

## Project Assessment Form for PM<sub>2.5</sub> Interagency Consultation

**Project Title: I-680/SR 4 Interchange – Phase 3 (SR 4 Widening)**

### **Project Summary for Air Quality Conformity Task Force Meeting:**

#### **Description**

The project would construct Phase 3 of improvements for the Interstate 680 (I-680)/State Route 4 (SR 4) Interchange Project in Contra Costa County to improve specific safety and operations deficiencies associated with the existing facility. The project proposes widening the median of SR 4 in both directions from east of Milano Way/Glacier Drive (PM 11.2) to east of SR 242 (PM R15.1). Outside widening of SR 4 will occur in both directions at Pacheco Boulevard and I-680. From east of I-680 (PM 12.7) to east of Grayson Creek (PM 13.0) the project proposes raising the profile of SR 4 and widening in the median and outside, along with replacing Grayson Creek Bridge.

#### **Background**

- National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) process for revalidation of the November, 2008 Mitigated Negative Declaration and Finding of No Significant Impact is scheduled to be completed in February 2016.
- Seeking fine particulate matter (PM<sub>2.5</sub>) air quality conformity determination on April 23, 2015.

#### **Not a Project of Air Quality Concern (40 CFR 93.123(b)(1))**

*(i) New or expanded highway projects with significant number/increase in diesel vehicles?*

- On State Route 4 there will be a minor increase in the AADT and no change in truck percentage between the Build and No-Build Alternatives.
- The truck percentage is between 4.8% and 6.8% with and without the project. The maximum AADT for trucks is 7,664, which is a maximum increase of 340 AADT for trucks.
- This would be considered a less than significant number/increase in diesel vehicles.

*(ii) Affects intersections at LOS D, E, or F with a significant number of diesel vehicles?*

- Diesel vehicles represent only a small percentage of intersection traffic volume at the ramps.
- No project changes to land use that would affect diesel traffic percentage.

*(iii) New bus and rail terminals and transfer points?—Not Applicable.*

*(iv) Expanded bus and rail terminals and transfer points?—Not Applicable.*

*(v) Affects areas identified in PM<sub>10</sub> or PM<sub>2.5</sub> implementation plan as site of violation?*

No state implementation plan for PM<sub>2.5</sub> and therefore, not identified in plan as an area of potential violation.

## Project Assessment Form for PM<sub>2.5</sub> Interagency Consultation

**RTIP ID#:** 21205

**TIP ID#:** CC-010023

**Air Quality Conformity Task Force Consideration Date:** April 23, 2015

### **Project Description**

The project consists of the construction of the Phase 3 improvements for the Interstate 680 (I-680) / State Route (SR) 4 Interchange Project in Contra Costa County. The project proposes widening the median of SR 4 in both directions from east of Milano Way/Glacier Drive (PM 11.2) to east of SR 242 (PM 15.1). Outside widening of SR 4 will occur in both directions at Pacheco Boulevard and I-680. From east of I-680 (PM 12.7) to east of Grayson Creek (PM 13.0) the project proposes raising the profile of SR 4 and widening in the median and outside, along with replacing Grayson Creek Bridge.

The proposed project would consist of the following primary improvements:

- Addition of a new 12-foot wide lane and 10-foot shoulder in the westbound direction on SR 4 extending from east of SR 242 (PM 15.1) to conform to the 3-lane facility east of Milano Way/Glacier Drive (PM 11.2). The new lane would be for general purpose use.
- Addition of a new 12-foot wide lane and 10-foot shoulder in the eastbound direction on SR 4 extending from east of Milano Way/Glacier Drive (PM 11.2) to Solano Way (PM 13.7). The proposed lane configurations in the eastbound direction on SR 4 will extend the existing auxiliary lane from its current termini located on the east side of Milano Way/Glacier Drive overcrossing to Solano Way.
- Addition of a new 12-foot lane and 10-foot shoulder in the eastbound direction on SR 4 extending from east of Grayson Creek (PM 13.0) to east of SR 242 (PM 15.1). The lane would be for High Occupancy Vehicle (HOV) use and connect to the existing HOV lane east of SR 242.
- Near the Grayson Creek Bridge (PM 12.7 to 13.0), the SR 4 profile would be raised and include replacement of the Grayson Creek Bridge. The I-680/SR 4 interchange ramps, including the westbound SR 4 to northbound I-680 off-ramp and northbound I-680 to eastbound SR 4 on-ramp will also be reconstructed to conform to the raised elevation of the SR 4 mainline.
- Realignment of eastbound SR4 to southbound I-680 ramp and eastbound SR4 to northbound I-680 loop ramp to accommodate restriping of SR4 at the vicinity of Pacheco Blvd and I-680 interchanges. The restriping of SR4 is intended to reduce the high concentration of accident on SR4 within the I-680/SR4 interchange area and improves traffic operations.
- Modification of six bridge structures (including required structure rehabilitation).

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<b>Type of Project:</b> Change to existing State highway.				
<b>County:</b> Contra Costa County	<b>Narrative Location/Route &amp; Postmiles:</b> SR 4 PM R11.2/R15.1 Caltrans Projects – I-680/SR 4 Interchange – Phase 3 (SR 4 Widening) EA# 04-229111 EFIS ID # 0414000130			
<b>Lead Agency:</b> Caltrans		<b>Project Sponsor:</b> Contra Costa County Transportation Authority		
<b>Contact Person:</b> Susan Miller	<b>Phone#:</b> (925) 256-4736	<b>Fax#:</b> (925) 256-4701	<b>Email:</b> smiller@ccta.net	
<b>Federal Action for which Project-Level PM Conformity is Needed:</b> <i>(check appropriate box)</i>				
Categorical Exclusion (NEPA)	EA or Draft EIS	FONSI or Final EIS	PS&E or Construction	Other <input checked="" type="checkbox"/> - Revalidation
<b>Scheduled Date of Federal Action:</b> August 2105				
<b>NEPA Delegation – Project Type:</b> <i>(check appropriate box)</i>				
Exempt	<input checked="" type="checkbox"/>	<b>Section 6004 – Categorical Exemption</b>	<b>Section 6005 – Non- Categorical Exemption</b>	
<b>Current Programming Dates:</b> <i>(as appropriate)</i>				
	<b>PE/Environmental</b>	<b>ENG</b>	<b>ROW</b>	<b>CON</b>
<b>Start</b>	July 2013	July 2013	July 2014	November 2016
<b>End</b>	August 2015	December 2015	April 2016	November 2018

## Project Assessment Form for PM<sub>2.5</sub> Interagency Consultation

### Project Purpose and Need (Summary):

#### Project Purpose

The overall purpose of the project is to:

- Improve operational efficiency of the I-680/SR-4 interchange and reduce traffic congestion and delays;
- Improve safety by eliminating short weaving and merging sections; and
- Accommodate existing and planned growth in travel demand within these segments of I-680 and SR-4.

