STATE ROUTE (SR) 37 POLICY COMMITTEE

9:30 a.m., Thursday, March 2, 2017
Touro University - Farragut Inn
1750 Club Dr.
Vallejo, CA 94592

MEETING AGENDA

1. **CALL TO ORDER AND INTRODUCTIONS** — **Vice Chair Erin Hannigan, County of Solano**

2. **OPPORTUNITY FOR PUBLIC COMMENT**

3. **CONSENT CALENDAR**

   A. **Minutes of the February 2, 2017 SR 37 Policy Committee Meeting** — **Dianne Steinhauser, TAM**
   Recommendation:
   Approve SR 37 Policy Committee February 2, 2017 Meeting Minutes
   Pg. 3

4. **PRESENTATION**

   A. **Welcome Remarks from City of Vallejo** — **Mayor Bob Sampayan**

   B. **SR 37 Recent Flood Occurrence and Sea Level Rise Observations** — **Dr. Fraser Schilling, UC Davis**
   Present additional photos/video and discuss observations of an accelerated schedule for sea level impacts.

5. **INFORMATION ITEMS**

   A. **SR 37 Transportation and Sea Level Rise Corridor Improvement Plan - Pg. 9** — **Andrew Fremier, MTC; Kevin Chen, MTC**
   Present the purpose of the plan, scope of work and schedule.

   B. **Marin Flood Control District** — **Craig Tackabery, Marin County Public Works**
   Present an overview of the District, current programs, and potential projects being discussed in the Novato Baylands.

   C. **Bay Area: Resilent by Design Challenge - Pg. 17** — **Allison Brooks, Bay Area Regional Collaborative**
   Update on the new Rockefeller Foundation Grant opportunity related to sea level rise projects.

SR 37 Policy Committee Members:

Solano Elected Officials	Sonoma Elected Officials	Marin Elected Officials	Napa Elected Officials
Bob Sampayan, Mayor City of Vallejo	David Rabbitt, Sonoma County Board of Supervisor	Damon Connolly, MTC Commissioner	Alfredo Pedroza, MTC Commissioner
Jim Spering, MTC Commissioner	Jake Mackenzie, MTC Commissioner	Judy Arnold, Marin County Board of Supervisor	Belia Ramos, Napa County Board of Supervisor
Erin Hannigan, Solano County Board of Supervisor	Susan Gorin, Sonoma County Board of Supervisor	Stephanie Moulton-Peters, Councilmember, City of Mill Valley	Leon Garcia, Mayor City of American Canyon

6. ACTION ITEM

A. SR 37 Affordability Analysis and Financial Road Map — Jose Luis Moscovich, PFAL; Richard Kerrigan, PFAL; Victoria Taylor, PFAL

Recommendation:
Approve SR 37 Affordability Analysis and Financial Road Map.
Pg. 21

7. COMMITTEE COMMENTS AND STAFF UPDATES — **Group Discussion**

8. FUTURE TOPICS

A. Legal/Legislation and Finance Plan Policy Recommendations

9. ADJOURNMENT

Next SR 37 Policy Committee Meeting: 9:30, Thurs., May 4, 2017 at a location to be determined.

State Route (SR) 37 Policy Committee Meeting Minutes
9:30 a.m., Thursday, February 2, 2017
Novato City Hall
901 Sherman Street
Novato, CA 94945

MEETING MINUTES

1. CALL TO ORDER/INTRODUCTIONS

Committee Vice Chairperson, Supervisor David Rabbitt, called the SR 37 Policy Committee Meeting to Order at approximately 9:35 a.m.

POLICY COMMITTEE MEMBERS PRESENT:	Damon Connolly	MTC Commissioner, Marin County Supervisor
	Leon Garcia	Mayor, City of American Canyon
	Susan Gorin	Sonoma County Supervisor
	Erin Hannigan	Solano County Board of Supervisors
	Jake Mackenzie	MTC Commissioner, City Council, Rohnert Park
	Stephanie Moulton-Peters	Councilmember, City of Mill Valley
	Alfredo Pedroza	MTC Commissioner, Napa County Supervisor
	Belia Ramos	Napa County Supervisor
	Bob Sampayan	Mayor, City of Vallejo
	Jim Spering	MTC Commissioner, Solano County Supervisor
	Judy Arnold	Marin County Supervisor
POLICY COMMITTEE MEMBER ABSENT:		
EXECUTIVE DIRECTORS PRESENT:	Daryl Halls	STA
	Suzanne Smith	SCTA
	Dianne Steinhauser	TAM
EXECUTIVE DIRECTORS ABSENT:	Kate Miller	NVTA
OTHERS PRESENT:	Janet Adams	STA
	Tanya Albert	County of Marin
	Melissa Apuya	Assembly Member Marc Levine
	Lorena Barrera	Congressman Mike Thompson
	Tom Bartee	Assembly Member Bill Dodd's Office
	Laura Beltran	Assembly Member Cecilia Aguilar-Curry
	Adam Brand	SCTA - Counsel
	Randy Bryson	OE3
	Scott Buckley	COWI North America
	Patricia Tuttle Brown	Public
	James Cameron	SCTA
	Fidel Chavez	Carpenters Union
	Chadi Chazbeck	HNTB
	Frank Crim	Carpenters Union Local 180
	Bernadette Curry	STA - Legal Counsel
	Mike Davis	ICF
	TJ Devtz	United Bridge Partners

Ed Diffendal	United Bridge Partners (UBP)
Phil Dupuis	Kiewit
Dick Fahey	Caltrans
Jean Finney	Caltrans
Rick Fraites	Marin Audubon Society
Andrew Fremier	MTC
John Galeotti	OE3
Will Hauke	Caltrans
Tim Howard	Novato Chamber
Ken Jong	Zoon Engineering
Pat Karinen	Pile Drivers LU3Y
Daniel Keen	City of Vallejo - City Manager
John Kenyon	Parsons
Richard Kerrigan	Project Finance Advisory Ltd. (PFAL)
Susan Klassen	Sonoma County Department of Transportation
John Lowery	WSP Parsons Brinkerhoff
Eric Lucan	Novato City Council
Dan McCulloch	Carpenters Union
Dan McElhinney	Caltrans
Linda Meckel	SMART
Peter Miljanich	Solano County
Carie Montero	Parsons Transportation Group
Jose Luis Moscovich	PFAL
Cynthia Murray	North Bay Leadership Council
Steve Page	Sonoma Raceway
Isaac Pearlman	BCDC
Phil Peterson	Marin Audubon Society
Logan Pitts	Senator Bill Dodd
Kate Powers	Marin Conservation League
Barbara Salzman	Marin Audubon Society
David Schonbrunn	Transdef
Jeff Shewmaker	Lindsay Transportation
Teri Shore	Greenbelt Alliance
Susan Stomp	MCL
Craig Tackabert	Marin County Public Works
Larry Wagner	Public
Kendall Webster	Sonoma Land Trust
Eric Whan	City of Napa
Laurie Williams	Marin County, Novato Watershed Program
David Yatabe	City of Vallejo - Public Works
Greg Zitney	MCL
Robert Guerrero	STA
Nicholas Nguyen	TAM
Danielle Schmitz	NVTA

2. OPPORTUNITY FOR PUBLIC COMMENT

Natural Heritage Institute representative, Jerry Meryll commented about how UBP is being put on hold. He urged acceleration process.

Laura Beltran, representative for Assembly Member Cecilia Aguilar-Curry, introduced herself.

Larry Wagner from Petaluma, resident, expressed the traffic delay on SR37 and hopes to move the project along.

David Schonbrunn of TransDef stated that increasing traffic capacity will only worsen air quality and environmental impact. He stated the transportation world is in a new condition.

Lorena Barrera, representative for Congressman Mike Thompson, introduced herself.

Brad Herridan is a commuter and commented on his approval of the UBP proposal.

Steve Birdelbaum, TLUC Sonoma, wanted some focus on ferry and transit service for the corridor.

Logan Pitts, representative for Senator Bill Dodd, introduced himself.

Kendall Webster, Sonoma Land Trust member, made a comment regarding their work on improving wetlands.

