

# US 101 / 92 Interchange

TA CAC Meeting  
November 3, 2016  
Item # 11a



## Presentation Outline

- **Preliminary Planning Study (PPS) Overview**
- **Previous Studies, Existing Conditions and P&N**
- **Alternatives Development and Overview**
- **Recommendations**
- **Next Steps**



## Preliminary Planning Study (PPS) Overview

- SMCTA (Funding & Implementer) & C/CAG (Sponsor) joint effort with input from Caltrans, City of San Mateo, City of Foster City, and consultant
- Assess traffic deficiencies, develop project Purpose and Need
- Develop alternatives with stakeholders; evaluate costs, impacts and benefits
- Recommend Short- and Long Term projects to move forward into the Caltrans Project Initiation Document (PID) Phase

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## Previous Studies



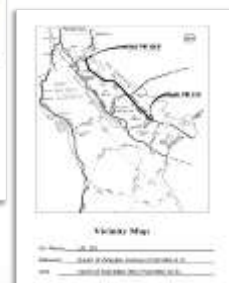
**SR 92  
PSR-PDS  
(2001)**



**US101/SR92  
Area Study  
(2013)**



**SR92/SR82  
PR  
(2014)**



**US101 HOV  
PSR-PDS  
(2015)**

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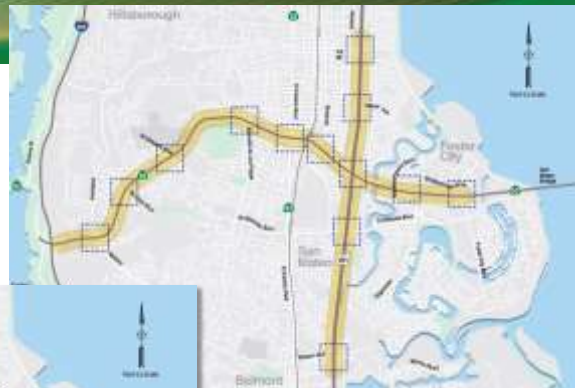


# 92/82 I/C Reconfiguration



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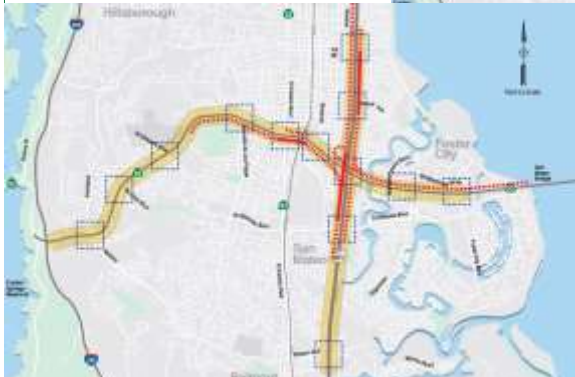
**AM QUEUES –  
EXISTING AND 2040 NO-BUILD**



**PM QUEUES –  
EXISTING AND 2040 NO-BUILD**

- LEGEND:**
- Study Area
  - Interchange
  - Existing PM Bottleneck
  - Existing PM Peak-Hour (s) Queue Lengths
  - 2040 No-Build PM Bottleneck
  - 2040 No-Build PM Peak-Hour (s) Queue Lengths

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## Project Purpose and Need

### PURPOSE

Improve traffic flow and safety, and increase mobility through the 101/92 Interchange area by minimizing traffic conflict locations and improving peak-period travel times within project limits along 101 and 92

### NEED

Overall substantial delay and congestion at the 101/92 Interchange

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## 101/92 Deficiencies



## 101/92 Deficiencies - N/B 101



## 101/92 Deficiencies - S/B 101











## Naming Convention for Alternatives

### Short Term Alternatives: A

- Projects that can be implemented more quickly through streamlined Permit Engineering Evaluation Report (PEER) Caltrans Process
- Projects with relatively low total cost (<\$10M)

### Long Term Alternatives: X, Y, Z

- Projects that require full Caltrans Oversight Process (Planning, Environmental, Design) and take longer to implement
- Projects with relatively high total cost (>\$10M)
- Projects that provide more traffic and safety improvements

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## Alternatives at 101/92 Interchange





## Alternatives Ratings

ALTERNATIVE	Not Likely to Support		Neutral	Very Likely to Support	
	1	2		4	5
1X	■	■	■		
1Y		■	■		
2X		■	■		
3A				■	■
3B	■	■	■	■	■
3X			■	■	■
4A				■	■
4X		■	■		■
4XY		■	■		
4Y		■	■		
4Y-1, 4Y-2					
4Z		■	■		
5X		■	■		
5Y			■	■	■
6A		■		■	■
6X		■		■	■
7A			■		■
8A					■
8X					■
8Y			■	■	■
8Z			■	■	■
8ZX		■		■	■
8ZX Ramp Options 1 & 2					
9A		■	■		■
9X	■	■			
9Y			■	■	

A and B = Short Term Alternatives    X, Y and Z = Long Term Alternatives

C/CAG    Foster City    City of San Mateo

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## Short Term Alternative 7A:

### WB 92 to SB 101 Loop Ramp Connector ML Addition

**ISSUE #7:**

Loop connector from WB 92 to SB US 101 has inadequate capacity.

**SHORT TERM ALTERNATIVE 7A:**

Proposes an additional ML preferential lane to compliment the existing mixed-flow lane. The connector traffic will be ramp metered before entering SB US 101.



