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Memorandum

TO: BATA Oversight Committee

DATE: April 1, 2015

FR: Executive Director

W. I. 1251

RE: I-580 Access Improvement Project Update on the Project Schedule and Associated Barrier System on the Richmond – San Rafael Bridge

At the February Committee meeting the Committee members unanimously authorized the approval of a contract amendment with HNTB Corporation for the completion of final plans, project specifications, and engineer's estimate for the planned improvements. The preparation of these construction documents is occurring concurrent with the effort to obtain project approval and the environmental review activities.

The Committee also authorized the Executive Director to negotiate and execute a decision document with Caltrans outlining the general scope of planned improvements for the proposed project. An action item from that February meeting was to report back to the BATA Oversight committee in April with an update on the project schedule and details of the barrier system proposed for the bridge.

Staff will provide an overview of the initial project schedule, as update, and the current schedule based on efforts to reduce the duration required for project delivery.

Concern was expressed by some Committee members at the February meeting regarding the cost of the movable barrier system planned to separate the proposed bicycle-pedestrian path from westbound vehicular traffic on the Richmond San Rafael Bridge. Staff will also provide a summary of the costs and benefits associated with the movable barrier system in comparison to temporary railing that is typically used during construction.

Steve Heminger

SH : cl

Attachment – Powerpoint Presentation

J:\COMMITTE\BATA Oversight\2015\d_April_2015\5_580AccessImprovement-ProjectUpdate.docx

I-580 Access Improvement Project

Schedule Update and Barrier System Comparison

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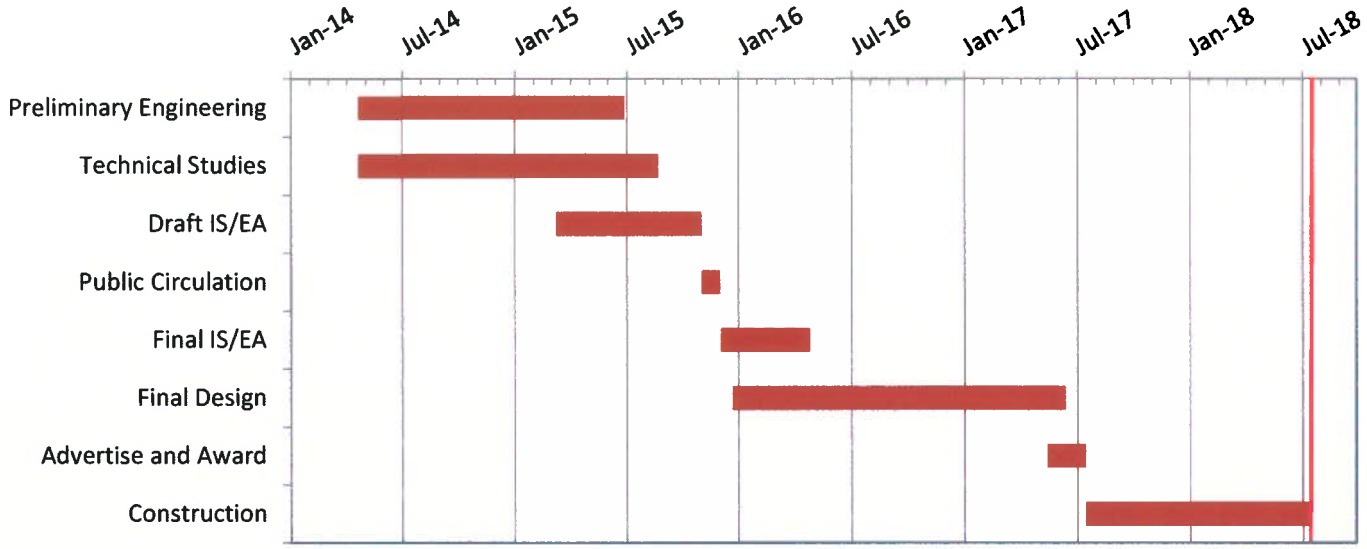
April 8, 2015