Barbara Salzman stated it should be an elevated causeway and urged pressure on the State with preservation of state ROW.

John Galeotti, operating engineer, resident, wanted to move forward with the project.

Cynthia Murray, North Bay Leadership Council, promoted commerce and recreation and urged action. Indicated new normal of climate change.

3. SELECT SR 37 POLICY COMMITTEE CHAIR AND VICE CHAIR

On a motion by Solano Supervisor Spering, and a second by Rohnert Park Councilmember Mackenzie, the SR 37 Policy Committee unanimously approved the selection of Sonoma Supevisor Rabbitt as SR 37 Policy Chair for 2017.

On a motion by Solano Supervisor Spering, and a second by Rohnert Park Councilmember Mackenzie, the SR 37 Policy Committee unanimously approved the selection of Solano Supervisor Hannigan as SR 37 Policy Vice Chair for 2017.

4. CONSENT CALENDAR

A. Minutes of the November 3, 2016 SR 37 Policy Committee Meeting

Recommendation:
Approve SR 37 Policy Committee November 3, 2016 Meeting Minutes.

A motion was made by Rohnert Park Councilmember Mackenzie and a second by Solano Supervisor Hannigan, the November 3, 2016 SR 37 Policy Committee meeting minutes were approved.

5. PRESENTATION

A. SR 37 Road Closures and Recent Flood Occurrence and Cases

Dan McElhinney and Will Hauke of Caltrans made presentation of current condition of SR 37.

Acknowledged the corridor needs and sea level rise challenge. The corridor has 4% truck traffic, 41,000 ADT, 3,900 peak-hour traffic. King tides were a challenge. Leveroni levee is what overtopped and water flooded the EB lanes.

Mr. McElhinney gave some possible interim solution with new piping, backflow gates and raise pavement and safety barriers. He mentioned long term strategies as working with partners and CMAs to study raised embankments and causeway.

Supervisor Arnold wanted to get a copy of Mr. McElhinney 's presentation.

Supervisor Spering suggested that any project at Segment B should also include this Novato creek work.

Supervisor Arnold asked if Marin can help with interim measures by Caltrans.

Supervisor Gorin emphasized that the vulnerability issue is as great as traffic congestion. She wanted to know what interim means in timeframe, and Mr. McElhinney said pavement raising is hopefully this year.

Councilmember Mackenzie reminded the various representatives of state electeds to bring the news back.

The Mare Island off-ramp was closed for about 7 days as well. STA Executive Director Halls wanted requested Caltrans examine that area as well.

Mayor Patterson wanted to know if Caltrans is looking at overall sea level rise. Dan said they work with BCDC at the regional level. Caltrans has prepared a draft study presented at the CTC last month and will be completed on 2018.

TAM Executive Director Steinhauser informed the group that Marin County is working on their Baywave project and it has two phases: vulnerability and adaption. She also mentioned the UC Davis study.

Pat Eklund thanked Caltrans for the presentation and interim measures. She said that she have never seen the bottlenecks like the ones caused by the SR37 closures in Novato, and would like to address this before the next winter. She thanked Caltrans for their maintenance crews.

Cynthia Murray asked if Caltrans and Counties have any emergency money from the recent from the state of emergency declaration.

David Schonbrunn stated past hydrologic records are no longer valid for analysis. Climate “weirding” is a phenomenon causing more drastic events.

Supervisor Arnold asked how much the 1,200 feet of improvements near Novato creek will cost. Mr. McElhinney said it is about $8 million. Supervisor Arnold suggested the group should contacted the state to urge for funding**.**

6. INFORMATION ITEMS:

A. New Board Member Orientation:

- **SR 37 Policy Committee 2016 Accomplishments**
- **2017 SR 37 Policy Committee Draft Work Plan**

STA Executive Director Halls went through 2016 accomplishments and 2017 work plan

Supervisor Spering wanted to know what happens with UBP. STA Executive Director Halls said staff needs to complete the PFAL study which analyzes a private funding option, and will present next month, and the corridor plan to identify the initial projects to be phased.

B. Public Outreach Implementation Plan

- **Napa Valley Transportation Authority (NVTA)**
- **Solano Transportation Authority (STA)**
- **Sonoma County Transportation Authority (SCTA)**
- **Transportation Authority of Marin (TAM)**

Daniel Schmitz of NVTA presented the outreach events for them. STA Executive Director Halls presented his county's past outreach events. SCTA Executive Director Smith presented their past outreach events; TAM Executive Director Steinhauser went over Marin County's past effort.

Pat Eklund expressed her desire to see more public outreach and wanted to know what will be future outreach efforts. STA Executive Director Halls said more public meetings, such as this one, will occur and working with Caltrans to get their help with more defined scope of work for outreach, but that completing an alternative assessment to present along with the problem issue would be more helpful.

Mayor Patterson suggested that the project should include environment benefits and not just congestion and sea level rise improvements.

Napa Supervisor Pedroza wants to identify county and community specific issues in the public outreach.

C SR 37 Transportation and Sea Level Rise Corridor Improvement Plan

Janet Adams of STA presented an update of the MTC corridor improvement plan work, informing the group that Kimley-Horn was the selected consultant to perform the work.

Mill Valley Councilmember Moulton-Peters, made a comment that the MTC corridor improvement plan should also focus on needed elements in Segment A along with Segment B. Supervisor Spering agreed that the MTC scope of work should focus on immediate improvements on Segment B and projects to improve Marin's Novato Creek area (including flood control projects).

STA Executive Director Halls presented an initial discussion for tolling analysis and financial options, such as both direction, multiple segment tolling, etc.

Vice Chair Hannigan indicated that she cannot support $10 or bi-directional tolls from Vallejo.

Mayor of Vallejo, Bob Sampayan, also indicated that he cannot support large tolls due to affordability.

Napa Supervisor Pedroza requested that at some point staff consider quantifying impacts of Sea Level Rise and the corridor closures.

Supervisor Spering talked about JPA options and the need for lead agencies to deliver the project.

Chair Rabbitt suggested that tolling in the past was limited to toll booths, but now with electronic toll collection, there are more options.

Supervisor Gorin suggested that we need to know what the costs of the projects are first and then figure out what the tolls should be.

7. ACTION ITEMS

A. SR 37 Corridor Project Delivery/Corridor Planning and Evaluating Proposals Policies

SCTA Executive Director Smith gave a report on the recommended responses to the Policy Questions.

Supervisor Gorin suggested that many folks will go to great lengths to avoid tolls, and that the EIR must address congestion.

SCTA Executive Director Smith mentioned each project implementation will have different leads.

Patricia Brown, resident, wants to see proper management of the public ROW.

Steve Birdelbaum would like to consider other physical improvements and transit options.

Recommendation:
Approve policy recommendations for SR 37 Corridor Project Delivery/Corridor Planning and Evaluating Proposals.

On a motion by Solano Supervisor Spering, and a second by Rohnert Park Councilmember Mackenzie the SR 37 Policy Committee unanimously approved the recommendation.

8. COMMITTEE COMMENTS AND STAFF UPDATES:

Rohnert Park Councilmember Mackenzie informed the group of MTC news on Rockefeller grant opportunities, and SCTA Executive Director Smith said her staff was looking into the opportunities.

Supervisor Spering would like to have Marin Flood Control District present their work at the next meeting.

Councilmember, Stephanie Moulton-Peters, brought up RM3 and how this might be folded in. Councilmember Mackenzie updated the group on the process of RM3 and 2018 timeframe.

Supervisor Arnold suggested that if there is a formation of a JPA that all 4 counties should be party.

9. FUTURE TOPICS

A. Legal/Legislation and Finance Plan Policy Recommendations
B. Project Finance Advisory Limited (PFAL) SR 37 Corridor Toll Revenue Analysis and Financial Road Map

10. ADJOURNMENT

Next SR 37 Policy Committee Meeting: 9:30, Thurs., March 2, 2017at Touro University in Vallejo.

State Route 37 Transportation and Sea Level Rise Corridor Improvements

Project Background

The Metropolitan Transportation Commission (MTC) is working in partnership with the Napa Valley Transportation Authority (NVTA), the Solano Transportation Authority (STA), the Sonoma County Transportation Authority (SCTA) and the Transportation Authority of Marin (TAM) to plan and expedite the delivery of improvements in the State Route (SR 37) Corridor to address the threat of sea level rise, traffic congestion, transit options and recreational activities.