Specific elements of the project purpose include:

#### Eastbound SR 4

- a) Extension of auxiliary lane from east of Milano Way/Glacier Drive overcrossing to the east Solano Way to improve on- and off-ramp weaving movements.
- b) High occupancy vehicle (HOV) lane extension from east of Grayson Creek Bridge to connect to the existing HOV lane east of SR 242 would improve travel times for carpool traffic by enabling them to bypass approximately two miles of queued traffic in the general purpose lanes during the PM peak period.

#### Westbound SR 4

- c) Added general purpose lane from east of SR 242 to east of Milano Way/Glacier Drive would shift the existing bottleneck near the SR 242 diverge approximately two miles to the west. This would relieve SR 242 traffic exiting SR 4 that is currently affected by queuing traffic on SR 4.
- d) Added general purpose lane would provide additional capacity for through traffic and better accommodate on- and off-ramp weaving movements.

#### Project Need

The I-680/SR-4 interchange, built in the 1960s, is unable to accommodate current traffic patterns and volumes. Contra Costa County has planned for growth through its General Plan process, Countywide Transportation Plan, and establishment of growth limit lines. Since the construction of this interchange, the county has subsequently experienced substantial residential and economic growth along both the I-680 and SR-4 corridors. These highways serve residents and workers who are traveling increased distances between their homes and jobs, both within the county and from more distant regional areas. The existing configuration of the interchange cannot adequately handle current or future projected traffic volumes or patterns, resulting in substantial congestion and travel delays and contributing to safety problems.

#### Surrounding Land Use/Traffic Generators:

SR 4 is an east-west transportation corridor for interregional commercial, commuter, and recreational traffic connecting the Bay Area with the Central Valley. Land uses along the SR 4 corridor within the project limits include an airport, residential, retail, and commercial.

## Project Assessment Form for PM<sub>2.5</sub> Interagency Consultation

**Brief summary of assumptions and methodology used for conducting analysis:**

The Average Annual Daily Traffic (AADT) and truck percentages were provided by *Fehr & Peers*.<sup>1</sup> The project forecasts were prepared using recent traffic and truck counts along the SR 4 corridor as well as model runs using the Contra Costa Countywide Travel Demand Model.

Two analysis years, along with the existing conditions, were evaluated:

- Year 2013 represents the existing conditions.
- Year 2020 represents the possible opening year of the project.
- Year 2040 represents the planning horizon for the project.

**Opening Year: If facility is a highway or street, Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility.**

2020	Morello to I-680		I-680 to Solano		Solano to SR 242		SR 242 to Port of Chicago	
	No Build	Build	No Build	Build	No Build	Build	No Build	Build
AADT	90,000	91,600	90,400	92,200	84,700	86,100	83,100	83,500
LOS	F	C	F	C	F	C	F	C
Truck AADT	4,320	4,397	4,610	4,702	5,760	5,855	5,235	5,261
% Trucks	4.8	4.8	5.1	5.1	6.8	6.8	6.3	6.3

**RTP Horizon Year / Design Year: If facility is a highway or street, Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility.**

2040	Morello to I-680		I-680 to Solano		Solano to SR 242		SR 242 to Port of Chicago	
	No Build	Build	No Build	Build	No Build	Build	No Build	Build
AADT	112,300	118,300	113,700	120,700	107,700	112,700	101,800	103,200
LOS	F	D	F	D	F	D	F	C
Truck AADT	5,390	5,678	5,799	6,156	7,324	7,664	6,413	6,502
% Trucks	4.8	4.8	5.1	5.1	6.8	6.8	6.3	6.3

<sup>1</sup> "I-680/SR 4 PM<sub>2.5</sub> traffic needs". Message from Francisco Martin of Fehr & Peers. March 17, 2015. E-mail

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**Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT.**

2020	I-680 from Marina Vista Avenue in Martinez to SR4 AADT		I-680 from SR 4 to SR 242	
	No Build	Build	No Build	Build
AADT	139,500	139,500	159,500	159,500
LOS	D	D	E	E
Truck AADT	7,000	7,000	6,400	6,400
% Trucks	5%	5%	4%	4%

**RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT.**

2040	I-680 from Marina Vista Avenue in Martinez to SR4 AADT		I-680 from SR 4 to SR 242	
	No Build	No Build	No Build	Build
AADT	169,000	191,000	191,000	191,000
LOS	F	F	F	F
Truck AADT	8,500	7,600	7,600	7,600
% Trucks	5%	4%	4%	4%

**Opening Year: If facility is a bus, rail or intermodal facility/terminal/transfer point, # of bus arrivals for Build and No Build, % and # of bus arrivals will be diesel buses.**

Not applicable; see above for highway facility.

**RTP Horizon Year / Design Year: If facility is a bus, rail or intermodal facility/terminal/transfer point, # of bus arrivals for Build and No Build, % and # of bus arrivals will be diesel buses.**

Not applicable; see above for highway facility.

**Describe potential traffic redistribution effects of congestion relief:**

The results of the traffic study indicate that the initial phase of construction (widening SR 4 to extend existing general purpose and HOV lanes on SR 4 in the vicinity of the I-680/SR 4 interchange) would increase the AADT on SR 4 between Morello and SR 242 for the Design Year of 2020 or the Horizon Year of 2040, however there would be an improvement in the LOS. The truck AADT percentage would not change in the Design or Horizon year with the project. The extension of the existing general purpose lanes on SR 4 is expected to improve average travel speeds and reduce queue lengths between Morello and SR 242 during peak periods; therefore improving truck throughput on SR 4 through the interchange area.

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### Comments/Explanation/Details: *(please be brief)*

The proposed project is in a nonattainment area for federal PM<sub>2.5</sub> standards. Therefore, according to 40 CFR Part 93, a hotspot analysis is required for conformity purposes. However, the Environmental Protection Agency (EPA) does not require a quantitative hotspot analysis for projects that are not a project of air quality concern (POAQC). Five types of projects listed in 40 CFR Section 93.123(b)(1) qualify as a POAQC. The following discussion evaluates whether the proposed project falls into any of these POAQC categories.

1. The project is not a new or expanded highway project that would have a significant number of or increase in the number of diesel vehicles (40 CFR Section 93.123 (b)(1)(i)).

*The traffic report for this phase of the project shows that the percentage of trucks will remain the same with and without the project; there will be a slight increase in the number of trucks on the road, due to the increase in the AADT, less than 0.3% increase of the AADT. The LOS on SR 4 will improve from LOS F without the project to LOS C or D with the project.*

2. The project is not likely to affect any intersections (40 CFR Section 93.123 (b)(1)(ii)).

*The project will not have an affect on any intersections with a significant number of diesel vehicles.*

3. The project does not include the construction of a new bus or rail terminal with a significant number of diesel vehicles congregating at a single location (40 CFR Section 93.123 (b)(1)(iii)).

