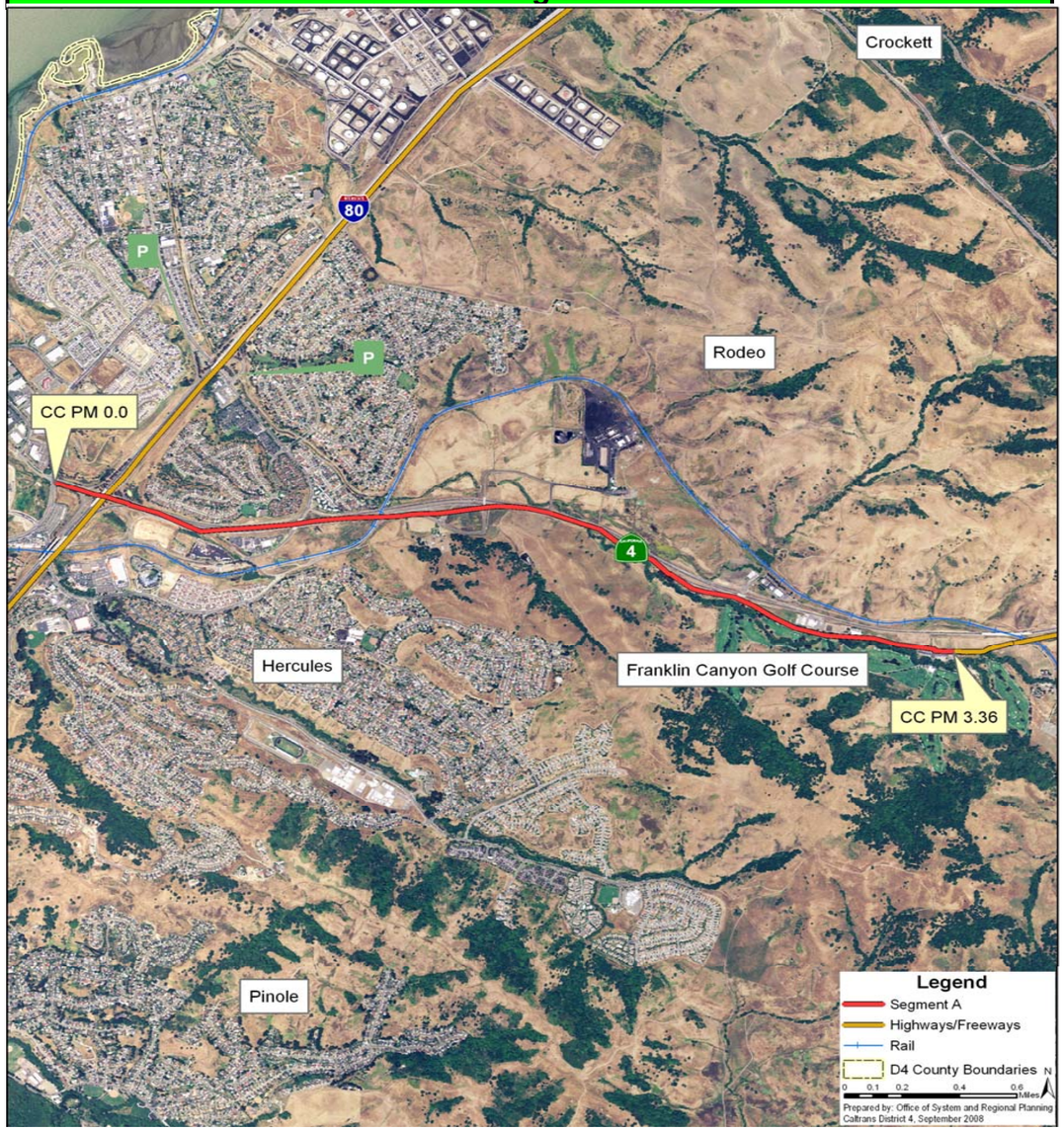

Figure A.4.1

SR-4 **Segment B** DATA	
TITLE	**DATA**
Features	**Data**
County, City	Contra Costa County, Hercules & Rodeo
Facility type	Expressway
Existing Facility	4E
2035 Year Concept	4E
Segment Characteristics	
Segment Limits	Christie Avenue Underpass to Cummings Skyway
Begin/ End Post Mile	CC 3.60-4.89
Length	1.22
Terrain	Rolling
Land Use	Rural
Grade % (Postmile to Postmile)	3 - 6%
Auxiliary Lanes	No
HOV lanes	No
Parallel Arterials	Franklin Canyon Road, Cummings Skyway
Scenic Highway	No
Assembly District	11,14
Senate District	7
Multi Modal	
Bikeways/Bike lanes	Allowed on Facility
Transit Provider	WESTCAT- 30Z
Rail Station(s)	None
Park and Ride	I-80/Sycamore Avenue (252), I-80/ Willow Avenue (85)
Traffic Information	
Actual Fatality + Injury Rate (3-yr period)	0.19
Statewide Fatality + Injury Rate	0.22
Actual Total Accident Rate (3-yr period)	0.55
Statewide Total Accident Rate	0.56
AADT 2008	45,500
AADT 2035	71,000
Vehicle Hours of Delay 2008 (AM Peak) + Direction	0
Vehicle Hours of Delay 2008 (PM Peak) + Direction	0
EB Volumes 2007 (PM)	2,128
WB Volumes 2007 (AM)	1,574
EB Volumes 2030 (PM)	3,402
WB Volumes 2030 (AM)	2,253
Truck Volumes 2008	2,181
Truck Traffic: Truck percentage of AADT	6.23
5+ Axle Truck Percentage of Truck AADT	51.22