Work on the corridor to date includes an updated Caltrans Transportation Concept Report completed in January 2015, a UC Davis Stewardship Study completed in 2012 and a State Route 37 Integrated Traffic, Infrastructure and Sea Level Rise Analysis (Phase 2 of the 2012 Stewardship Study) completed in 2016. In addition, a four county Policy Committee was created by a Memorandum of Understanding (MOU) in December 2015. The Policy Committee has been meeting every other month since it was formed.

The Caltrans funded Phase 1 and Phase 2 of a Stewardship Study lead by UC Davis. The study included extensive stakeholder involvement where concept designs and cost estimates have been developed by AECOM. Details of the Stewardship Study and related resources can be downloaded at http://hwy37.ucdavis.edu/resources. The Policy Committee, formed by MOU between the four counties, is to guide the intentions and strategies of the parties involved including outlining respective roles, responsibilities and a potential funding strategy for the SR 37 Corridor.

The purpose of this Design Alternative Assessment (DAA) is to evaluate a range of improvement strategies for SR 37 between US 101 and Interstate 80. The outcome of this DAA shall form a set of alternatives to be included in the future Project Approve & Environmental Document (PA&ED) phase of the State Route 37 Project.

Exhibit 1 provides a map of the corridor vicinity, including identification of the three (3) segments along the corridor based on their characteristics.

Exhibit 1 – Project Vicinity and SR 37 Study Segments

Detailed Description of Work

The DAA shall identify and evaluate a range of operational strategies to help improve both regional mobility and impacts due to sea level rise. Evaluations of the different alternatives shall be conducted from congestion relief, system performance, safety, design feasibility, and cost perspectives. Based on available information from recent studies and survey data, Segment B of the corridor between SR 121 in Sonoma County and the Mare Island in Solano County appeared to be the most critical segment due to traffic congestion and vulnerability to sea level rise inundation.

The work is to be done in two phases. The first phase is to complete a high level corridor wide evaluation of when improvements need to be done and what concept level improvements need to be done as a result of inundation due to sea level rise. The corridor wide evaluation will define an approximate timeline for when these series of improvements need to be completed and prioritize the three corridor segments based on expected timeframe of inundation of water. The second Phase will then focus the detailed traffic analysis, design work, and recommendation of alternatives on the priority segment, presumably Segment B.

Corridor Study Limits:
State Route 37 from US 101 to I-80 in three Segments (A, B and C) consistent with UC Davis Study. As part of a corridor study, the traffic analysis shall include portions of the adjacent segments to the priority segment such that the operational effects on the system can be captured fully. Similarly, the design work should include geometric transitions between the proposed alternatives and the adjacent segments, also as part of a corridor study. The DAA effort will focus on the priority segment (presumably Segment B - to be confirmed).

Traffic Analysis Scenarios and Study Time Periods:

- Existing: AM Peak, PM peak and Weekend peak
- Near-Term No Project: AM Peak, PM peak and Weekend peak
- Near-Term With Project Alternatives: AM Peak, PM peak and Weekend peak

Near-Term is defined as the approximate opening year of probable operational improvements.

In addition, a high-level long-term (such as Year 2040) traffic analysis shall be conducted for corridor wide recommended alternatives.

The SR 37 is a key commute corridor during weekdays connecting Solano, Napa, Marin, and Sonoma counties. It is also a heavily used recreational corridor during the weekend. While traffic analysis will be conducted on both weekday and weekend conditions, this DAA would prioritize improvements for weekday commuter needs.

Scope of Work

Task 1. Meetings

CONSULTANT shall meet regularly with staff from NVTA, SCTA, STA, TAM and MTC who will provide project direction. There will be up to twelve (12) Technical Advisory Committee (TAC) meetings with NVTA, SCTA, STA, TAM, and MTC, including a kick-off meeting. Weekly phone meetings shall be held with the project manager. In addition, CONSULTANT shall recommend a number of focused meetings in order to review key deliverables and make decisions over the course of the assessment. On an as-needed basis, the CONSULTANT may also participate in up to two meetings with Caltrans, and/or the SR 37 Policy Committee, once the draft alternatives are developed.

Task 1 Deliverables

Deliverable 1.1 – 1.12: TAC Meeting Minutes

Deliverable 1.13 and 1.14 (as needed), Meetings with SR 37 Policy Committee, and/or with Caltrans

Task 2. Data Collection and Assessment

CONSULTANT shall collect data and other relevant information as available from recently completed and on-going studies in the project vicinity, including the following:

1. Traffic circulation
2. Hydrological
3. Caltrans Right of Way and Access Control Rights, Railroad Easements, Utility Easements
4. Levee Ownership and maintenance expectations of all levees currently protecting SR 37, either directly or indirectly
5. LiDAR data collected in 2010
6. Existing Wetland boundaries

In addition, MTC will provide INRIX speed and travel time data. The CONSULTANT shall seek out other traffic data sources include PeMS and Caltrans census counts.

The CONSULTANT shall assess the available data and determine the need to collect supplemental traffic data.

Supplemental traffic data collection may include:

A. Mainline counts along SR 37
B. Floating car survey on SR 37
C. Intersection turning movement counts at the SR 37 and SR 121 intersection, SR 37 and Lakeville Highway intersection, and at the Mare Island interchange
D. Vehicle occupancy counts on SR 37 (expected to be provided by MTC)
E. Origin-destination data (expected to be provided by MTC)

Near-term and long-term traffic forecast shall be obtained from the Napa-Solano Activity-Based Model, and checked with MTC's Travel Model One for reasonableness. Model files will be provided to the CONSULTANT, which will be used to develop traffic forecast under Task 5.

In addition, the CONSULTANT shall conduct a limited number of ground surveys at key locations (assume up to 5 locations) to confirm levee and/or dam elevations, in relation to the LiDAR survey results. This work will include contacting property owners to obtain rights of entry for survey work as needed. At locations where LiDAR results are found in error, top of levee profiles will be required. Additional information related to the available Lidar survey can be found using the following web links:

http://sonomavegmap.org/

https://coast.noaa.gov/dataservices/Metadata/TransformMetadata?u=https://coast.noaa.gov/data/Documents/Metadata/Lidar/harvest/sfbay2010_m584_metadata.xml&f=html#Data_Quality_Information

Task 2 Deliverables

Deliverable 2A: Traffic Data Assessment Memo
Deliverable 2B: Assessment of Hydrological Analysis for Sea Level Rise and 100-year Storm Event
Deliverable 2C: Identification and Mapping of Caltrans Right of Way with Current Roadway
Deliverable 2D: Levee Ownership Survey
Deliverable 2E: Existing SR 37 Roadway and Surrounding Levee Elevation Mapping Based on Available LiDAR Data
Deliverable 2F: Assessment of Preliminary Wetland boundary Survey
Deliverable 2G: Assessment of Preliminary Environmental Resource/Constraint Map (identification of wetlands, endangered plants and species) within the potential limits of corridor improvements
Deliverable 2H: Supplemental Traffic Data
Deliverable 2I: Supplemental Ground Survey Data

Task 3. Development of SR 37 Corridor Plan and Confirm Priority Segment

Based on an analysis of all data available under Task 2, the CONSULTANT shall develop a high level assessment of the corridor (to be called the SR 37 Corridor Plan) between I-80 to US 101.

This Corridor Plan is intended to set forth the corridor wide approach for what and when improvements are needed to be completed along the corridor due to sea level rise inundation. A key outcome of the Corridor Plan is the identification of a priority segment, or portions of a segment, where additional detailed analysis and design will be performed under Task 4 and Task 5. Note that the 2016 UC Davis State Route 37 Integrated Traffic, Infrastructure and Sea Level Rise Analysis identified Segment B as the initial priority because it was the most vulnerable to sea level rise impacts. However, the UC Davis analysis acknowledged potential errors with LiDAR data and lack of levee ownership and maintenance along the corridor. This task will confirm that finding. Operationally, Segment B has a two-lane cross-section and is one of the primary causes of traffic congestion along the corridor, while both Segments A and C have a 4-lane cross-section. This task will also confirm that finding.