**\$7M**

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## Short Term Alternative 8A: EB 92 Merge Reconfiguration and Lane Add

**ISSUE #8:**

Multiple merges over a short distance along EB 92.

**SHORT TERM ALTERNATIVE 8A:**

The proposed alternative would eliminate the inside lane merge and quick merge between the NB & SB US 101 ramps, and add additional EB SB 92 capacity between the US 101 on-ramps and Waterside Boulevard.



**\$3.5M**

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## Long Term Alternative 1X: 101 Braided Ramps

**ISSUE #1:**

Traffic Congestion between E Hillsdale Boulevard and SR 92, in both directions of US 101 due to heavy weaving and short weaving lengths.

**LONG TERM ALTERNATIVE 1X:**

Braid SR 92 ramps with Hillsdale Boulevard ramps to eliminate weaving conditions on US 101 roadway.



**\$52M**

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## Long Term Alternative 2X: WB 92 to 101 Managed Lane Direct Connectors

**ISSUE #2:**

US 101 mainline traffic congestion occurs between F Hillside Boulevard and SR 92, and SR 92 and E 2nd Avenue in the NB direction due to heavy weaving between the on- and off-ramps.

**LONG TERM ALTERNATIVE 2X:**

The proposed ML connectors from west bound SR 92 to US 101 NB and SB would provide direct access to ML lane.



**\$93M**

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## Long Term Alternative 8X: SB 101 to WB 92 Added Inside Direct Connector

**ISSUE #8:**

Multiple merges over a short distance along EB 92.

**LONG TERM ALTERNATIVE 8X:**

The proposed alternative would eliminate the inside late merge and quick merge between the NB & SB US 101 ramps, and add mainline EB SR 92 capacity between the US 101 on-ramps and Foster City Boulevard.



**\$40M**



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## Long Term Alternative 8ZX: EB 92 Collector Distributor System

### ISSUE #8:

Multiple merges over a short distance along EB 92.

### LONG TERM ALTERNATIVE 8ZX:

Provides a complete separated collector/distributor road system adjacent to EB 92 that begins at the Delaware Street on-ramp to EB 92 and ends at the Foster City Blvd off-ramp.



**\$154M**



## Alternatives Rated on Various Criteria

### SAFETY

- Low:** No improvement to weave/merge areas; minimal mobility improvement could potentially lower rear-end type of accidents
- High:** Clear safety improvement by eliminating unsafe merges at weave conflict locations

### ENVIRONMENTAL

- Low:** Minimal impact that could likely be cleared with CE/CE approval
- Medium:** Not CE/CE, but avoids adverse impacts and may qualify for IS/EA approval
- High:** Adverse impacts requiring EIR/EIS approval

### RIGHT OF WAY

- Low:** May have only temporary construction easement requirements
- Medium:** May require partial right of way acquisitions or sliver takes
- High:** Full right of way acquisitions potentially requiring relocations



## Summary of Alternatives Along 101

Alternative	Estimated Total Cost (in millions)	Operational Benefit	Safety Benefit	Impact to Local Traffic Circulation	Environmental Impact	Right of Way Impact
1X*	\$52M	Improves weaving and operations	High	Needs further evaluation	Medium	Medium
1Y	\$89M	Improves weaving and operations (NB only)	High	Needs further evaluation	Medium	High
2X*	\$93M	Improves operations for ML users (WB 92 to 101) and operations for 101	Low	None	Medium to High	Medium
3A	\$3.3M	Low operations benefit	Low to Medium	None	Low	None
3X*	\$6.5M	Operational benefit (NB only)	Low to Medium	None	Low	Low
*Recommended alternative						27



## Summary of Alternatives Along 92

Alternative	Estimated Total Cost (in millions)	Operational Benefit	Safety Benefit	Impact to Local Traffic Circulation	Environmental Impact	Right of Way Impact
7A*	\$7M	Improves operations for ML users (WB 92 to SB 101 only)	Low	None	Low	None
8A*	\$3.5M	Improves weaving and operations	High	None	Low	None
8X	\$40M	Improves weaving and operations	High	None	High	Low
8Y	\$58M	Low weaving improvement	Low	None	High	Medium
8Z*	\$103M	Improves weaving and operations	High	Needs further evaluation	High	Medium
8ZX*	\$154M	Improves weaving and operations	High	Needs further evaluation	High	High
9A	\$0.5M	Low operations benefit	Low	Needs further evaluation	Low	None
9Y*	\$47M	Improves weaving and operations	High	Needs further evaluation	High	Medium
*Recommended alternative						28



## Recommended Alternatives and Packages

### Short Term:

Alternatives 3A, 7A, 8A and 9A (\$14M)

### Long Term Reduced Package:

1X, 3X, 8X, 9Y (\$146M)

### Long Term Alternate Package:

1Y, 3X, 8Z and 9Y (\$246M)

### Long Term Primary Package:

1X, 2X, 3X, 8ZX and 9Y (\$353M)

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## Next Steps

- Project sponsor(s) to determine which alternatives to advance using stakeholder input, regional goals and anticipated funding ranges
- Sponsor to pursue Measure A or other source to fund effort
- Engage Caltrans with Pre-PID meeting to discuss project Purpose & Need and project development path
- Prepare PEER, PID and PR or PID as appropriate to program funding; gain project approval

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