Contra Costa SR - 4 Segment B PM 3.66 - 4.89

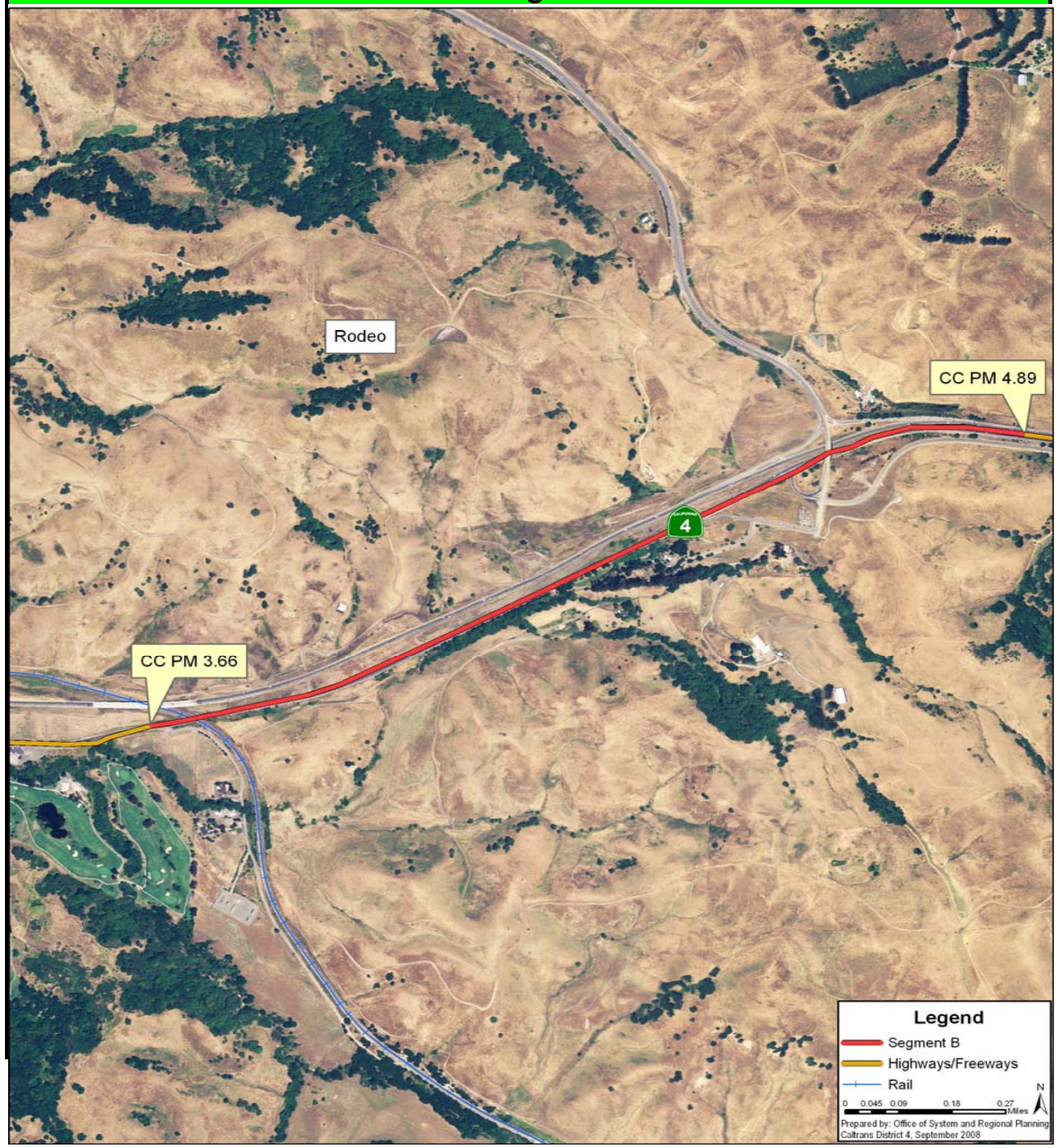

Figure A.4.2

SR-4 **Segment C** DATA	
TITLE	**DATA**
Features	**Data**
County, City	Contra Costa County, Martinez
Facility type	Freeway
Existing Facility	4E
2035 Year Concept	4E
Segment Characteristics	
Segment Limits	Cummings Skyway to Alhambra Boulevard
Begin/ End Post Mile	CC 4.89 - 8.5
Length	3.61
Terrain	Rolling
Land Use	Rural
Grade % (Postmile to Postmile)	3 - 6%
Auxiliary Lanes	No
HOV lanes	No
Parallel Arterials	Franklin Canyon Road, Cummings Skyway
Scenic Highway	None
Assembly District	11,14
Senate District	7
Multi Modal	
Bikeways/Bike lanes	None
Transit Provider	WESTCAT - 30Z
Rail Station(s)	
Park and Ride	None
Traffic Information	
Actual Fatality + Injury Rate (3-yr period)	0.17
Statewide Fatality + Injury Rate	0.19
Actual Total Accident Rate (3-yr period)	0.46
Statewide Total Accident Rate	0.56
AADT 2008	62,000
AADT 2035	78,000
Vehicle Hours of Delay 2008 (AM Peak) + Direction	0
Vehicle Hours of Delay 2008 (PM Peak) + Direction	0
EB Volumes 2007 (PM)	2,309
WB Volumes 2007 (AM)	1,761
EB Volumes 2030 (PM)	3,071
WB Volumes 2030 (AM)	2,364
Truck Volumes 2008	2,181
Truck Traffic: Truck percentage of AADT	6.23
5+ Axle Truck Percentage of Truck AADT	51.22