Following the identification of the priority segment, the CONSULTANT shall also identify potential concept level improvements that may be needed for the remaining segments (or portions of the segments) within the corridor – presumably Segment A and Segment C – taking into consideration areas that are most vulnerable to sea level rise, when sea level rise impacts would occur, and when the improvement will need to be in place. The CONSULTANT shall identify project improvements, costs, and likely delivery schedule.

The CONSULTANT shall also conduct a qualitative assessment of a "No Project" scenario reflecting if and when the SR 37 corridor becomes inundated and has to be closed. The CONSULTANT shall assess the impact of the road closure to adjacent east-west routes, detailing their characteristics and the potential for them to accommodate SR 37 traffic. The 100-year storm events, sea level rise projected elevations as recommended by the San Francisco Bay Conservation and Development Commission (BCDC) will also be considered in this assessment.

Task 3 Deliverables
Deliverable 3A: Draft SR 37 Corridor Plan
Deliverable 3B: Final SR 37 Corridor Plan

[Note: Task 4 and 5 shall proceed concurrently in a coordinated fashion.]

Task 4. Alternative Development for the Priority Segment
The CONSULTANT shall identify improvement strategy concepts to the priority segment and perform detailed design and analysis. Concepts of improvement strategies to be considered include the following, but are not limited to:

- Near-term operational improvement: Add a third median lane in Segment B as a contra-flow lane, and/or contra-flow express lane in the peak direction of travel, via movable or fixed barriers, at existing roadway elevation
- Add a third median lane in Segment B as a contra-flow lane, and/or contra-flow express lane in the peak direction of travel, via movable or fixed barriers
- 4-lane Segment B, considering no net wetland fill
- Express bus service
- Commuter parking opportunities
- Shoulder running lane opportunities
- Interchange/intersection reconfiguration alternatives at 37/121 and 37/Mare Island
- Corridor bicycle facilities

Several options have been considered so far for raising the roadway in order to address sea level rise, including berm/embankment, box girder causeway, and slab bridge causeway.

The DAA shall assess the value of different alternatives from congestion relief, system performance, safety, design feasibility, sea level rise adaptation, environmental feasibility (wet land, tidal marsh, natural habitat, etc.), and preliminary cost estimates. For example, it should take into account potential CEQA impacts such as to birds/other species and wetlands and permitting requirements, as well as potential traffic impact at key intersections such as SR 37/101 interchange.

The alternative development process shall also accomplish the following:

- Maintaining the existing rail line, with consideration of not precluding future rail line improvements due to Sea Level Rise
- Preliminary analysis of a zero net wetland impact due to improvements, or strategy on wetlands impact approvals by the BCDC, the Water Board and Army Corps.
- Impacts to adjacent lands (flooding) if the existing Segment B levee is partially removed as part of the Project.

Task 4 Deliverables
Deliverable 4A: Draft Priority Segment Alternative Development Memo
Deliverable 4B: Final Priority Segment Alternative Development Memo

Task 5. Traffic Forecast and Operations Analysis
Based on a 12-month schedule assumption, CONSULTANT shall propose appropriate traffic operations analysis tool(s) for the study.

Near-Term Conditions:
For all project alternatives to be developed as part of Task 4, the CONSULTANT shall apply a growth rate to develop traffic forecasts for the study corridor and conduct traffic operations analysis. Results of the near-term conditions analysis will be used to inform project alternative recommendations.

Long-Term Conditions:
Following the identification of a short-list of recommended alternatives to advance into further project development, the CONSULTANT shall develop long-term traffic forecast (such as Year 2040), and conduct a high-level traffic analysis. Results of the long-term conditions analysis would be used to inform the useful life of recommended alternatives.

Task 5 Deliverables
Deliverable 5A: Draft Traffic Forecast and Operations Analysis Memo
Deliverable 5B: Final Traffic Forecast and Operations Analysis Memo
Deliverable 5C: Traffic Operations Analysis Input and Output Files

Task 6. Design Alternative Assessment Documentation

A draft DAA technical memorandum shall be prepared for stakeholder review. The memo shall document the results of Tasks 2 to 5, including an executive summary, assumptions, alternative development and screening process, analysis methods, performance measures, and 6-Page cost estimates. In addition, the appropriate phasing of recommended design concepts, and packaging of the individual elements where appropriate, shall be included in the memo. The DAA documentation shall also include a Purpose and Need statement for the priority project. A final DAA memo addressing all written comments shall be prepared.

Task 6 Deliverables
Deliverable 6A: Draft Design Alternatives Assessment Technical Memo
Deliverable 6B: Final Design Alternatives Assessment Technical Memo

Draft Task Order Schedule

Deliverables	Due Date *
Deliverable 1.1 – 1.14: Meeting Minutes	TBD
Deliverables 2A – 2I: Data Collection and Assessment	February 2017
Deliverable 3A – 3B: SR 37 Corridor Plan	May 2017
Deliverable 4A – 4B: Alternative Development for Priority Segment	August 2017
Deliverable 5A – 5C: Traffic Forecast and Operations Analysis	September 2017
Deliverable 6A – 6B: Design Alternative Assessment Documentation	November 2017

* Assume notice to proceed by December 2016. Assume Task 5 can proceed concurrently with Tasks 3 and 4.

This page intentionally left blank.

Contact: Stephanie Reichin
C: 617.549.3745
E: SReichin@SKDKnick.com

The Rockefeller Foundation Grants $4.6M to Bay Area Leaders to Tackle Climate Change through Innovative Design Competition

Through the Support of The Rockefeller Foundation, Bay Area: Resilient by Design Challenge Aims to Tackle Regions Toughest Infrastructure Needs

The Foundation Brings Model of Award-Winning, 'Rebuild by Design Hurricane Sandy Design Competition,' to Bay Area

Oakland, CA – Today, The Rockefeller Foundation announced a $4.6M grant to a coalition of Bay Area leaders to create the *Bay Area: Resilient by Design Challenge* - a competition that will engage regional innovators, policy makers, designers, architects, developers, and others in developing creative, realistic and long-lasting infrastructure solutions for the San Francisco Bay Area. This innovative challenge is the first-ever to be modeled after the award-winning *Rebuild by Design Hurricane Sandy Design Competition*, which was pioneered by the US Department of Housing and Urban Development in partnership with The Rockefeller Foundation.

Bay Area: Resilient by Design will spur innovative infrastructure solutions for Bay Area communities, so they can withstand and thrive in the face of growing climate change-related threats and seismic, housing and income disparity challenges. The groundwork for this effort was paved in partnership with the San Francisco Planning Department which sought to develop solutions that yield multiple benefits and address today's and tomorrow's vulnerabilities and opportunities.

Beginning in April 2017, *Bay Area: Resilient by Design* will invite designers, architects, developers, and financial supporters to create and begin implementing 10 visionary, realistic, and replicable design solutions. Each solution must help communities in the nine counties touching the San Francisco Bay to adapt to the impact of rising sea level, increasing storms and flooding, and seismic vulnerabilities.

"Across the Bay Area, increasingly frequent flooding is putting more and more strain on aging infrastructure, while continued sea-level rise is threatening coastal resources. These are real and serious challenges, and they require real and serious solutions," **said Dr. Judith Rodin, President of The Rockefeller Foundation, pioneer of 100 Resilient Cities and Rebuild by Design.** "We are incredibly excited to take all that we learned from our successful *Rebuild by Design* program - as well as the best practices developed by our 100 Resilient Cities - to help the Bay Area keep disruptions from becoming disasters. Our

hope is this challenge will tap into the innovative and collaborative spirit that defines the Bay Area to solve the growing problems facing our communities today – particularly for the poor and vulnerable."

"Building off the success we saw with the *Rebuild by Design Hurricane Sandy Design Competition* we are excited to implement this innovative challenge which will transform the Rebuild model from one of disaster response to resilience planning," said **Amy Chester, Managing Director of Rebuild by Design**. "The Bay Area has some of the most vibrant communities and we will look to connect the talent in those communities with the smartest policy makers, designers, architects, and others from across the region and around the world to create realistic solutions to build the Bay Area for the next generation."

