



# Measure A Highway Capital Improvement Program FY2016 - FY2025 Update

February 2, 2017  
Board of Directors  
Agenda Item #12



## Outline

- History, Purpose & Methodology
- CIP: Order of Magnitude Findings
- Highway Performance Assessment
- Policy Considerations
- Next Steps



## History

- TA Strategic Plan 2014-2019 identified Highway Program funding shortfall, recommended preparation of a CIP
- August 2015: presented Highway CIP findings to the Board
- Fall 2015: Highway CIP subcommittee met to discuss findings; provided guidance on the 2015 Call for Projects (CFP)
- 2016 activities
  - Updated Highway CIP based on 2015 CFP recommendations & subsequent project updates
  - Prepared Highway Performance Assessment

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## Purpose

- High-level order of magnitude assessment of costs vs. revenues over a 10-year period, FY2016 to FY2025
- Provide context for investment decisions for future Highway CFPs
- Identify key issues and present policy considerations

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## Methodology

- **Generated list of projects with schedules, costs and funding from:**
  - Sponsor Letters of Interest
  - Existing pipeline of highway projects & projects submitted for the 2015 Highway Program Call for Projects
- **CIP is not financially constrained; purpose is to demonstrate funding need**
- **Not a programming document; no prioritization of projects**

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## CIP: Order of Magnitude Findings

### 10-year identified costs (FY 2016-2025)

- KCA projects: \$555.3 million
- SR projects: \$1,031.7 million
- Total project costs: \$1,587 million\*

*\* Increase of approximately \$300 million from August 2015 CIP presentation, primarily from addition of full implementation estimates on SR92 Interchange projects where prior estimates only included planning phase of work.*

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## CIP: Order of Magnitude Findings

### 10-year funding projections (FY 2016-2025)

- Measure A highway program: **\$352.5 million**
  - o KCA funds: **\$229.8 million**
  - o SR projects: **\$122.7 million**
- Other funds\*: **\$278.4 million**
- **Total Funding: \$630.9 million**

*\* Federal, state and local funds, including development fees, proposed from sponsors*

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## CIP: Order of Magnitude Findings

### 10-year shortfall (FY 2016-2025)

- Total project costs: **\$1,587.0 million**
- Total projected funding: \$631.0 million
- **Total Shortfall \$956.0 million**
  - o KCA project shortfall: **\$252 million**
  - o SR project shortfall: **\$704 million**

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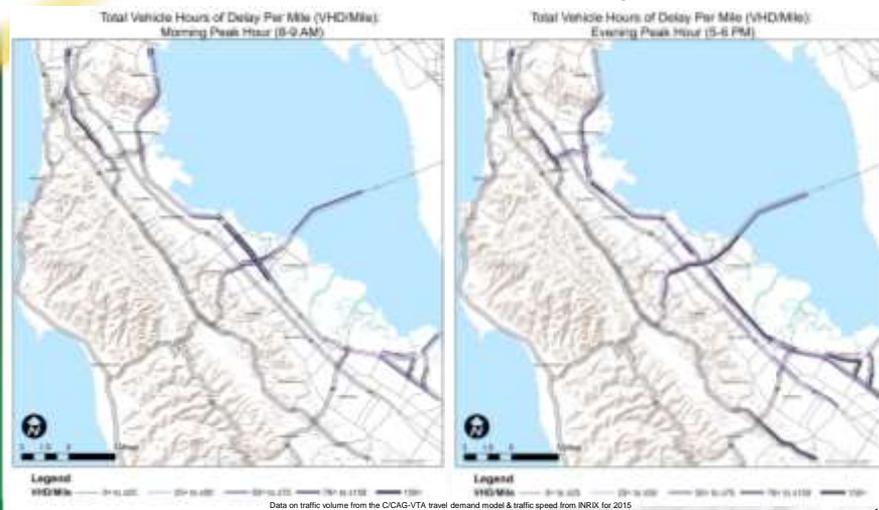
## Performance Assessment

- **Purpose: Better understand regional congestion & safety “hot spots” in San Mateo County**
- **Performance measures:**
  - **Congestion**
    - Total delay
    - % of free - flow speed
    - Travel time reliability
  - **Safety**
    - **Collisions: fatalities and injuries**
    - **Collision rates**

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## Vehicle Hours of Delay





## Vehicle Hours of Delay



**Worst 25 Segments for Total Delay (VHD/Mile) : Morning Peak Hour (8-9 AM)**

Data on traffic volume from the CACAG-VTA travel demand model & traffic speed from INRIX for 2015