Initial Schedule - September 2014



AUGUST 2018

Assumptions:

- Overlap Draft IS/EA with Technical Studies
- Begin Design 90 days before completion of Environmental Document
- BATA Advertise, Award and Administer (approval by Caltrans reqd)
- BATA advertise project at risk, prior to obtaining encroachment permit

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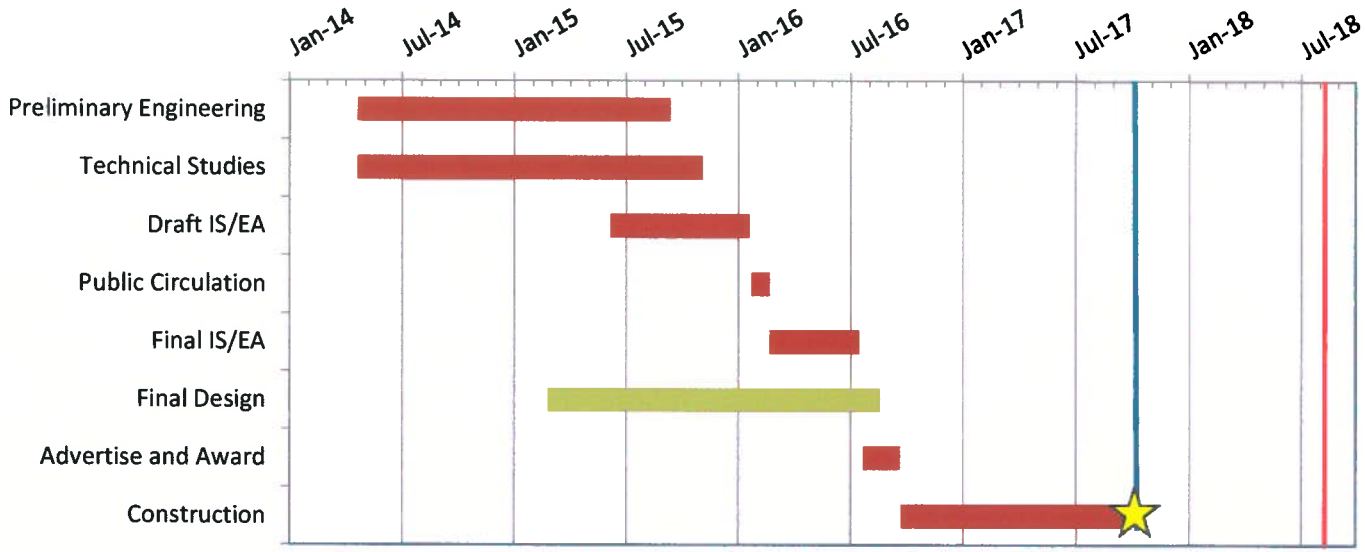
Schedule - February 2015 Update



OCTOBER 2017

Schedule Modification:

- Begin Final Design In Parallel with Environmental

Original Schedule - 2018 Opening

Current Schedule – October 2017 Opening

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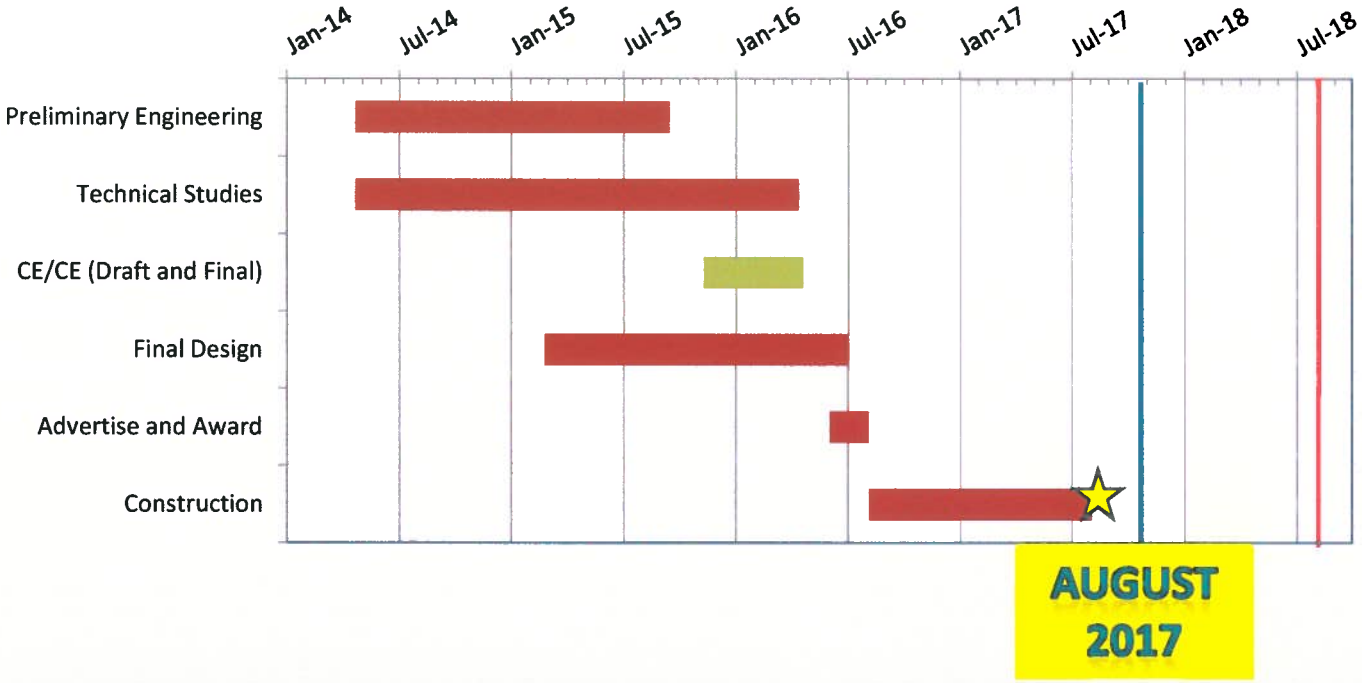
Recommended Schedule – April 2015