"Tackling our most pressing challenges requires all of us – policymakers, nonprofits, businesses and community leaders – to work together. This is the guiding principle behind *Resilient by Design:* to focus all of the best minds in the Bay Area on holistically building our resilience," said **Zack Wasserman**, **Chair of the San Francisco Bay Conservation and Development Commission.** "We look forward to not only seeing the forward-thinking design solutions these teams envision for our region, but also watching as they work with our communities and developers to implement their projects. Through this partnership, I know we can all effectively and efficiently adapt for the rising tides to come."

"In the wake of Hurricane Sandy, *Rebuild by Design* surfaced some of the most ambitious and powerful resilience projects we have seen, and I believe that the result will be the same in the Bay Area," **said Michael Berkowitz, President of 100 Resilient Cities.** "This inclusive process will help design and develop projects that will address the intersection of climate change and other regional challenges such as housing, transportation, and inequality. The Bay Area Resilient By Design process will build on the three Bay Area resilience strategies that have been produced so far – in Berkeley, Oakland and San Francisco – and will be an important step for the resilience of the region that it is moving forward."

Bay Area: Resilient by Design will be divided into two phases: in the first phase, teams will participate in a three-month exploratory research and community engagement period to develop initial design concepts for specific sites. Teams will organically form themselves and be comprised of applicants from around the world. Phase two of the challenge will be a collaborative five-month intensive design phase with teams working in partnership with residents, businesses, community-based organizations, and political leaders to develop more detailed, replicable and implementable infrastructure projects.

Bay Area: Resilient by Design will also forge close ties with The Rockefeller Foundation's 100 Resilient Cities network, which is seeking to help 100 cities build resilience to thrive in the face of 21st-century challenges. Home to three cities in the 100 Resilient Cities Network, the Bay Area is already working to identify solutions to the region's challenges. In 2016, Oakland, Berkeley, and San Francisco released resilience strategies, each of which cited climate change as one of many stresses that – if not addressed – could ultimately put

the region in jeopardy. This challenge was created in alignment with the resilience strategies put in place by Oakland, Berkeley and San Francisco.

Both *Bay Area: Resilient by Design* and 100 Resilient Cities fortify communities by fostering innovation and collaboration between the public and private sectors. *Bay Area: Resilient by Design* will leverage the network's existing resources and institutional knowledge to accomplish shared goals across the Bay Area.

Each project must bring multiple benefits to these communities and the region while protecting vulnerable populations, enhancing the natural environment, and bolstering critical infrastructure. All the solutions must reflect the innovative and collaborative spirit that defines the Bay Area.

###

About The Rockefeller Foundation:
For more than 100 years, The Rockefeller Foundation's mission has been to promote the well-being of humanity throughout the world. Today, The Rockefeller Foundation pursues this mission through dual goals: advancing inclusive economies that expand opportunities for more broadly shared prosperity, and building resilience by helping people, communities and institutions prepare for, withstand, and emerge stronger from acute shocks and chronic stresses. To achieve these goals, The Rockefeller Foundation works at the intersection of four focus areas—advance health, revalue ecosystems, secure livelihoods, and transform cities—to address the root causes of emerging challenges and create systemic change. Together with partners and grantees, The Rockefeller Foundation strives to catalyze and scale transformative innovations, create unlikely partnerships that span sectors, and take risks others cannot—or will not. For more information, please visit www.rockefellerfoundation.org.

About 100 Resilient Cities – Pioneered by The Rockefeller Foundation
100 Resilient Cities – Pioneered by The Rockefeller Foundation (100RC) helps cities around the world become more resilient to the physical, social, and economic challenges that are a growing part of the 21st century. 100RC provides this assistance through: funding for a Chief Resilience Officer in each member city who will lead the resilience efforts; resources for drafting a resilience strategy; access to private sector, public sector, academic, and NGO resilience tools; and membership in a global network of peer cities to share best practices and challenges. 100RC currently has 67 member cities. For more information, visit: www.100ResilientCities.org.

About Rebuild by Design
Our cities were built in response to yesterday's problems. As the world faces rising populations, climate change, and economic challenges, communities can't afford to wait until after the next hurricane or flood, or ignore chronic stresses such as aging infrastructure and pollution, to plan for the future. Rebuild by Design is reimagining the way communities find solutions for today's large-scale, complex problems.

Rebuild by Design convenes a mix of sectors - including government, business, non-profit, and community organizations - to gain a better understanding of how overlapping environmental and human-made vulnerabilities leave cities and regions at risk. Rebuilds core belief is that through collaboration our communities can grow stronger and better prepared stand up to whatever challenges tomorrow brings.

Through a partnership with 100 Resilient Cities (100RC), Rebuilds collaborative research and design approach is helping cities around the globe achieve resilience.

To learn more visit www.rebuildbydesign.org.

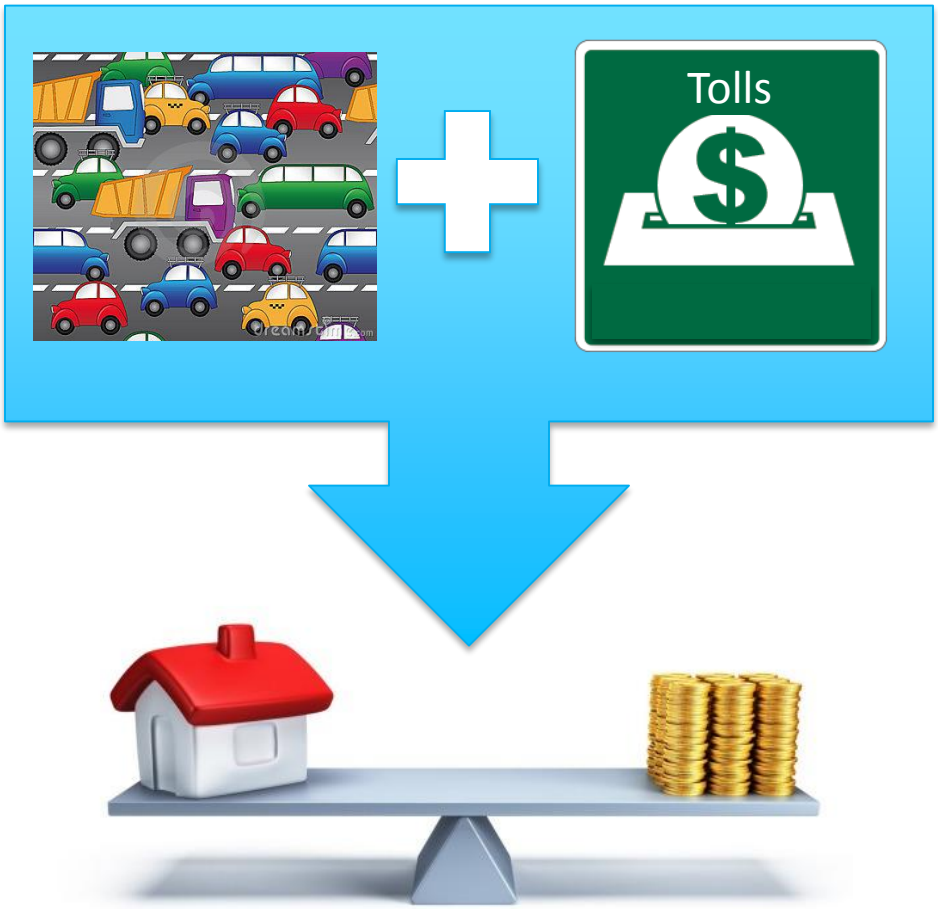
SR 37: AFFORDABILITY ANALYSIS & DECISION ROADMAP

AGENDA

1. Introduction
2. Traffic & revenue analysis
3. Affordability analysis
4. Decision Roadmap
5. Q&A

1 INTRODUCTION

PROCESS OVERVIEW



Project Affordability

PROJECT OVERVIEW

Highway length 20.8 miles with segment lengths:

A= 7.1 miles, B= 9.3 miles, C= 4.4 miles

Source: UC Davis Study

TOLLING CONCEPTS

"Toll Road"