*Not applicable - No bus or rail terminals are affected by the project.*

4. The project does not expand an existing bus or rail terminal with significant increases in the number of diesel vehicles congregating at a single location (40 CFR Section 93.123 (b)(1)(iv)).

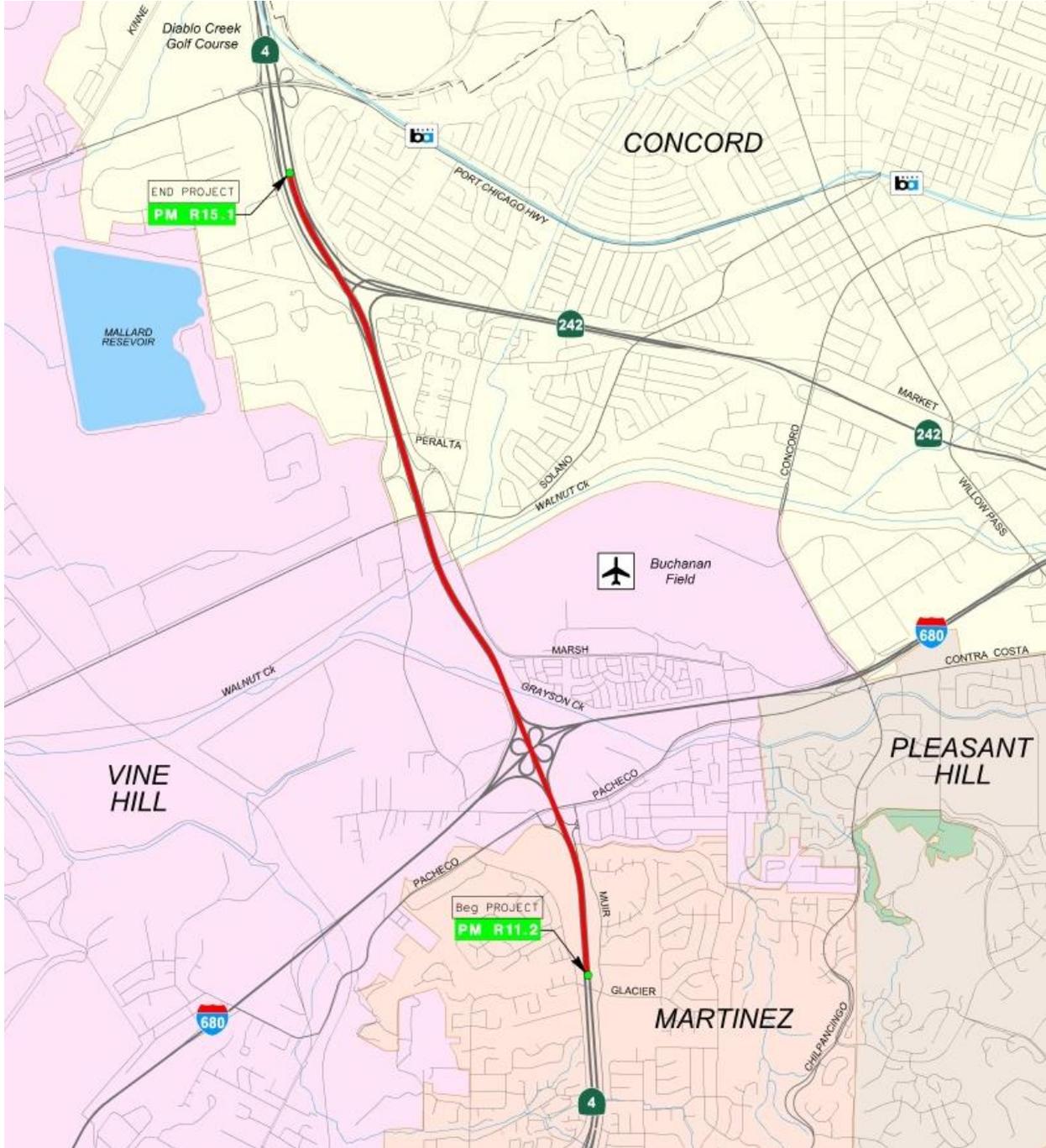
*Not applicable - No bus or rail terminals are affected by the project.*

5. The project is not in or affecting locations, areas or categories of sites that are identified in the PM<sub>2.5</sub> applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation (40 CFR Section 93.123 (b)(1)(v)).

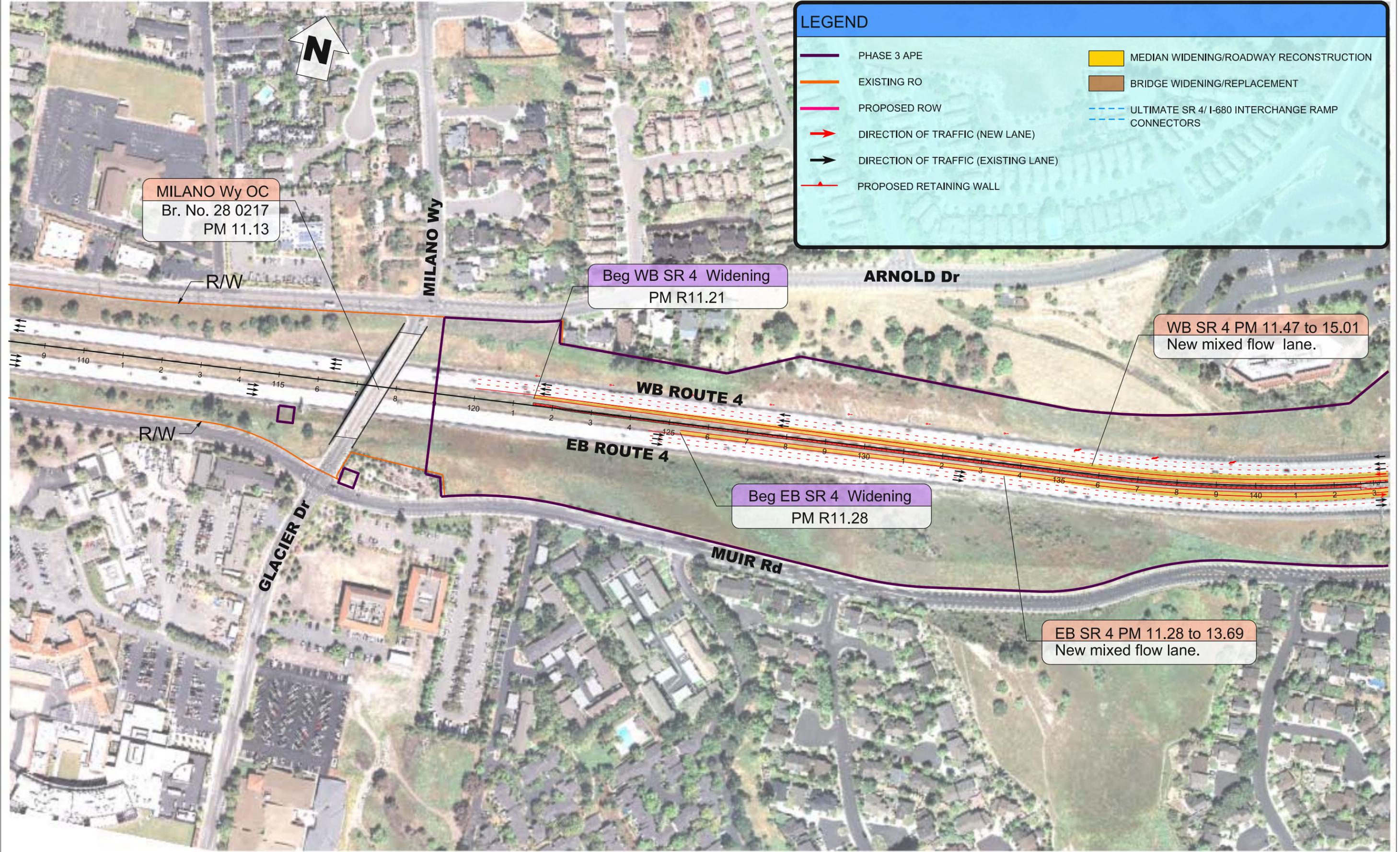
*Project does not affect locations identified in an applicable implementation plan or implementation plan submission. On January 9, 2013, the U.S. EPA issued a final rule that determined the San Francisco Bay Area air basin has attained the 24-hour PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS). As a result, new state implementation plan (SIP) provisions are not necessary to demonstrate how the air basin will attain the standard.*