Contra Costa SR-4 Segment C PM 4.89 - 8.50

Figure A.4.3

SR-4 **Segment D** DATA

TITLE	DATA
Features	**Data**
County, City	Contra Costa, Martinez, Vine Hill, Pacheco
Facility type	Freeway
Existing Facility	6F
2035 Year Concept	6F
Segment Characteristics	
Segment Limits	Alhambra Ave - I-680
Begin/ End Post Mile	CC 8.50-12.66
Length	2.55
Terrain	rolling
Land Use	Urban
Grade % (Postmile to Postmile)	0 - 3%
Auxiliary Lanes	EB - Alahambra Boulevard On (8.72) to Pine Street Off (9.03), Pacheco Boulevard On (12.35) to I-680SB Off (12.53), I 680 SB On (12.63) to I 680 NB Off (12.72)
	WB - Pine Street On (9.05) to Alhambra Boulevard Off (8.72), I-680SB On (12.50) to Pacheco Boulevard Off (12.36), I-680NB On (12.70) to I-680SB On (12.60)
HOV lanes	No
Parallel Arterials	Franklin Canyon Road,Cummings Skyway
Scenic Highway	No
Assembly District	11,14
Senate District	7
Multi Modal	
Bikeways/Bike lanes	None
Transit Provider	WESTCAT 30Z,Tri-Delta DX, County Connection 308
Rail Station(s)	Amtrak- Martinez
Park and Ride	Alhambra Boulevard & SR 4 (24)
Traffic Information	
Actual Fatality + Injury Rate (3-yr period)	0.28
Statewide Fatality + Injury Rate	0.25
Actual Total Accident Rate (3-yr period)	0.76
Statewide Total Accident Rate	0.81
AADT 2008	82,000
AADT 2035	106,000
Vehicle Hours of Delay 2008 (AM Peak) + Direction	0
Vehicle Hours of Delay 2008 (PM Peak) + Direction	0
EB Volumes 2007 (PM)	3,797
WB Volumes 2007 (AM)	3,547
EB Volumes 2030 (PM)	5,049
WB Volumes 2030 (AM)	5,935
Truck Volumes 2008	4,021
Truck Traffic: Truck percentage of AADT	5.09
5+ Axle Truck Percentage of Truck AADT	34.93