Rank	Route	Segment	Length (mi)	Speed (mph)	Volume	Delay (hrs)
1	SR 92	San Jose Ave	1.0	35	10000	1.0
2	SR 88	San Jose Ave	1.0	35	10000	1.0
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14	SR 88	San Jose Ave	1.0	35	10000	1.0
15	SR 88	San Jose Ave	1.0	35	10000	1.0
16	SR 88	San Jose Ave	1.0	35	10000	1.0
17	SR 88	San Jose Ave	1.0	35	10000	1.0
18	SR 88	San Jose Ave	1.0	35	10000	1.0
19	SR 88	San Jose Ave	1.0	35	10000	1.0
20	SR 88	San Jose Ave	1.0	35	10000	1.0
21	SR 88	San Jose Ave	1.0	35	10000	1.0
22	SR 88	San Jose Ave	1.0	35	10000	1.0
23	SR 88	San Jose Ave	1.0	35	10000	1.0
24	SR 88	San Jose Ave	1.0	35	10000	1.0
25	SR 88	San Jose Ave	1.0	35	10000	1.0



## Vehicle Hours of Delay



**Worst 25 Segments for Total Delay (VHD/Mile) : Evening Peak Hour (5-6 PM)**

Data on traffic volume from the CACAG-VTA travel demand model & traffic speed from INRIX for 2015

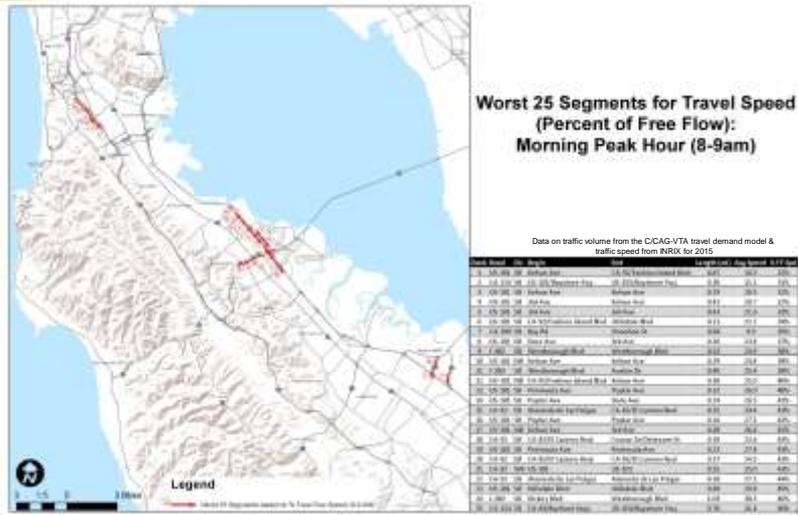
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12	SR 88	San Jose Ave	1.0	35	10000	1.0
13	SR 88	San Jose Ave	1.0	35	10000	1.0
14	SR 88	San Jose Ave	1.0	35	10000	1.0
15	SR 88	San Jose Ave	1.0	35	10000	1.0
16	SR 88	San Jose Ave	1.0	35	10000	1.0
17	SR 88	San Jose Ave	1.0	35	10000	1.0
18	SR 88	San Jose Ave	1.0	35	10000	1.0
19	SR 88	San Jose Ave	1.0	35	10000	1.0
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21	SR 88	San Jose Ave	1.0	35	10000	1.0
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23	SR 88	San Jose Ave	1.0	35	10000	1.0
24	SR 88	San Jose Ave	1.0	35	10000	1.0
25	SR 88	San Jose Ave	1.0	35	10000	1.0



## Travel Speed, % of Free Flow



## Travel Speed, % of Free Flow





## Travel Speed, % of Free Flow



**Worst 25 Segments for Travel Speed  
(Percent of Free Flow):  
Evening Peak Hour (5-6 PM)**

Data on traffic volume from the CAG-VTA travel demand model & traffic speed from INRIX for 2015

Segment ID	Segment Name	Volume	Speed	Reliability
1	San Francisco Blvd	10,000	15	0.15
2	San Francisco Blvd	10,000	15	0.15
3	San Francisco Blvd	10,000	15	0.15
4	San Francisco Blvd	10,000	15	0.15
5	San Francisco Blvd	10,000	15	0.15
6	San Francisco Blvd	10,000	15	0.15
7	San Francisco Blvd	10,000	15	0.15
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## Travel Time Reliability



Travel Time Reliability: Morning Peak Hour (8-9 AM)

Travel Time Reliability: Evening Peak Hour (5-6 PM)

Data on traffic volume from the CAG-VTA travel demand model & traffic speed from INRIX for 2015

Data on traffic volume from the CAG-VTA travel demand model & traffic speed from INRIX for 2015





# Travel Time Reliability



**Worst 25 Segments for Travel Time Reliability (Buffer Index) : Morning Peak Hour (8-9 AM)**

Data on traffic volume from the CACAG-VTA travel demand model & traffic speed from INRIX for 2015