Based on the evaluation above, the project should not be considered a POAQC and not require a quantitative hot-spot analysis to demonstrate that it will not cause or worsen an existing PM<sub>2.5</sub> violation.

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# I-680/SR 4 INTERCHANGE - PHASE 3 (SR 4 WIDENING) (WITH GRAYSON CREEK BRIDGE REPLACEMENT) DECEMBER 2014



### LEGEND

- PHASE 3 APE
- EXISTING RO
- PROPOSED ROW
- DIRECTION OF TRAFFIC (NEW LANE)
- DIRECTION OF TRAFFIC (EXISTING LANE)
- PROPOSED RETAINING WALL
- MEDIAN WIDENING/ROADWAY RECONSTRUCTION
- BRIDGE WIDENING/REPLACEMENT
- ULTIMATE SR 4/ I-680 INTERCHANGE RAMP CONNECTORS

MILANO Wy OC  
Br. No. 28 0217  
PM 11.13

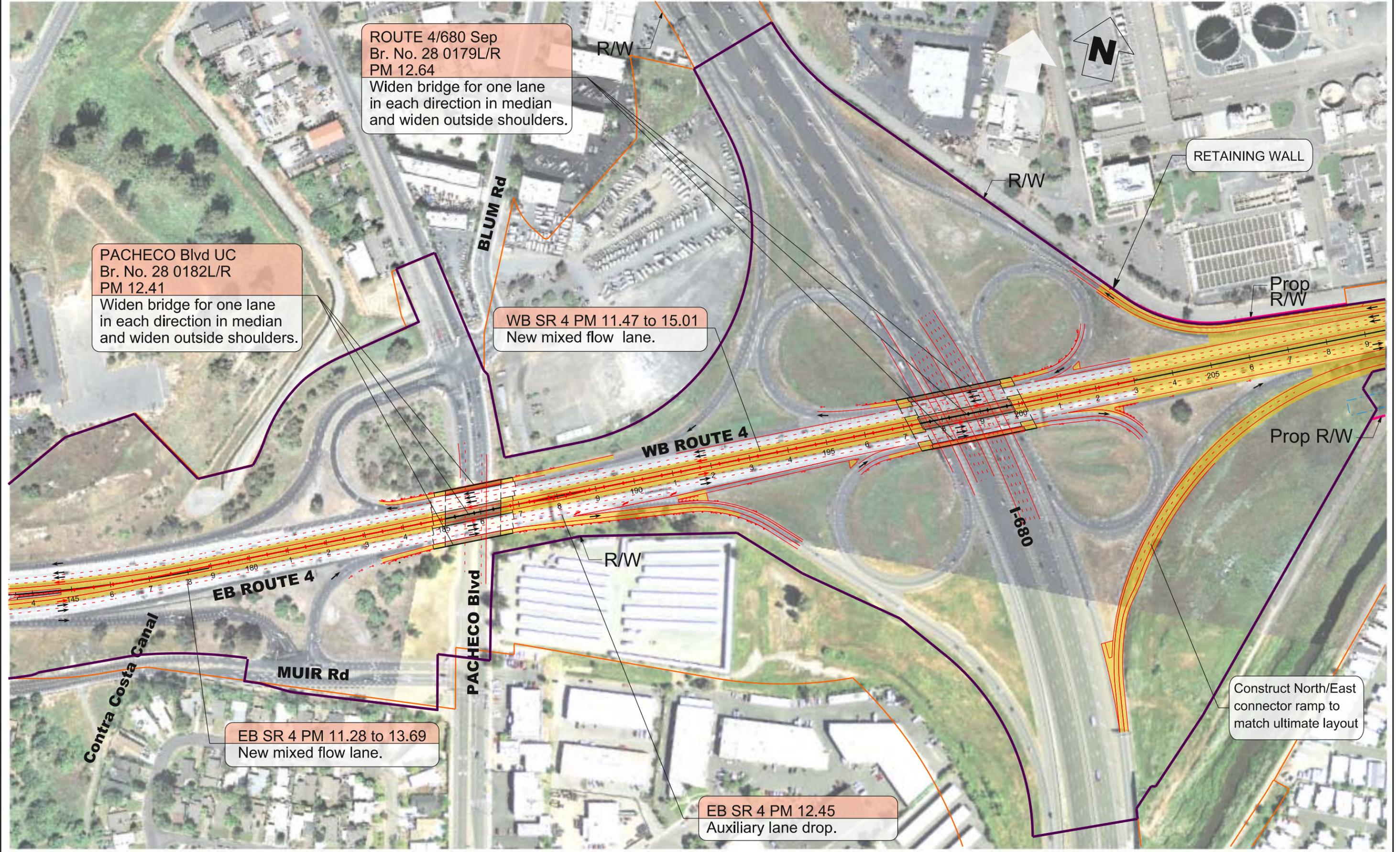
Beg WB SR 4 Widening  
PM R11.21

Beg EB SR 4 Widening  
PM R11.28

WB SR 4 PM 11.47 to 15.01  
New mixed flow lane.