Contra Costa SR-4 Segment D PM 8.50 - 12.60

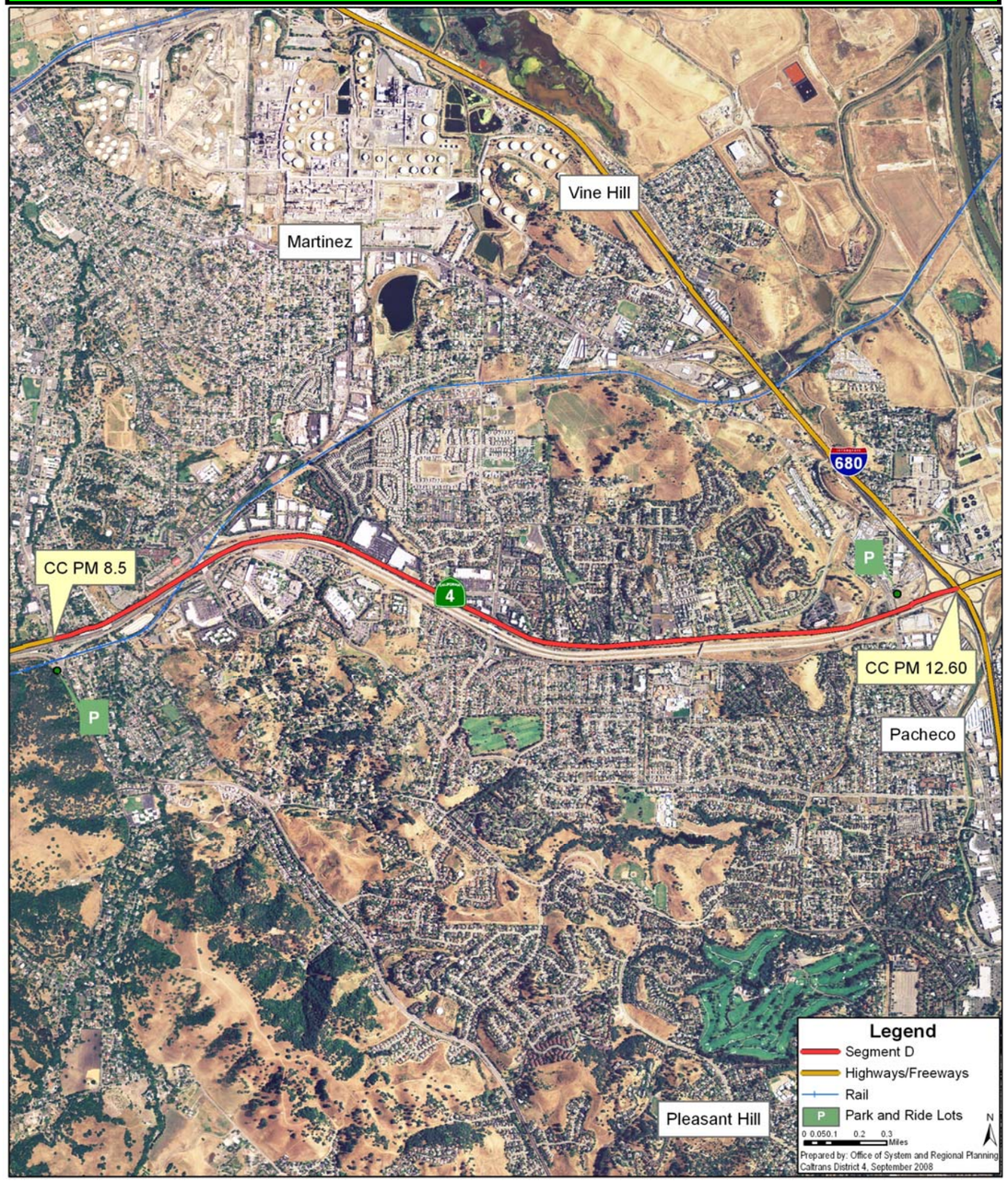

Figure A.4.4

SR-4 **Segment E** DATA

TITLE	DATA
Features	**Data**
County, City	Contra Costa, Concord
Facility type	Freeway
Existing Facility	4F
2035 Year Concept	6F(1H)
Segment Characteristics	
Segment Limits	I-680 - SR-242
Begin/ End Post Mile	CC 12.66-14.36
Length	1.7
Terrain	Rolling
Land Use	Urban
Grade % (Postmile to Postmile)	0 - 3%
Auxiliary Lanes	EB - Solano Way On (13.94) to SR 242 SB Off (14.38), I-680 SB On (12.63) to I-680 NB Off (12.72)
	WB - SR 242 On (14.36) to Solano Way Off (13.94) I-680 NB On (12.70) to I-680 SB On (12.60)
HOV lanes	Yes
Parallel Arterials	Clayton Road, Williow Pass Road
Scenic Highway	No
Assembly District	11,14
Senate District	7
Multi Modal	
Bikeways/Bike lanes	None
Transit Provider	Tri-Delta - DX,200, CCCTA 108,980
Rail Station(s)	Concord & North Concord BART
Park and Ride	Pacheco Boulevard - Blum Avenue (51)
Traffic Information	
Actual Fatality + Injury Rate (3-yr period)	0.3
Statewide Fatality + Injury Rate	0.28
Actual Total Accident Rate (3-yr period)	0.82
Statewide Total Accident Rate	0.90
AADT 2008	96,000
AADT 2035	132,000
Vehicle Hours of Delay 2008 (AM Peak) + Direction	4,300 (WB)
Vehicle Hours of Delay 2008 (PM Peak) + Direction	1,220 (EB)
EB Volumes 2007 (PM)	4,110
WB Volumes 2007 (AM)	4,877
EB Volumes 2030 (PM)	5,495
WB Volumes 2030 (AM)	8,410
Truck Volumes 2008	5,697
Truck Traffic: Truck percentage of AADT	6.76
5+ Axle Truck Percentage of Truck AADT	45.65

Contra Costa SR-4 Segment E PM 12.66 - 14.36

Figure A.4.5

SR-4 **Segment F** DATA

TITLE	DATA
Features	**Data**
County, City	Contra Costa, Concord & West Pittsburg
Facility type	Freeway
Existing Facility	8F (2H)
2035 Year Concept	10F (2H)
Segment Characteristics	
Segment Limits	SR-242 to Willow Pass Road
Begin/ End Post Mile	CC 14.36-18.75
Length	3.39
Terrain	Rolling
Land Use	Urban
Grade % (Postmile to Postmile)	0 - 3%
Auxiliary Lanes	No
HOV lanes	Yes
Parallel Arterials	Clayton Road, Marsh Creek Road, Camino Diablo, Williow Pass Road, Ygnacio Valley Road, Kirker Pass Road
Scenic Highway	No
Assembly District	11,14
Senate District	7
Multi Modal	
Bikeways/Bike lanes	Allowed Port Chicago Highway to Willow Pass Road ONLY
Transit Provider	Tri-Delta- DX, 200, 201
Rail Station(s)	BART- North Concord /Martinez
Park and Ride	None
Traffic Information	
Actual Fatality + Injury Rate (3-yr period)	0.25
Statewide Fatality + Injury Rate	0.29
Actual Total Accident Rate (3-yr period)	0.70
Statewide Total Accident Rate	0.94
AADT 2008	161,00
AADT 2035	145,000
Vehicle Hours of Delay 2008 (AM Peak) + Direction	4,300 (WB)
Vehicle Hours of Delay 2008 (PM Peak) + Direction	1,220 (EB)
EB Volumes 2007 (PM)	7,828
WB Volumes 2007 (AM)	8,327
EB Volumes 2030 (PM)	9,475
WB Volumes 2030 (AM)	11,359
Truck Volumes 2008	5,697
Truck Traffic: Truck percentage of AADT	6.76
5+ Axle Truck Percentage of Truck AADT	45.65