Schedule Modification:
Change Environmental Document from IS/EA to CE/CE

Original Schedule - 2018 Opening
Current Schedule – October 2017 Opening

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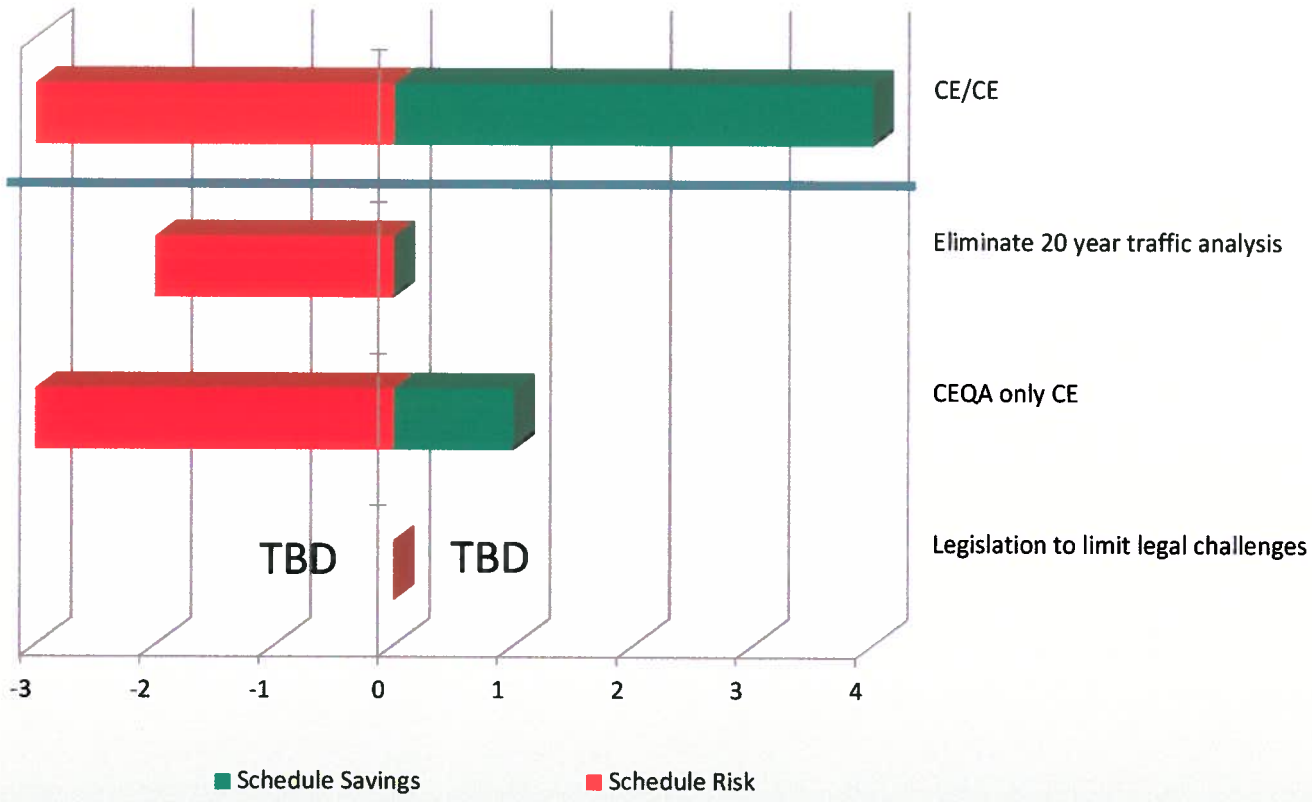
Schedule Summary Slide

	Time Savings (from Oct 2017 Opening)	Risks
CE/CE	- 2 Months	Env. Impacts trigger higher env. doc and delays
Eliminate 20 year traffic analysis from Environmental	- 2 Months	CT concurrence may be challenging
CEQA only CE	- 3 Months	FHWA Approval may trigger NEPA CE
Seek legislation to limit legal challenges (Risk Reduction)	To be determined	Passing legislation in time for project benefit may be challenging
Advanced procurement	N/A. Mitigation for Risk in Construction Delay	Additional costs in putting separate procurement packages Changes in design after procurement become very costly
Phased implementation	No time savings overall, but intermediate benefit to commuters	CT approval Additional costs in additional temporary measures

Schedule Savings vs. Schedule Risk



- A scale of +1 to +5 with +5 having highest schedule benefits
- A scale of -1 to -5 with -5 representing highest risks
- Baseline (0 Axis) represents current schedule