Three toll locations
Toll charge per mile travelled

Segment	Toll
A	$1.70
B	$2.25
C	$1.05
Total	$5.00

"Toll Bridge"

One toll location
Toll charge per "crossing"

Segment	Toll
A	-
B	$5.00
C	-
Total	$5.00

2 TRAFFIC & REVENUE

ANALYSIS FRAMEWORK

Analysis parameters:

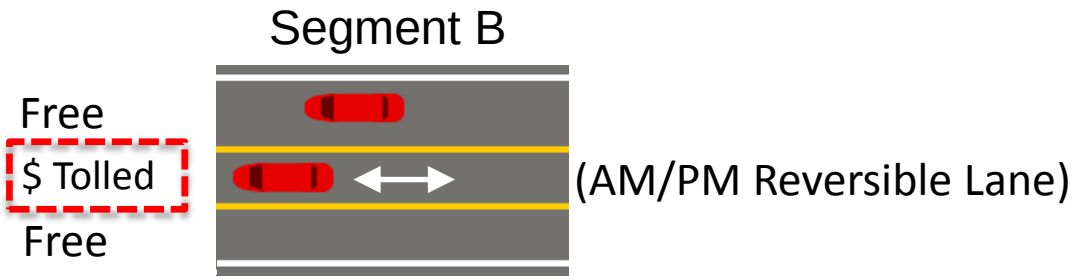
- Level One T&R assessment; preliminary sketch level analysis.
- Toll diversion assessment.
- Benchmarked to comparable California toll facilities.

PFAL team assumptions

- Tolls collected electronically with one gantry per segment (vehicle cost per mile and a flat charge at one location only).
- Discount for local Fastrak users.
- Trucks charged $20 per trip (Benchmark Bay Area: $15 - $35).

TRAFFIC CHARACTERISTICS

Users choice to pay tolls with alternative free lane

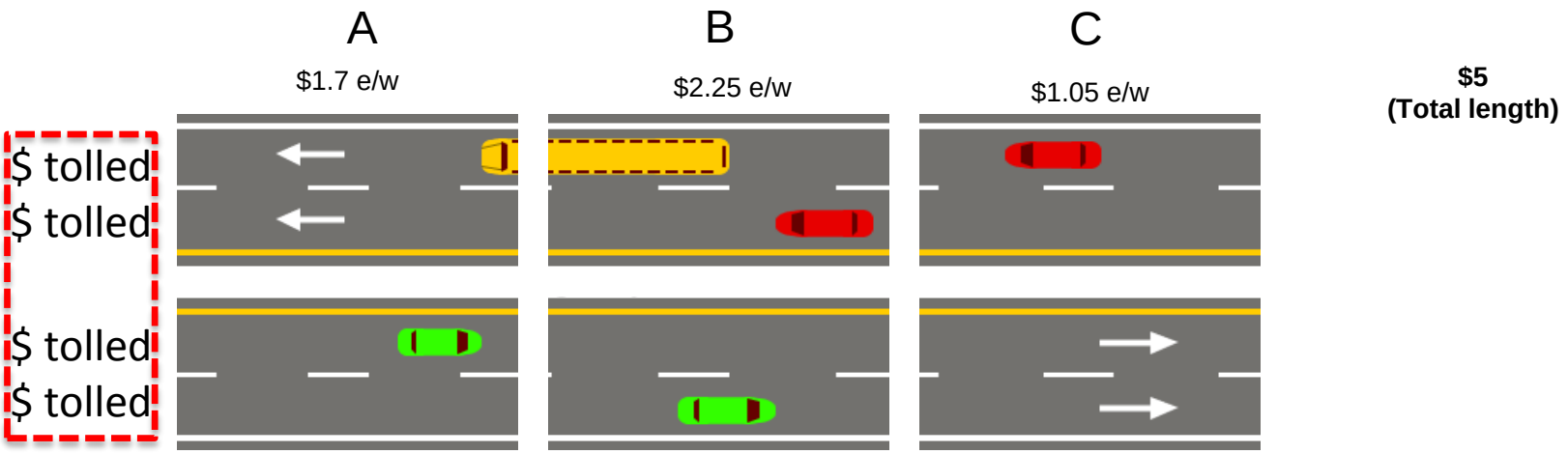


- Peak hour traffic 2,040* vehicles per hour (~15% of daily traffic)
- Capacity of single lane 1,800 vehicles per hour (LOS “C”)
- Approximately 12% of peak hour vehicles (or ~2% of daily traffic) would choose to pay a toll during peak hours.
- Outside peak hours users would choose free lane alternative given the traffic volumes are below the congested single lane capacity i.e. time savings gained would not be worth the toll charge.

* Estimated in year 2040. LOS means Level of Service.

TOLL REVENUE - $5 BOTH WAYS

Four lanes tolled, $5 each way



Vehicle colors do not represent different toll rate

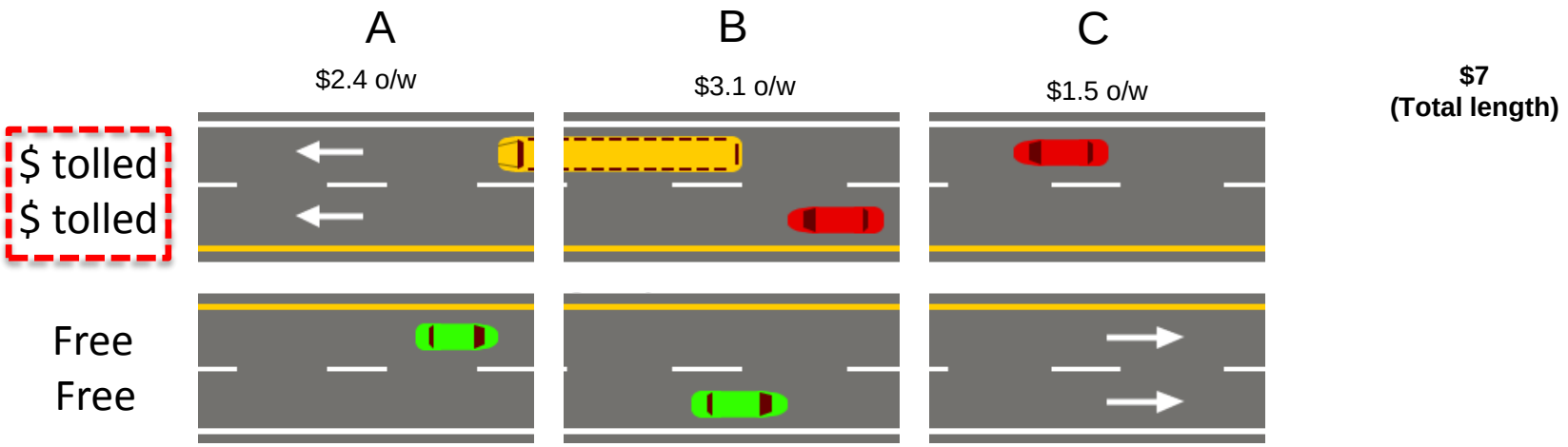
Tolling Options	A	B	C	Sum Total (over 50 years)*
Toll Road	$3.7 b	$5.3 b	$3.6 b	$12.5 b
Toll Bridge	-	$5 in Segment B only	-	$9.3 b

* Total revenue generated over 50 years of tolling. Toll rate escalated over this period.