Contra Costa SR-4 Segment F PM 14.36 - 18.75

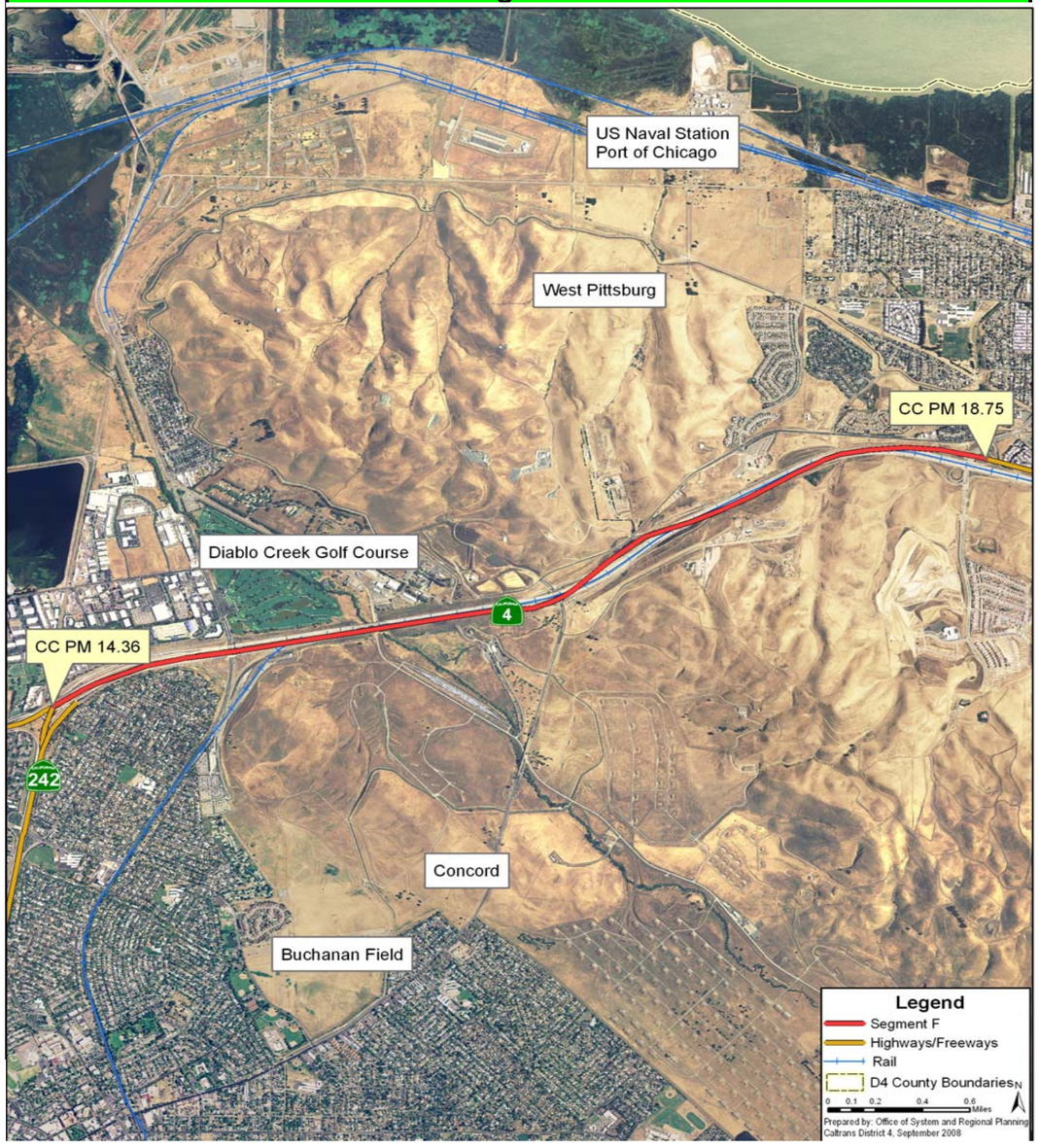

Figure A.4.6

SR-4 **Segment G** DATA	
TITLE	**DATA**
Features	**Data**
County, City	Contra Costa, Pittsburg & West Pittsburg
Facility type	Freeway
Existing Facility	8F (2H)
2035 Year Concept	8F (2H)
Segment Characteristics	
Segment Limits	Willow Pass Road to Bailey Avenue
Begin/ End Post Mile	CC 18.75-20.10
Length	1.35
Terrain	Flat
Land Use	Urban
Grade % (Postmile to Postmile)	0 - 3%
Auxiliary Lanes	EB - Bailey Road SB Off (19.88) to Bailey Road NB Off (20.17)
	WB - Bailey Road SB On (19.95) to Willow Pass Road NB Off (19.00), WB - Bailey Road NB Off (20.28) to Bailey Road SB Off (20.07)
HOV lanes	Yes
Parallel Arterials	Williow Pass Road, North Parkside Drive, Ygnacio Valley Road, Kirker Pass Road.
Scenic Highway	None
Assembly District	11,14
Senate District	7
Multi Modal	
Bikeways/Bike lanes	None
Transit Provider	Tri-Delta - DX, 200, 201
Rail Station(s)	None
Park and Ride	None
Traffic Information	
Actual Fatality + Injury Rate (3-yr period)	0.25
Statewide Fatality + Injury Rate	0.31
Actual Total Accident Rate (3-yr period)	0.65
Statewide Total Accident Rate	0.96
AADT 2008	157,000
AADT 2035	187,000
Vehicle Hours of Delay 2008 (AM Peak) + Direction	4,300 (WB)
Vehicle Hours of Delay 2008 (PM Peak) + Direction	3,780 (EB)
EB Volumes 2007 (PM)	6,424
WB Volumes 2007 (AM)	6,637
EB Volumes 2030 (PM)	8,253
WB Volumes 2030 (AM)	9,750
Truck Volumes 2008	5,612
Truck Traffic: Truck percentage of AADT	4.6
5+ Axle Truck Percentage of Truck AADT	42.99

Contra Costa SR-4 Segment G PM 18.75 - 20.10

Figure A.4.7

SR-4 **Segment H** DATA

TITLE	DATA
Features	**Data**
County, City	Contra Costa , Pittsburg
Facility type	Freeway
Existing Facility	8F (2H)
2035 Year Concept	8F (2H)
Segment Characteristics	
Segment Limits	Bailey Road to Railroad Avenue
Begin/ End Post Mile	CC 20.10-23.05
Length	2.95
Terrain	Flat
Land Use	Urban
Grade % (Postmile to Postmile)	0 - 3%
Auxiliary Lanes	EB - Bailey SB Off (19.88) to Bailey NB Off (20.17)
	WB - Bailey NB Off (20.28) to Bailey SB Off (20.07)
HOV lanes	Yes
Parallel Arterials	Williow Pass Road, Kirker Pass Road, Leland Road.
Scenic Highway	No
Assembly District	9,10,13
Senate District	15,18,24,20
Multi Modal	
Bikeways/Bike lanes	None
Transit Provider	Tri-Delta - DX, 200, 201
Rail Station(s)	None
Park and Ride	None
Traffic Information	
Actual Fatality + Injury Rate (3-yr period)	0.34
Statewide Fatality + Injury Rate	0.37
Actual Total Accident Rate (3-yr period)	0.93
Statewide Total Accident Rate	1.19
AADT 2008	143,000
AADT 2035	172,000
Vehicle Hours of Delay 2008 (AM Peak) + Direction	4,300 (WB)
Vehicle Hours of Delay 2008 (PM Peak) + Direction	3,140 (EB)
EB Volumes 2007 (PM)	5,474
WB Volumes 2007 (AM)	5,578
EB Volumes 2030 (PM)	7,471
WB Volumes 2030 (AM)	9,201
Truck Volumes 2008	5,612
Truck Traffic: Truck percentage of AADT	4.6
5+ Axle Truck Percentage of Truck AADT	42.99