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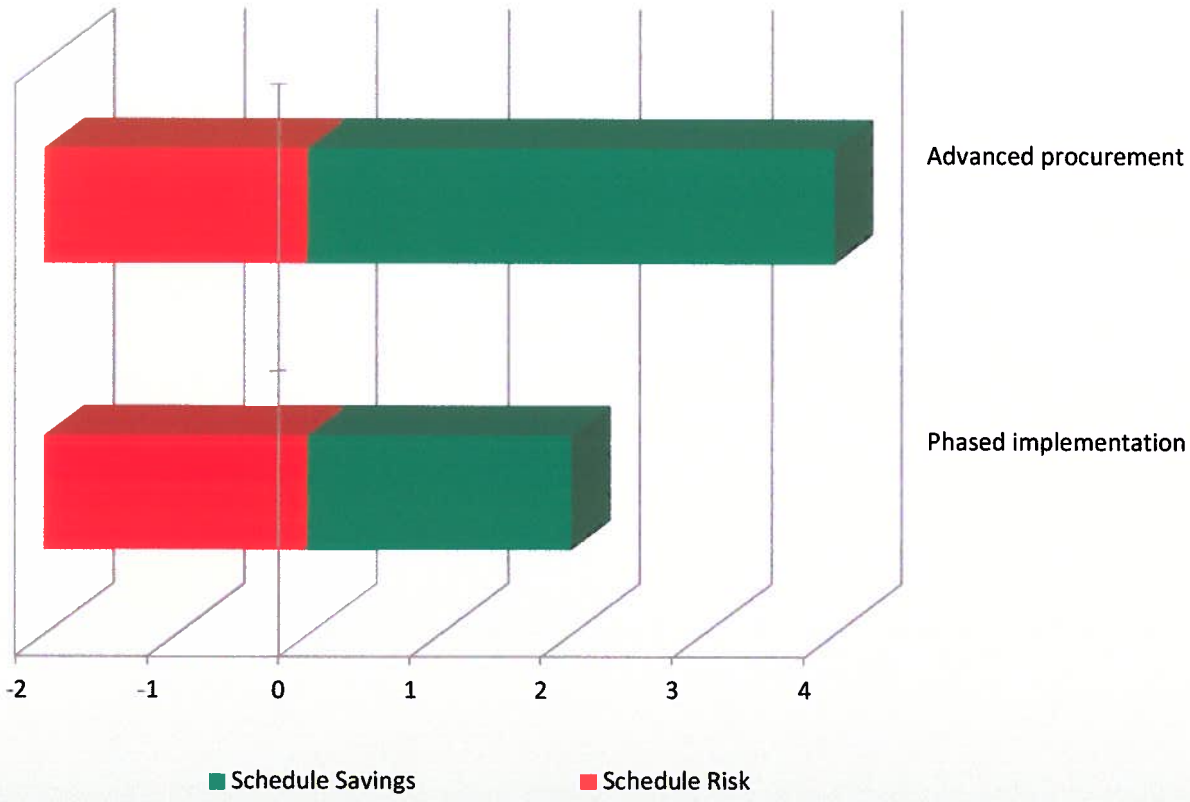
Schedule Savings vs. Schedule Risk



- A scale of +1 to +5 with +5 having highest schedule benefits
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Moveable Barrier vs. K-Rail

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Moveable Barrier vs. K-Rail

Issue	Moveable Barrier	K-Rail
Crash tested and approved for use for permanent implementations	Yes	No
Barrier deflection upon impact	Rail designed to withstand a high impact without any pinning to the deck	Rails cannot be pinned on bridge deck. Rails will deflect more on impact
Once deployed, can be moved laterally much easier, quicker, with no lane closure / traffic control	Yes	No
Can be raised to meet height requirements for bicyclists	Yes	Height modification will be a lengthy process to obtain approval

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Moveable Barrier vs. K-Rail

Issue	Moveable Barrier	K-Rail
Easier to unpin individual sections of rail for incident response	Yes	Longer segments are typically not moved by hand. Requires lane closures.
Easier to restore to original position after impact	Yes	Restore to original position after impact can only be done manually w/closure
Aesthetically pleasing	Yes	No
Capital cost	$305 per linear foot, $6.8 million total (including design of the system)	$40 per linear foot, $1.0 million total
Total operations cost for a 4-yr Period, 4 moves per year.	$825,000, including the cost of purchasing the machine. No residual value assumed	$6.4M
Allows for bicycle path closure during bad weather	Yes	No

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Alternative Use for Moveable Barrier

- Construction Work Zone Protection
  - Flexibility to expand work zones during off-peak commute hours.
  - Schedule savings through rapid stage changing.
  - Applications: express lane construction and bridge improvements requiring nightly lane closures with positive protection.
- Managed Lanes
  - Add peak period capacity to corridors with limited right-of-way to build new HOV or general purpose lanes.
  - Applications: contra flow lanes, moveable medians and bus rapid transit (example: I-580 between SR-24 and SR-13).

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Questions