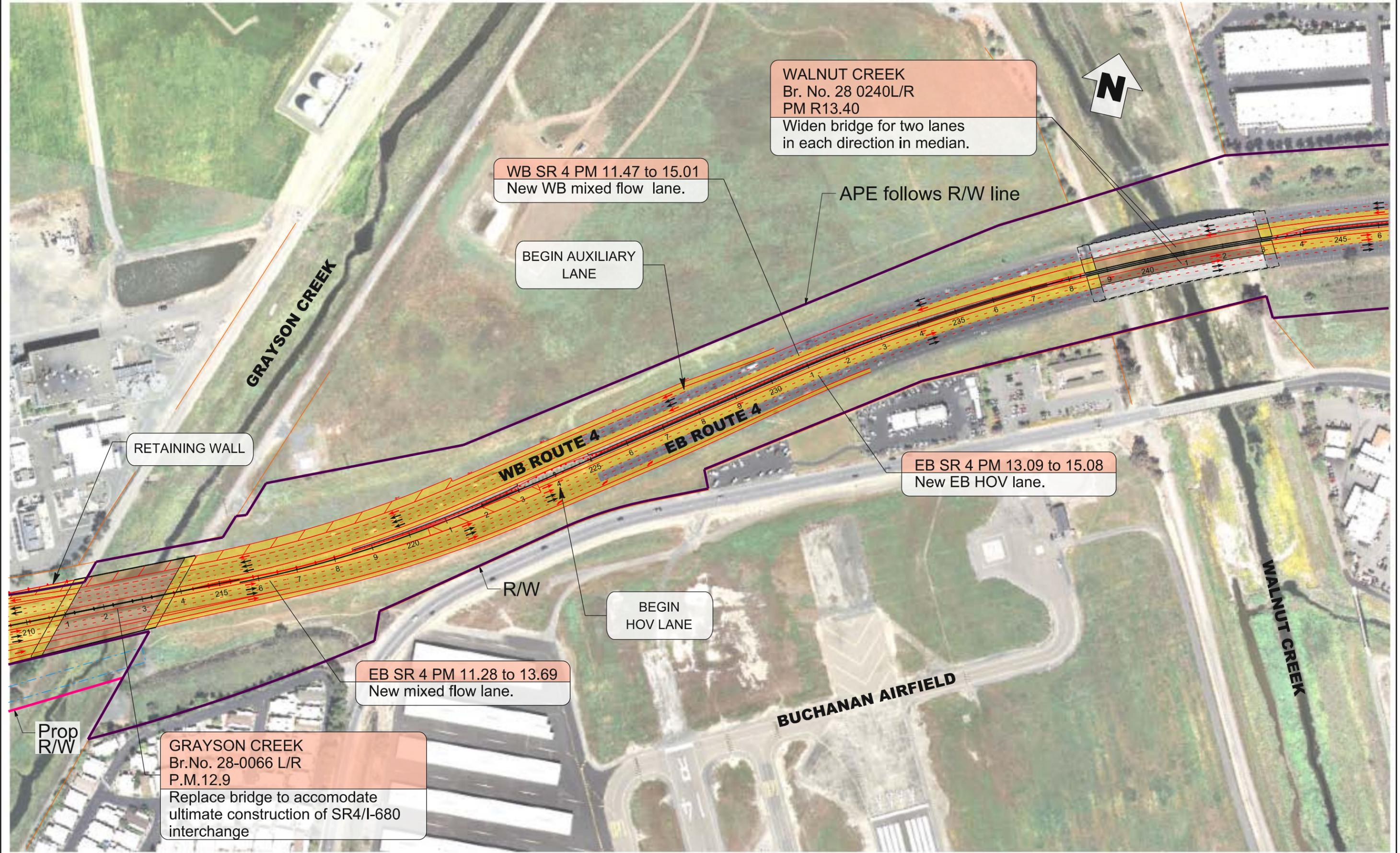
EB SR 4 PM 11.28 to 13.69  
New mixed flow lane.