Rank	Route	Segment	Direction	Travel Time (min)	Reliability Index
1	SR 92	SR 92 - San Bruno Ave	Westbound	1:05	1.15
2	SR 92	SR 92 - San Bruno Ave	Eastbound	1:08	1.13
3	SR 92	SR 92 - San Bruno Ave	Westbound	1:10	1.12
4	SR 92	SR 92 - San Bruno Ave	Eastbound	1:12	1.11
5	SR 92	SR 92 - San Bruno Ave	Westbound	1:14	1.10
6	SR 92	SR 92 - San Bruno Ave	Eastbound	1:16	1.09
7	SR 92	SR 92 - San Bruno Ave	Westbound	1:18	1.08
8	SR 92	SR 92 - San Bruno Ave	Eastbound	1:20	1.07
9	SR 92	SR 92 - San Bruno Ave	Westbound	1:22	1.06
10	SR 92	SR 92 - San Bruno Ave	Eastbound	1:24	1.05
11	SR 92	SR 92 - San Bruno Ave	Westbound	1:26	1.04
12	SR 92	SR 92 - San Bruno Ave	Eastbound	1:28	1.03
13	SR 92	SR 92 - San Bruno Ave	Westbound	1:30	1.02
14	SR 92	SR 92 - San Bruno Ave	Eastbound	1:32	1.01
15	SR 92	SR 92 - San Bruno Ave	Westbound	1:34	1.00
16	SR 92	SR 92 - San Bruno Ave	Eastbound	1:36	0.99
17	SR 92	SR 92 - San Bruno Ave	Westbound	1:38	0.98
18	SR 92	SR 92 - San Bruno Ave	Eastbound	1:40	0.97
19	SR 92	SR 92 - San Bruno Ave	Westbound	1:42	0.96
20	SR 92	SR 92 - San Bruno Ave	Eastbound	1:44	0.95
21	SR 92	SR 92 - San Bruno Ave	Westbound	1:46	0.94
22	SR 92	SR 92 - San Bruno Ave	Eastbound	1:48	0.93
23	SR 92	SR 92 - San Bruno Ave	Westbound	1:50	0.92
24	SR 92	SR 92 - San Bruno Ave	Eastbound	1:52	0.91
25	SR 92	SR 92 - San Bruno Ave	Westbound	1:54	0.90

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# Travel Time Reliability



**Worst 25 Segments for Travel Time Reliability (Buffer Index) : Evening Peak Hour (5-6 PM)**

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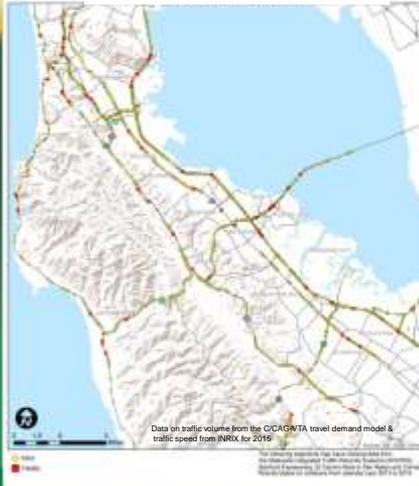
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23	SR 92	SR 92 - San Bruno Ave	Westbound	1:50	0.92
24	SR 92	SR 92 - San Bruno Ave	Eastbound	1:52	0.91
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## Traffic Collisions

Traffic Collisions: Fatalities and Injuries



Traffic Collision Rates: All Crashes



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## Policy Considerations

- Highway Program currently is on a pay-as-you-go approach, should we consider advancing future Measure A funds?
- Are the following matching funds goals realistic?
  - KCA projects: 50% Measure A Highway Program & 50% matching funds
  - SR projects: 70% Measure A Highway Program & 30% matching funds

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## Policy Considerations

- **Should design and right of way costs be programmed and allocated to projects only after a credible funding plan for construction is presented to the TA?**
- **Should we enforce timely use of funds policies?**
  - Four projects awarded \$16 million from the 2012 CFP are approaching five years of inactivity

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## Policy Considerations

- **Options to leverage funds for future calls for projects**
  - Advance funding from future Highway Program revenues to fund projects; may need to consider debt financing
    - » Could provide, for remaining life of measure, up to \$450 million, less financing costs
  - Require sponsors to provide funding match
  - Work with public & private partners on innovative financing and delivery strategies

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## Policy Considerations

### Call for Projects: Different Approaches

- Fund Measure A pipeline projects first, reserve a small set-aside for new projects
- Fund Measure A pipeline projects in areas of greatest congestion & safety deficiencies first, reserve small set-aside for other and new projects
- Fund design and right of way only after a solid funding plan provided for construction
- Consider combination of the approaches listed above

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## Next Steps

- Re-initiate discussion with Highway CIP subcommittee: Feb - April 2017
- Present policy revisions to Board for next Highway CFP: May - June 2017
- Release next Highway CFP call Summer 2017
- Board decision on funding awards December 2017

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