Contra Costa SR-4 Segment H PM 20.10 - 23.05

Figure A.4.8

SR-4 **Segment I** DATA	
TITLE	**DATA**
Features	**Data**
County, City	Contra Costa , Antioch & Pittsburg
Facility type	Freeway
Existing Facility	4F - 8F(2H)
2035 Year Concept	8F (2H)
Segment Characteristics	
Segment Limits	Railroad Avenue - A Street
Begin/ End Post Mile	CC 23.05-27.79
Length	4.74
Terrain	Flat
Land Use	Urban
Grade % (Postmile to Postmile)	0 - 3%
HOV lanes	Yes
Parallel Arterials	E.14th Street, Pittsburg-Antioch Highway, Buchanan Road, Leland Road
Scenic Highway	No
Assembly District	11,14
Senate District	7
Multi Modal	
Bikeways/Bike lanes	None
Transit Provider	Tri-Delta - DX, 200, 201 CCCTA - 830
Rail Station(s)	Amtrak-San Joaquin Corridor, BART Pittsburg/Bay Point
Park and Ride	Bliss Avenue - Harbor Avenue (175)
Traffic Information	
Actual Fatality + Injury Rate (3-yr period)	0.46
Statewide Fatality + Injury Rate	0.46
Actual Total Accident Rate (3-yr period)	1.51
Statewide Total Accident Rate	1.42
AADT 2008	127,000
AADT 2035	150,000
Vehicle Hours of Delay 2008(AM Peak) + Direction	4,300 (WB)
Vehicle Hours of Delay 2008 (PM Peak) + Direction	3,140 (EB)
EB Volumes 2007 (PM)	4,311
WB Volumes 2007 (AM)	4,976
EB Volumes 2030 (PM)	7,674
WB Volumes 2030 (AM)	8,946
Truck Volumes 2008	5,612
Truck Traffic: Truck percentage of AADT	4.6
5+ Axle Truck Percentage of Truck AADT	42.99

Contra Costa SR-4 Segment I PM 23.05 - 27.78

Figure A.4.9

SR-4 **Segment J** DATA	
TITLE	**DATA**
Features	**Data**
County, City	Contra Costa , Antioch & Pittsburg
Facility type	Freeway
Existing Facility	4F
2035 Year Concept	6-8F (2H)
Segment Characteristics	
Segment Limits	A Street - SR-160
Begin/ End Post Mile	CC 27.79-31.13
Length	3.34
Terrain	Flat
Land Use	Urban
Grade % (Postmile to Postmile)	0 - 3%
Auxilliary Lanes	No
HOV lanes	No
Parallel Arterials	E.18th Street, Davidson Drive
Scenic Highway	No
Assembly District	11,14
Senate District	7
Multi Modal	
Bikeways/Bike lanes	None
Transit Provider	Tri-Delta Transit - DX, 200, 201, 300
Rail Station(s)	Amtrak Antioch /Pittsburg
Park and Ride	Hillcrest Avenue / SR 4 (218), Walnut Avenue / SR 4 (84)
Traffic Information	
Actual Fatality + Injury Rate (3-yr period)	0.29
Statewide Fatality + Injury Rate	0.29
Actual Total Accident Rate (3-yr period)	0.75
Statewide Total Accident Rate	0.89
AADT 2007	82,000
AADT 2035	126,000
Vehicle Hours of Delay 2008 (AM Peak) + Direction	4,300 (WB)
Vehicle Hours of Delay 2008 (PM Peak) + Direction	3,140 (EB)
EB Volumes 2007 (PM)	4,208
WB Volumes 2007 (AM)	2,715
EB Volumes 2030 (PM)	7,674
WB Volumes 2030 (AM)	5,652
Truck Volumes 2008	1,880
Truck Traffic: Truck percentage of AADT	5.37
5+ Axle Truck Percentage of Truck AADT	40.88

Contra Costa SR - 4 Segment J PM 27.79 - 31.13

Figure A.4.10

A.5 PROGRAMMED/PLANNED IMPROVEMENT LIST

The Programmed-Planned Improvement list for the SR-4 CSMP corridor (below) was developed from the MTC 2009 RTP, 2009 State Transportation Improvement Program (STIP) and 2008 State Highway Operations Protection Program (SHOPP). Transportation projects listed as Programmed are fully funded; transportation projects listed as Planned are projects that are not fully funded.

Table A.5.1. SR-4 Programmed/Planned Improvement List.

Co.	Rte	Post Mile	EA	RTPID #	Project Description	Planned	Programmed
CC	4	00.0-31.13	0192G	94046	Improve interchanges and parallel arterials to Route 4.	X	X
CC	4	00.0-31.13		94538	Implement the Route 4 Transportation Management System		X
CC	4	12.67	229100	21205	Improve the I-680/Route 4 interchange with direct connectors and widen Route 4 from two lanes to three lanes in each direction between Route 242 and Morello Avenue.		X
CC	4	15.42-16.83	1A9100	22390	Reconstruct Route 4/Willow Pass Road ramps.		X
CC	4	R18.83-31.13		230654	Route 4 in Contra Costa County from Route 160 to Port Chicago Highway convert HOV lanes to Express Lanes	X	
CC	4	24.32-26.04	228593	98142	Widen Route 4 from four lanes to eight lanes, with HOV lanes, from Loveridge Road to Somersville Road.		X
CC	4	26.04-31.13	228511	98999	Widen Route 4 from Somersville Road to Route 160 and improve interchanges.		X
CC	4	31.13		98222	Construct freeway-to-freeway direct connectors between Route 4 Bypass and Route 160.	X	
CC	4	R28.94-31.13	4A960K	230232	Construct new interchange at Route 4/Phillips Lane.	X	
CC	4	NA		230202	Widen Route 4 Bypass to 4 lanes from Laurel Road to Sand Creek Road.	X	
CC	4	NA	246570	230203	Construct Route 4 Bypass interchange at Sand Creek Road		X
CC	4	NA		230205	Widen Route 4 Bypass to four lanes from Sand Creek Road to Balfour Road.	X	
CC	4	NA		230206	Construct Route 4 Bypass interchange at Balfour Road (Phase 1).	X	
CC	4	NA		21211	Extend BART/East Contra Costa Rail (eBART) eastward from the Pittsburg/Bay Point BART station into eastern Contra Costa County.		X
CC	4	00.0-2.00	1A901		Willow Avenue Ramp Relocation.		X