# I-680/SR 4 INTERCHANGE - PHASE 3 (SR 4 WIDENING) (WITH GRAYSON CREEK BRIDGE REPLACEMENT) DECEMBER 2014

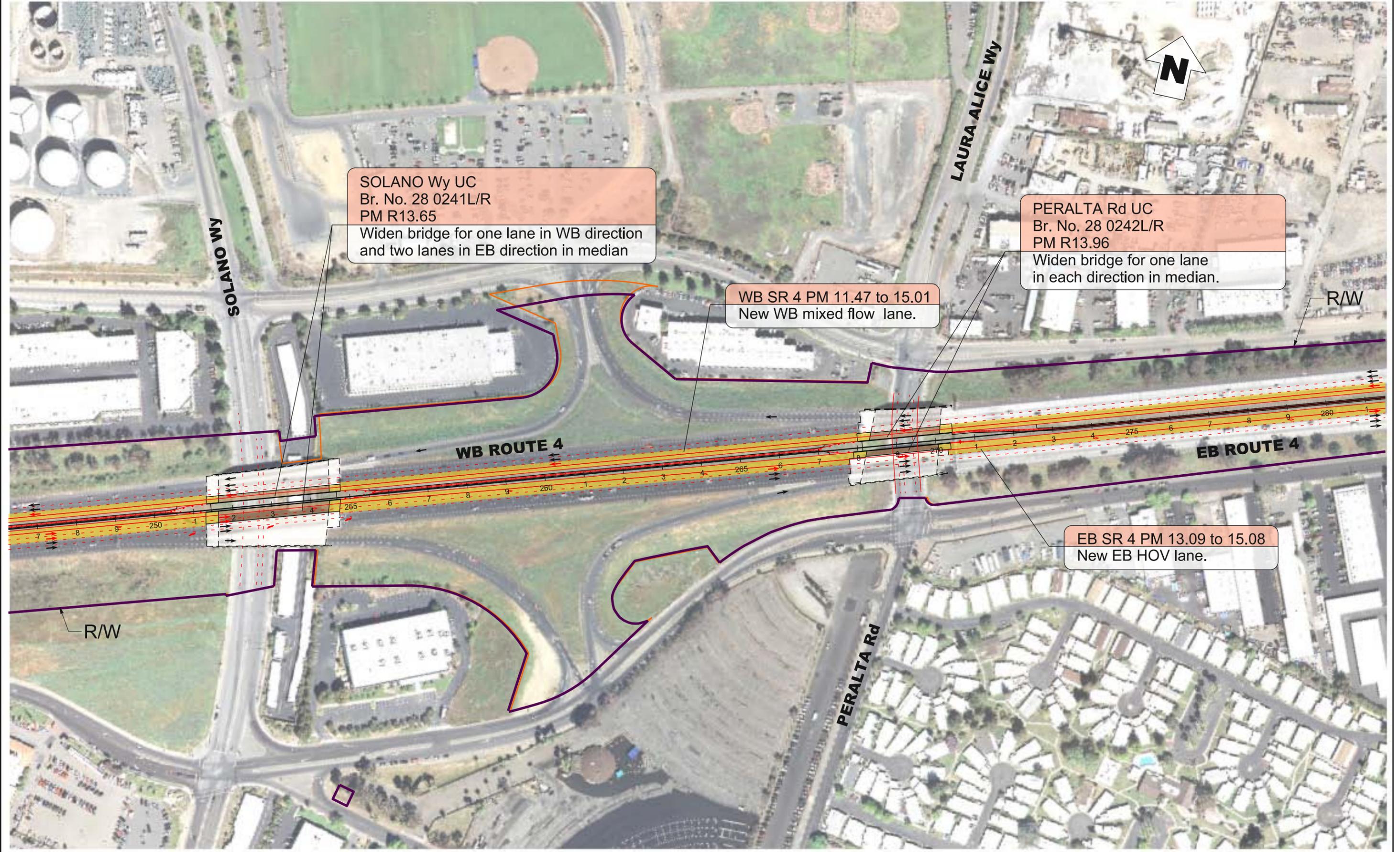


# I-680/SR 4 INTERCHANGE - PHASE 3 (SR 4 WIDENING)

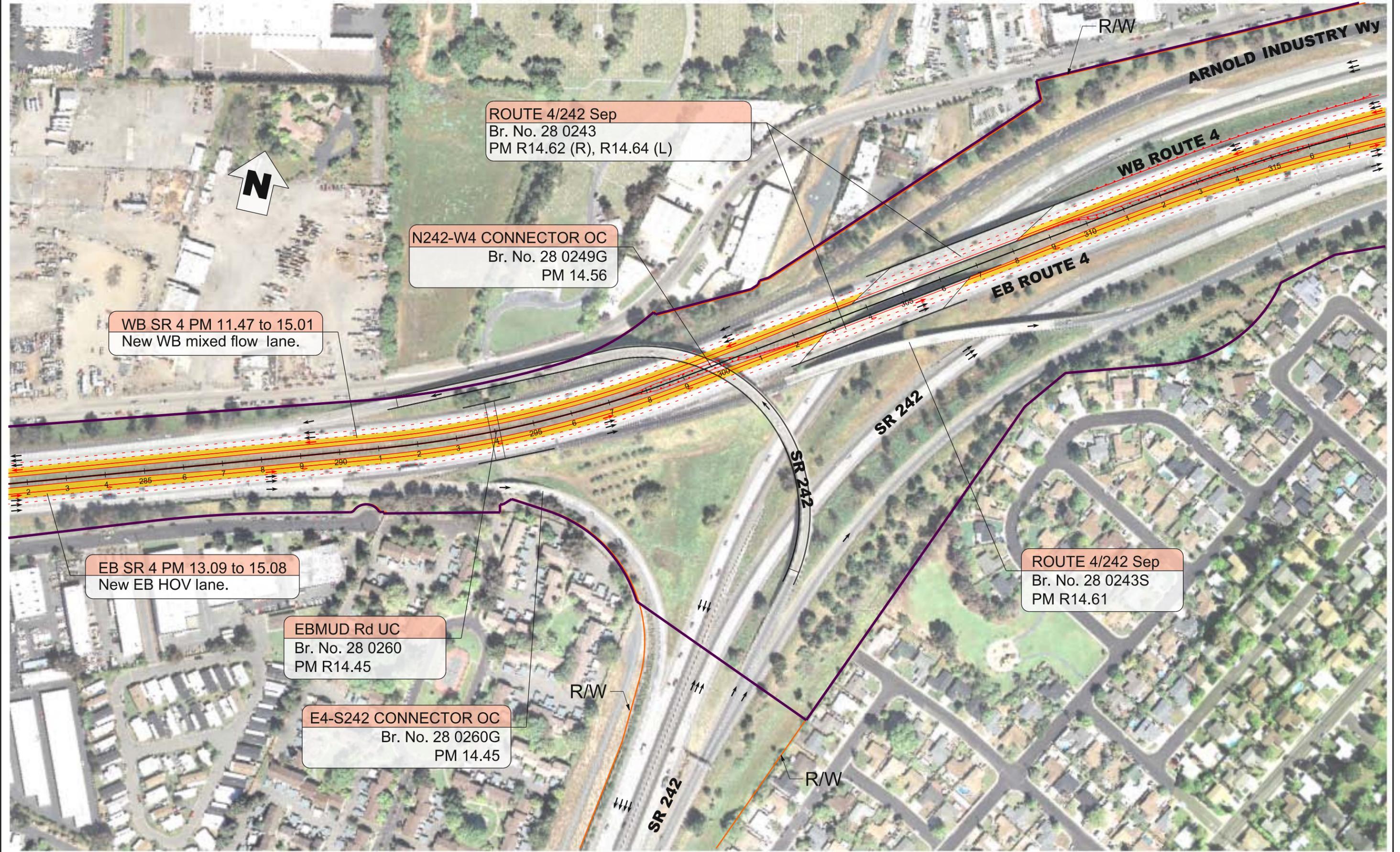
(WITH GRAYSON CREEK BRIDGE REPLACEMENT)  
DECEMBER 2014



# I-680/SR 4 INTERCHANGE - PHASE 3 (SR 4 WIDENING) (WITH GRAYSON CREEK BRIDGE REPLACEMENT) DECEMBER 2014

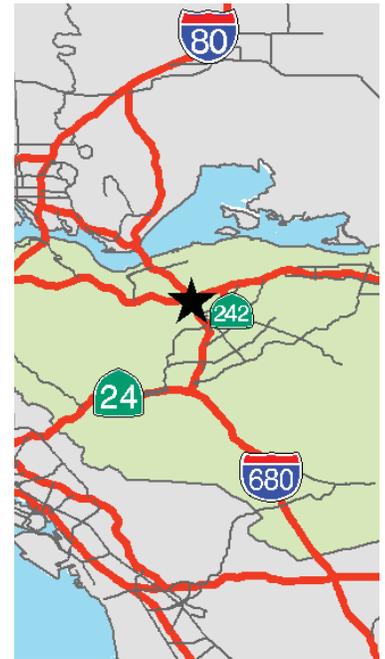


# I-680/SR 4 INTERCHANGE - PHASE 3 (SR 4 WIDENING) (WITH GRAYSON CREEK BRIDGE REPLACEMENT) DECEMBER 2014



# I-680/SR 4 INTERCHANGE - PHASE 3 (SR 4 WIDENING) (WITH GRAYSON CREEK BRIDGE REPLACEMENT) DECEMBER 2014





# Interstate 680 / State Route 4 Interchange Improvements

## PROJECT #6001

The purpose of this project is to increase the capacity and safety of the Interstate 680/State Route 4 Interchange. The proposed project will provide congestion relief and improve traffic operations within the interchange area.