e/w = each way; o/w = one way

TOLL REVENUE - $7 ONE WAY

Two lanes tolled, $7 one direction



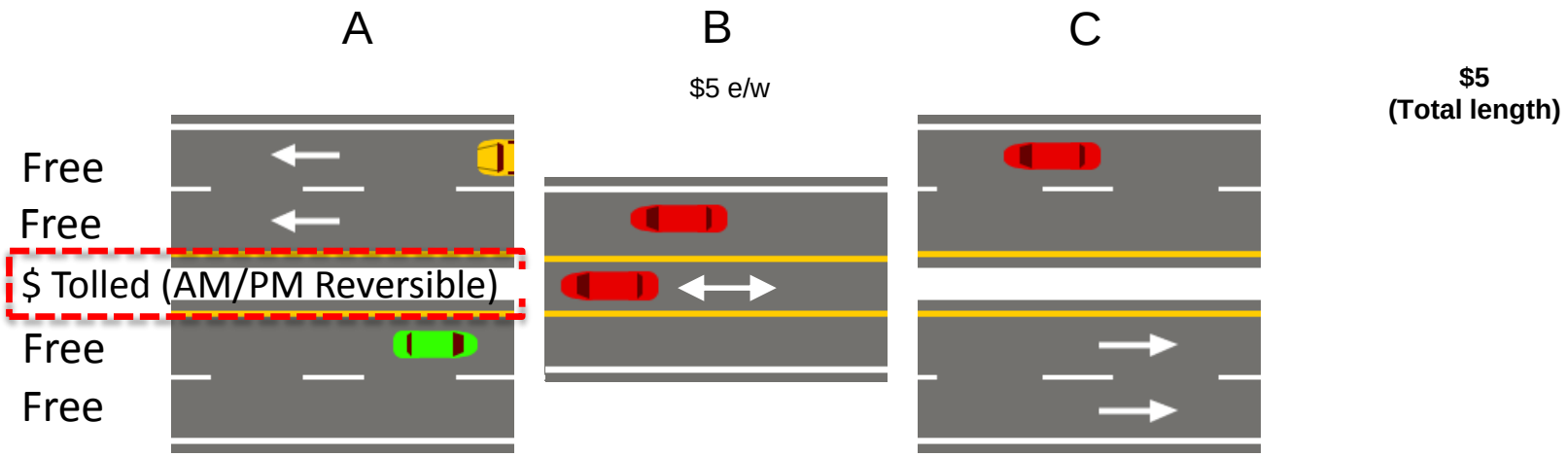
Tolling Options	A	B	C	Sum Total (over 50 years)*
Toll Road	$2.7 b	$3.9 b	$2.7 b	$9.4 b
Toll Bridge	-	$7 in Segment B only	-	$7.5 b

* Total revenue generated over 50 years of tolling. Toll rate escalated over this period.

e/w = each way; o/w = one way

TOLL REVENUE - $5 REVERSIBLE

One reversible lane tolled, $5 each way



Vehicle colors do not represent different toll rate

Tolling Options	A	B	C	Sum Total (over 50 years)*
Toll Road	N/A	N/A	N/A	N/A
Toll Bridge	$5 in Segment B only (Reversible toll: AM – westbound, PM – eastbound)			$0.3 b

* Total revenue generated over 50 years of tolling. Toll rate escalated over this period.

e/w = each way; o/w = one way

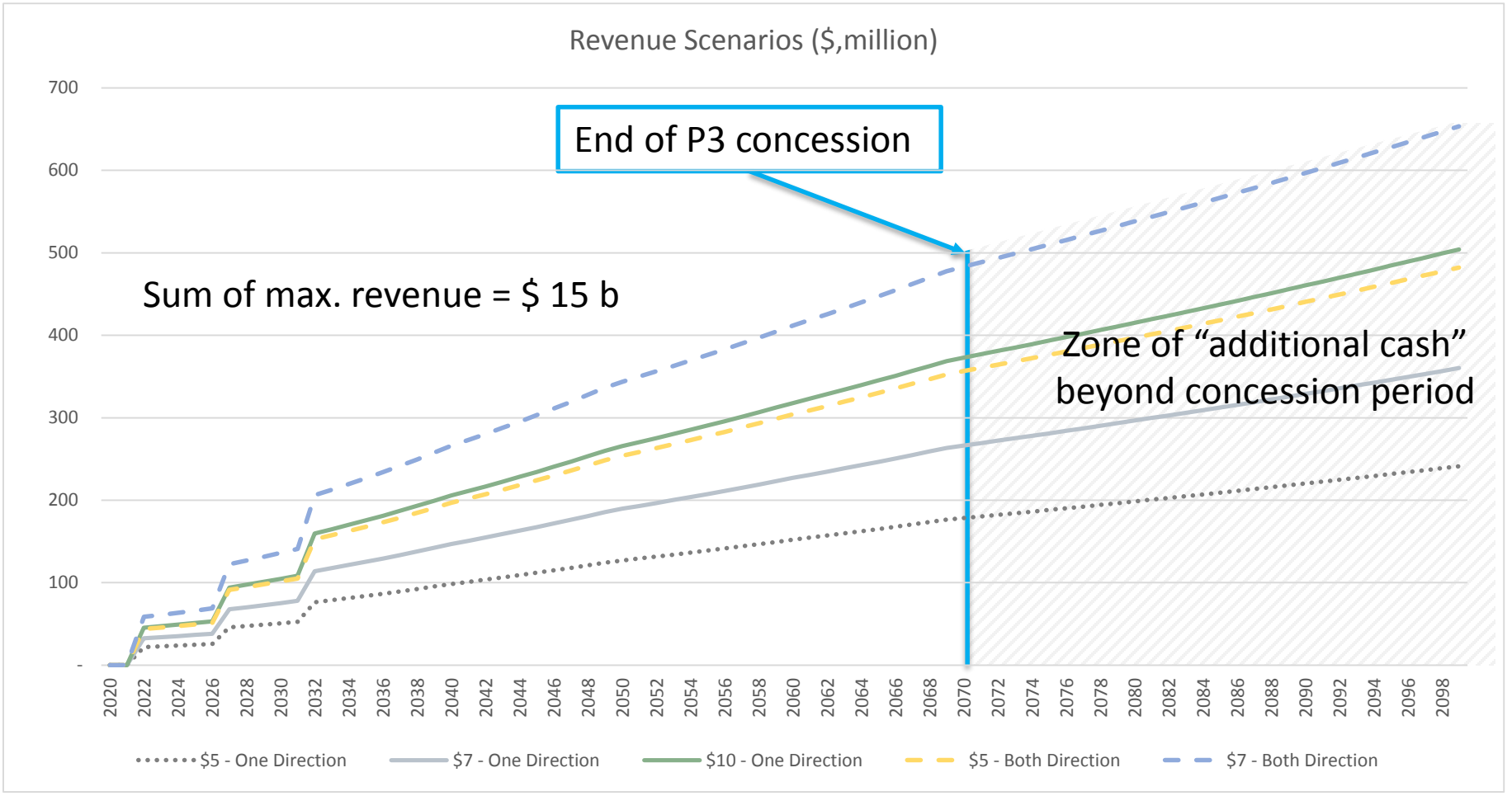
TOLL REVENUE SUMMARY

Toll revenue generation. Relative comparison for illustrative purposes.

Scenario	Toll Rate	Toll Option	Total Revenue
Four lanes tolled	$5 →	Toll Road (3 locations)	$12.5 b
		Toll Bridge (1 location)	$9.3 b
Two lanes tolled one direction	$7 →	Toll Road (3 locations)	$9.4 b
		Toll Bridge (1 location)	$7.5 b
One reversible lane tolled	$5 ⇆	Toll Bridge (1 location) AM – westbound PM - eastbound	$0.3 b