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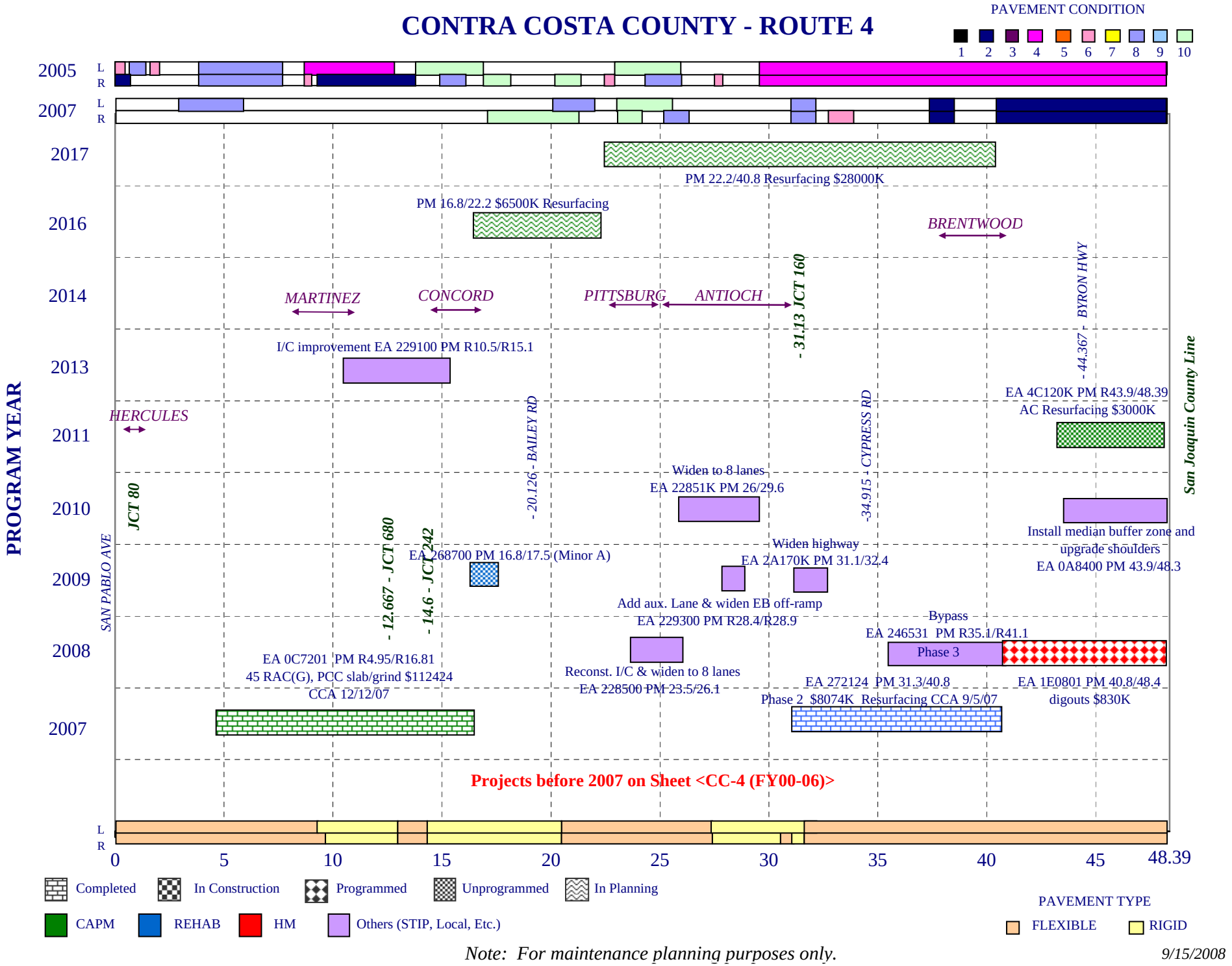
A.6 10-YEAR PAVEMENT MANAGEMENT PLAN—CONTRA COSTA COUNTY SR-4

A.6.1 SR-4 CC 10-Year Pavement Management Plan

[Intentionally left blank.]

CONTRA COSTA COUNTY - ROUTE 4



Note: For maintenance planning purposes only.

9/15/2008

A.7 MTC RESOLUTION NO. 3794

Date: February 28, 2007
W.I.: 1236
Referred by: Operations Comm.

ABSTRACT
Resolution No. 3794

This resolution authorizes the Metropolitan Transportation Commission (MTC) to enter into a cooperative agreement with the California Department of Transportation (DEPARTMENT) to provide supplemental funds for the Bay Area Freeway Performance Initiative Corridor Studies.

Attachment 1 – Scope of Work for the cooperative agreement

Date: February 28, 2007
W.I.: 1236
Referred by: Operations Comm.

RE: Authorizing a Cooperative Agreement with the California Department of Transportation

METROPOLITAN TRANSPORTATION COMMISSION
RESOLUTION NO. 3794

WHEREAS, the Metropolitan Transportation Commission (MTC) is the regional transportation planning agency for the San Francisco Bay Area pursuant to Government Code Section 66500 *et seq.*; and

WHEREAS, MTC has committed, as part of the agency strategic plan adopted on March 22, 2006 to the development of a strategic plan for the Bay Area freeway system, called the Freeway Performance Initiative; and

WHEREAS, as part of implementing the Freeway Performance Initiative, MTC is conducting a number of technical assessments of the major freeway corridors in the Bay Area called the Freeway Performance Initiative Corridor Studies (Corridor Studies).

WHEREAS, MTC, as part of its submittal of project nominations for the Corridor Mobility Improvement Account, committed to the development of corridor management plans in cooperation with the California Department of Transportation (DEPARTMENT); and

WHEREAS, MTC has historically worked collaboratively with the DEPARTMENT to plan for the effective management and expansion of the Bay Area freeway system; and

WHEREAS, the DEPARTMENT has allocated $1.5 million State Highway Account funds to supplement the Corridor Studies; and

WHEREAS, MTC now wishes to enter into a cooperative agreement with the DEPARTMENT to accept the supplemental funds; now, therefore, be it

MTC Resolution No. 3794
Page 2

RESOLVED, that MTC authorizes the Executive Director, or his designee, to enter into a cooperative agreement, based on the scope of work attached, with the DEPARTMENT to accept the aforementioned $1.5 million for the Corridor Studies, and

RESOLVED, that MTC commits to the completion of Corridor Studies plans consistent with guidance provided by the DEPARTMENT and the timely submittal of study results and recommendations.