The State Route 4 East corridor serves as the only major east-west transportation link joining the communities of Antioch, Bay Point, Pittsburg and Brentwood with central Contra Costa County and the Bay Area.

The Interstate 680 corridor serves as the main artery through central Contra Costa County, connecting it with Solano County to the north and Alameda and Santa Clara counties to the south.

## Did You Know?

The I-680/State Route 4 interchange reconstruction will be the largest transportation highway project in Contra Costa County following the completion of the Caldecott Tunnel Fourth Bore and State Route 4 Widening projects.



# Interstate 680 / State Route 4 Interchange Improvements (cont.)

## CONTACT

Contra Costa  
Transportation Authority  
Susan Miller  
Director of Projects  
(925) 256-4736  
smiller@ccta.net

## SPONSOR



## DESCRIPTION

Construct three level interchange, as follows:

Phase 1 - northbound Interstate 680 to westbound State Route 4 connector.

Phase 2 - eastbound State Route 4 to southbound Interstate 680 connector.

Phase 3 - State Route 4 widening between Morello Avenue and State Route 242.

Phase 4 - southbound Interstate 680 to eastbound State Route 4 connector.

Phase 5 - westbound State Route 4 to northbound Interstate 680 connector.

Due to funding shortfall, Phase 3 will be constructed first while the remaining phases will be constructed as funding becomes available.

## LOCATION

Concord and Martinez

## SCHEDULE (PHASE 3 ONLY)

PRELIMINARY STUDIES/PLANNING:	Completed
ENVIRONMENTAL CLEARANCE:	Completed
DESIGN:	Summer '13 - Summer '15
RIGHT OF WAY:	Summer '14 - Summer '15
CONSTRUCTION:	Summer '15 - Summer '17

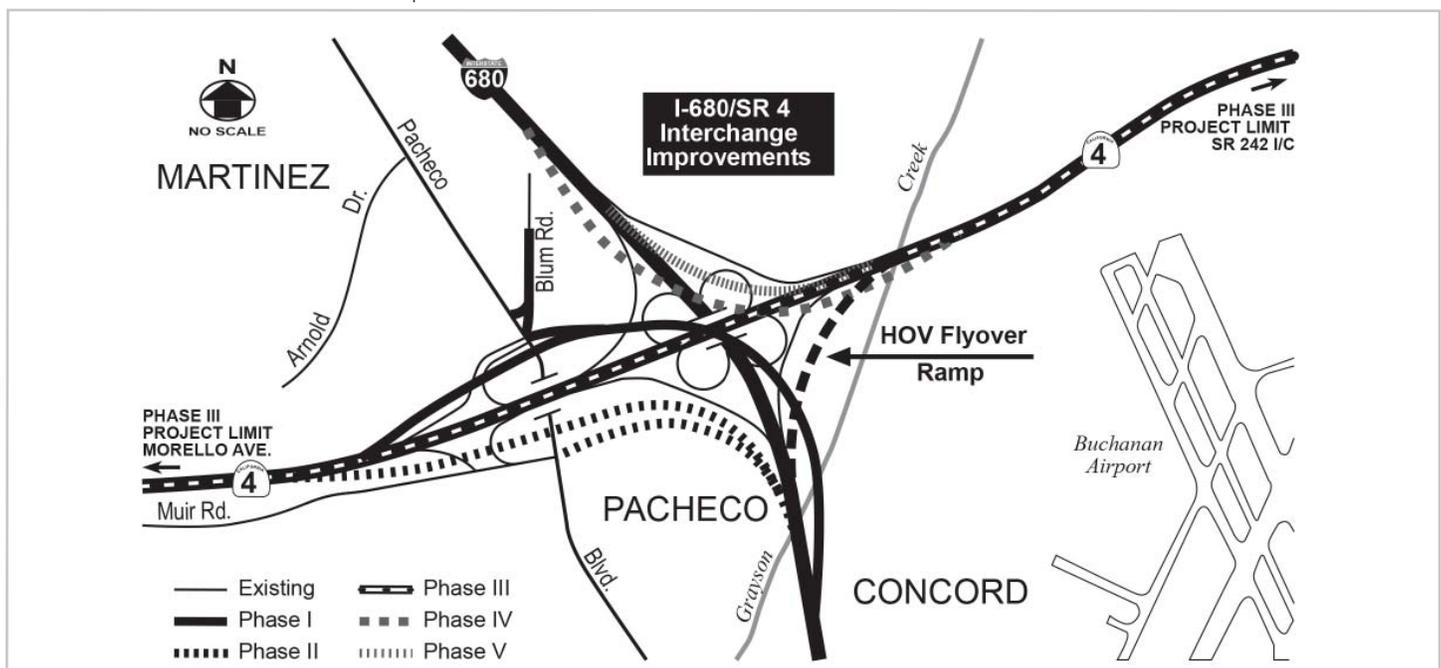
## FUNDING PLAN (PHASE 3 ONLY)