METROPOLITAN TRANSPORTATION COMMISSION

Chair Bill Dodd

The above resolution was entered into by the Metropolitan Transportation Commission at a regular meeting of the Commission held in Oakland, California, on February 28, 2007.

A.8 CORRIDOR CONCEPT

The Corridor Concept conveys Caltrans' facility vision for a route with respect to corridor capacity and operations for a 25-year planning horizon.

The Corridor Concept is derived from examination of strategies and projects recommended in the CSMP technical analysis report. The CSMP technical analysis was done with sensitivity to information contained in current approved planning documents and operations plans, local and regional input, and review of Freeway Agreements.

This Corridor Concept supersedes previous "route concepts" documented in District 4 1980 Route Concept Reports (RCRs) and facility and operational concepts in the 2001-02 Transportation Corridor Concept Reports (TCCRs).

Concept Rationale

Caltrans and its partners have strategies and projects to address performance issues within the SR-4 CSMP Corridor. Short-term improvements include operational, ITS and currently programmed highway and transit projects. Long-term improvements include enhanced HOV lanes and transit services.

Table A.8.1. 25-year SR-4 CSMP Corridor Concept.

Segment	County	Segment Description	Existing Facility	25-yr Concept
Segment A SR-4 0.00 – 3.60	CC	I-80 to Christie UP	4E	4E
Segment B SR-4 3.60 – 4.890	CC	Christie UP to Cummings Skyway	4E	4E
Segment C SR-4 4.890 – 8.50	CC	Cummings Skyway to Alhambra Blvd.	4E	4E
Segment D SR-4 8.50 – 12.66	CC	Alhambra Blvd. to I-680	6F	6F
Segment E SR-4 12.66 – 14.360	CC	I-680 to SR-242	4F	6F (1H)
Segment F SR-4 14.360 – 18.750	CC	SR-242 to Willow Pass Rd.	8F (2H)	10F (2H)
Segment G SR-4 18.750 – 20.10	CC	Willow Pass Rd. to Bailey Ave.	8F (2H)	8F (2H)
Segment H SR-4 20.10 – 23.050	CC	Bailey Ave. to Railroad Ave.	8F (2H)	8F (2H)
Segment I SR-4 23.050 – 27.790	CC	Railroad Ave. to A St.	4F – 8F (2H)	8F (2H)
Segment J SR-4 27.790 – 31.130	CC	A St. to SR-160	4F	6-8F (2H)

E= Expressway F=Freeway, H=HOV or HOT

A.9 ACRONYMS LIST

AADT	Annual Average Daily Traffic
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACS	American Community Survey
ALA	Alameda County
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BCDC	Bay Conservation and Development Commission
CALEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAPM	Capital Preventive Maintenance
CARB	California Air Resources Board
CBN	Countywide Bicycle Network
CBPP	Contra Costa County Countywide Bicycle and Pedestrian Plan
CC	Contra Costa County
CCCTA	Contra Coast County Transit Authority
CCTA	Contra Cost Transportation Authority
CCTV	Closed Circuit Television
CEQA	California Environmental Quality Act
CHP	California Highway Patrol
CMIA	Corridor Mobility Improvement Account
CMS	Congestion Management System
CNDDB	California Natural Diversity Database
CNWS	Concord Naval Weapons Station
CO	Carbon Monoxide
CSMP	Corridor System Management Plan
CTC	California Transportation Commission
CTP	California Transportation Plan
CZMA	Coastal Zone Management Act
DFG	Department of Fish and Game
DPG	Damage Priority Group
EA	Environmental Assessments
EB	Eastbound
EIS	Environmental Impact Statement
EMS	Extinguishable Message Signs
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FOCUS	Focus Our Future
FPI	Freeway Performance Initiative
FTA	Federal Transit Administration
GHG	Greenhouse Gas
HAR	Highway Advisory Radio
HOT	High Occupancy Toll
HOV	High Occupancy Vehicle
IRRS	Interregional Road System
ITS	Intelligent Transportation System
ITSP	Interregional Transportation Strategic Plan
MIS	Major Investment Study
MPO	Metropolitan Planning Organization
MRN	Marin County
MTC	Metropolitan Transportation Commission
MUT	Multi Use Trail
NAP	Napa County
NEPA	National Environmental Policy Act
NHS	National Highway System
NITSA	National ITS Architecture
NOx	Nitrogen Oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Registry of Historical Places
O3	Ozone
PCR	Pavement Condition Report
PDA	Planning Development Area
PeMS	Performance Monitoring System
PM	Particulate Matter
PN	Pedestrian Network
PUMA	Public Use Micro Data Area
R/W	Right of Way
RCR	Route Concept Report
RM	Ramp Metering
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
SB	Senate Bill
SCL	Santa Clara County
SCS	Sustainable Community Strategy
SGP	Strategic Growth Plan
SHELL	State Highway Extra Legal Load
SHOPP	State Highway Operations and Protection Program
SM	San Mateo County
SOL	Solano County
SON	Sonoma County
SOV	Single Occupancy Vehicle
SR	State Route
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
SWITSA	California ITS Architecture and System Plan
T2035	2009 MTC RTP
TAC	Technical Advisory Committee
TASAS	Traffic Accident Surveillance and Analysis System
TCCR	Transportation Corridor Concept Report
TMS	Traffic Monitoring Station
TMSMP	Transportation Management System Master Plan
TOG	Total Organic Gasses
TOS	Traffic Operations System
TRANSPAC	Transportation Partnership and Cooperation Committee
TRANSPLAN	East Contra Costa County Transportation Planning Committee
UP	Union Pacific
VHD	Vehicle Hours of Delay
VIA	Visual Impact Assessment
WB	Westbound
WCCTAC	West Contra Costa Transportation Advisory Committee
WestCAT	Western Contra Costa Transit