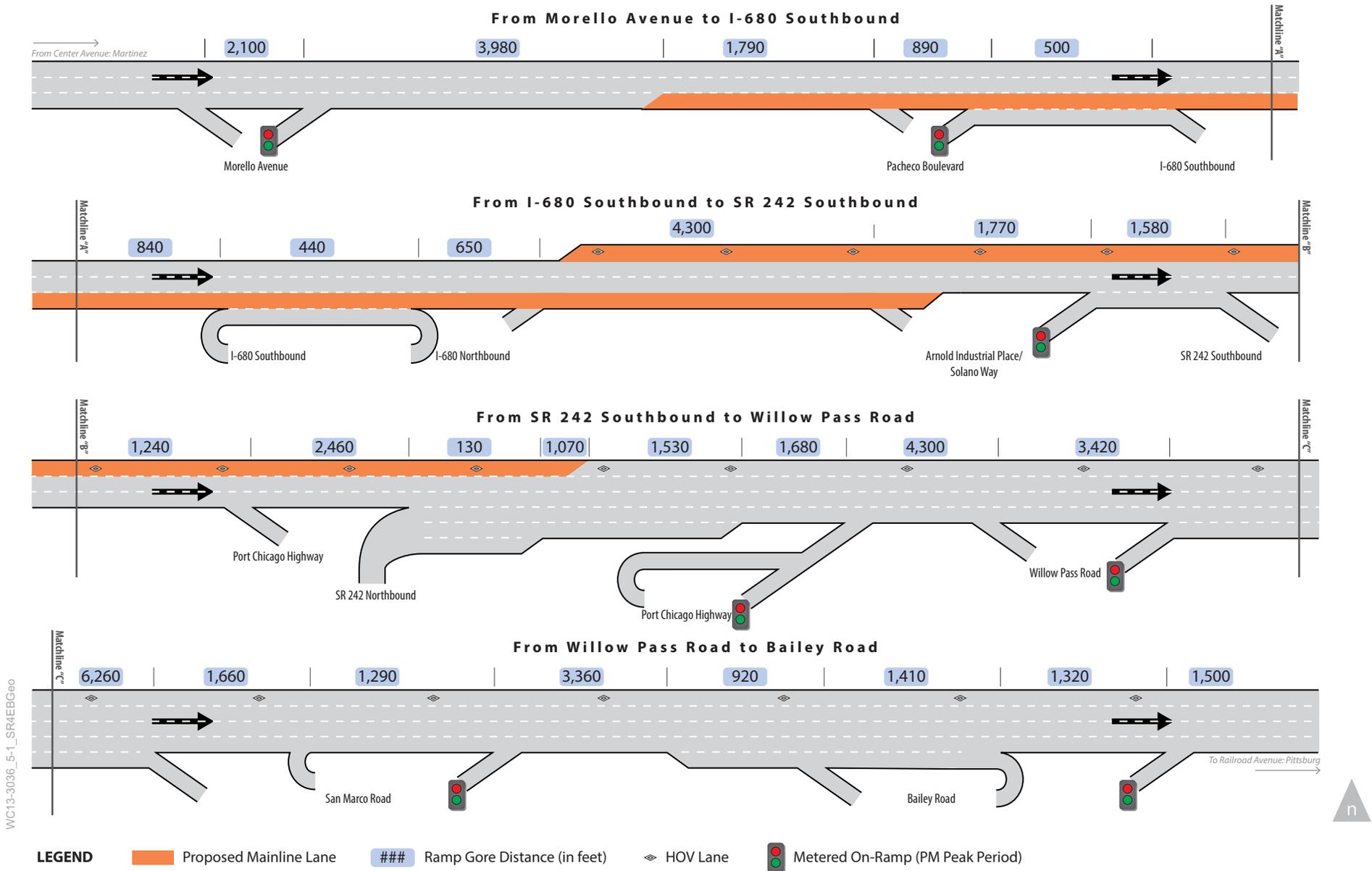
Source (\$ in millions)	Amount
Measure J	\$ 30.8*
State Transportation Improvement Program - Regional (STIP-RIP)	\$ 9.6
Measure C	\$ 17.3
<b>Total</b>	<b>\$ 57.7</b>

\*Another \$3.6 million is available for other phases.

## STATUS

Phase 3 is currently under design.



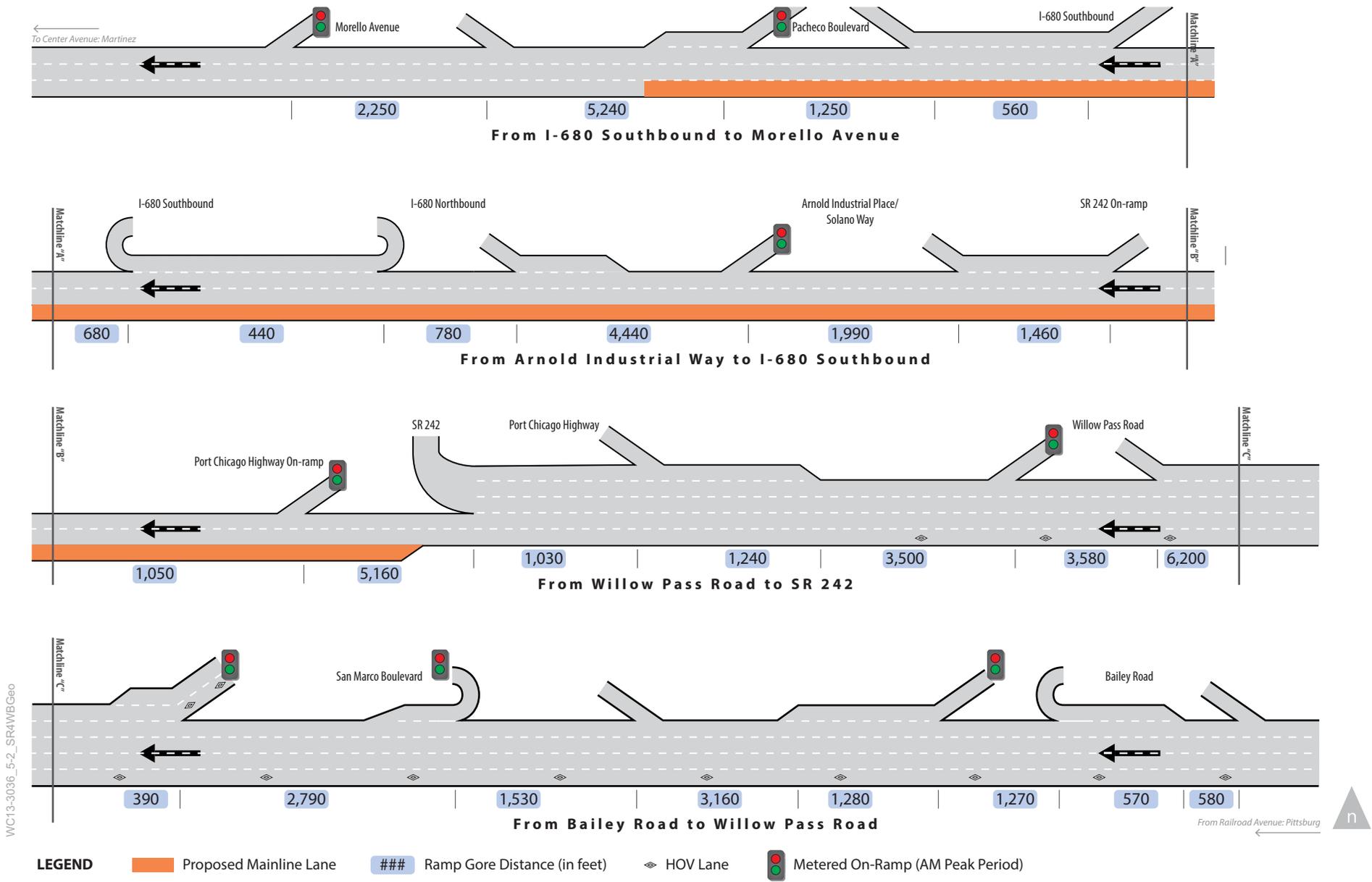


WC13-3036\_5-1\_SR4EBGeo



Figure 5-1  
State Route 4 Eastbound Lane Configurations

Source: Traffic Operations Analysis Report, March 2015



WC13-3036\_5-2\_SR4WBGeo

From Railroad Avenue: Pittsburg



Figure 5-2  
State Route 4 Westbound Lane Configurations