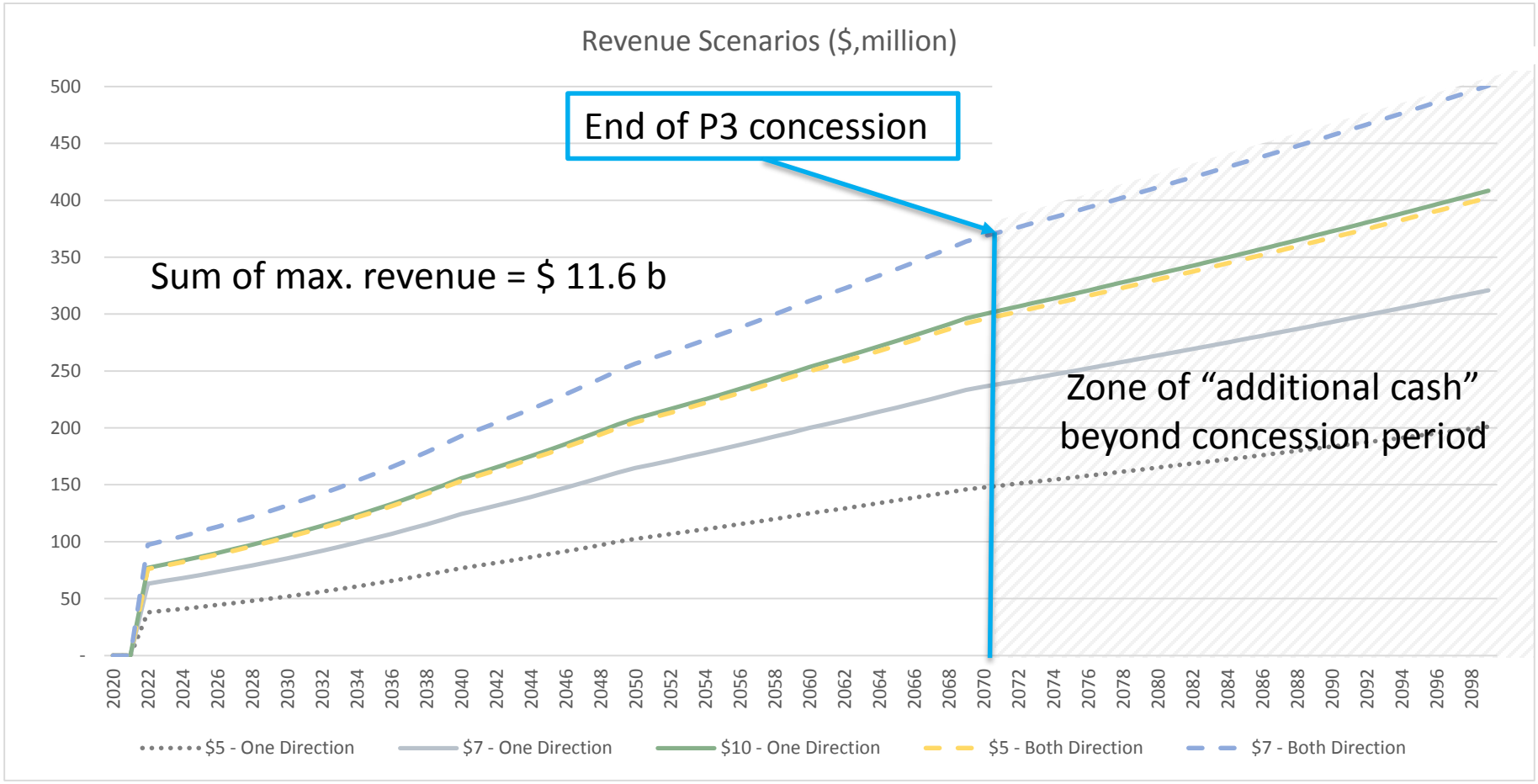
e/w = each way; o/w = one way

TRAFFIC & REVENUE – TOLLED IN EVERY SEGMENT (TOLL ROAD)



TRAFFIC & REVENUE – TOLLED IN SEGMENT B ONLY (TOLL BRIDGE)

Revenue generated is approximately 15-20% less than tolling in all Segments

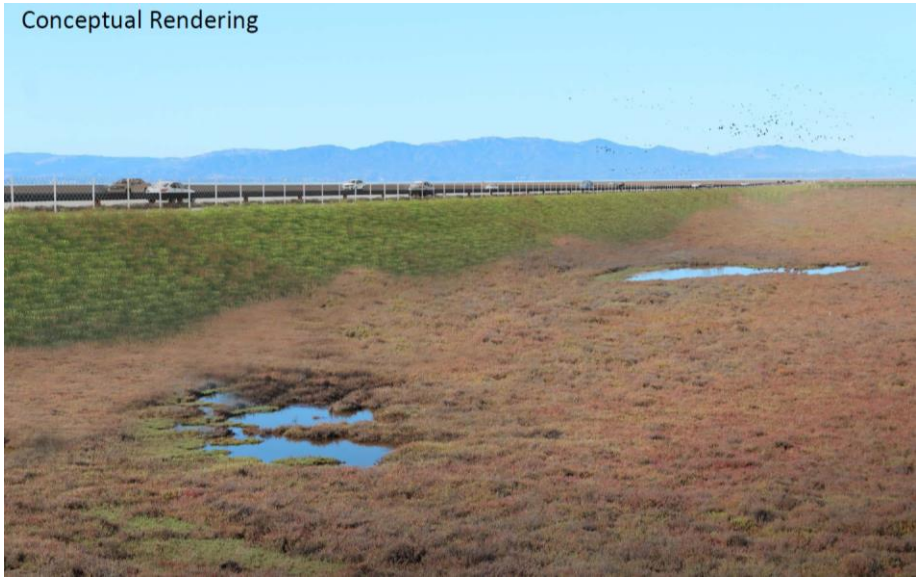


3 AFFORDABILITY ANALYSIS

TECHNICAL ALTERNATIVES

1. Levee/Embankment

Segment	Construction Cost in 2030	Construction Cost in 2022
A	$0.5 b	$0.4 b
B	$0.7 b	$0.5 b
C	$0.1 b	$0.1 b
Total	$1.3 b	$1.0 b



Source: UC Davis Study, 2016

TECHNICAL ALTERNATIVES

2. Slab Bridge Causeway

Segment	Construction Cost in 2030	Construction Cost in 2022
A	$1.3 b	$1.0 b
B	$2.2 b	$1.7 b
C	$0.3 b	$0.3 b
Total	$3.8 b	$3.0 b

Source: UC Davis Study, 2016

TECHNICAL ALTERNATIVES

3. Box Girder Causeway

Segment	Construction Cost in 2030	Construction Cost in 2022
A	$1.4 b	$1.1 b
B	$2.5 b	$2.0 b
C	$0.4 b	$0.3 b
Total	$4.3 b	$3.4 b

Source: UC Davis Study, 2016

DELIVERY OPTIONS

1. Traditional

- **Revenue:** non-tolled facility
- **Facility Ownership:** public
- **Contract:** traditional inter-agency agreements
- **Funding:** only public funds (local/state/fed grants)
- **Delivery Method:** Design-Bid-Build (DBB)

2. Public-private partnership (P3)

- **Revenue:** tolls, sales tax
- **Facility Ownership:** public
- **Contract:** long term lease with private partner (e.g. 30 to 50 years)
- **Funding:** mix of public funds (local/state/fed grants) and private funds (equity & debt)
- **Delivery Method:** Design-Build-Finance-Operate-Maintain (DBFOM), DBFM and DBF

3. Public-Public

- **Revenue:** tolls, sales tax
- **Facility Ownership:** public
- **Contract:** Cooperative Agreement e.g. Bay Area Toll Authority (BATA)
- **Funding:** publicly financed (e.g. revenue bonds), grants
- **Delivery Method:** DBB, DB

4. Privatization

- **Revenue:** tolls
- **Facility Ownership:** private
- **Contract:** Acquisition & Development Agreement
- **Funding:** 100% privately financed (equity & debt)
- **Delivery Method:** full private responsibility for asset

Goals/Objectives: Roles & Responsibilities

Determine "Best Value" approach via Value-for-Money Assessment

Industry/Market Feedback

MODEL ASSUMPTIONS



Project Costs	Low	Medium	High
Total Construction Costs* ($b)	$1.0	$3.0	$3.4
Total Operations & Maintenance Costs ($b)	$0.40	$0.40	$0.40
Total Lifecycle Costs ($b)	$0.34	$0.57	$0.60

Dates

Construction Period (Per Segment)	3 years
Operation Period	50 years
Total Project Period	53 years

*Source: UC Davis Study, 2016. Note: construction costs provided in 2022 dollars

MODEL ASSUMPTIONS

Analyzed three project delivery and financing alternatives.

P3 Financing – Availability Payment	
Debt/Equity	85 / 15
Private Debt Pricing*	5.35%
Debt tenor	40 years
Equity return	12.0%

Case Studies:

- I-4 Ultimate, FL
- Presidio Parkway, CA

P3 Financing – Revenue Risk	
Debt/Equity	75 / 25
Private Debt Pricing*	6.20%
Debt tenor	40 years
Equity return	13.5%

Case Studies:

- South Bay Express, CA
- US 36, CO
- South Norfolk, VA

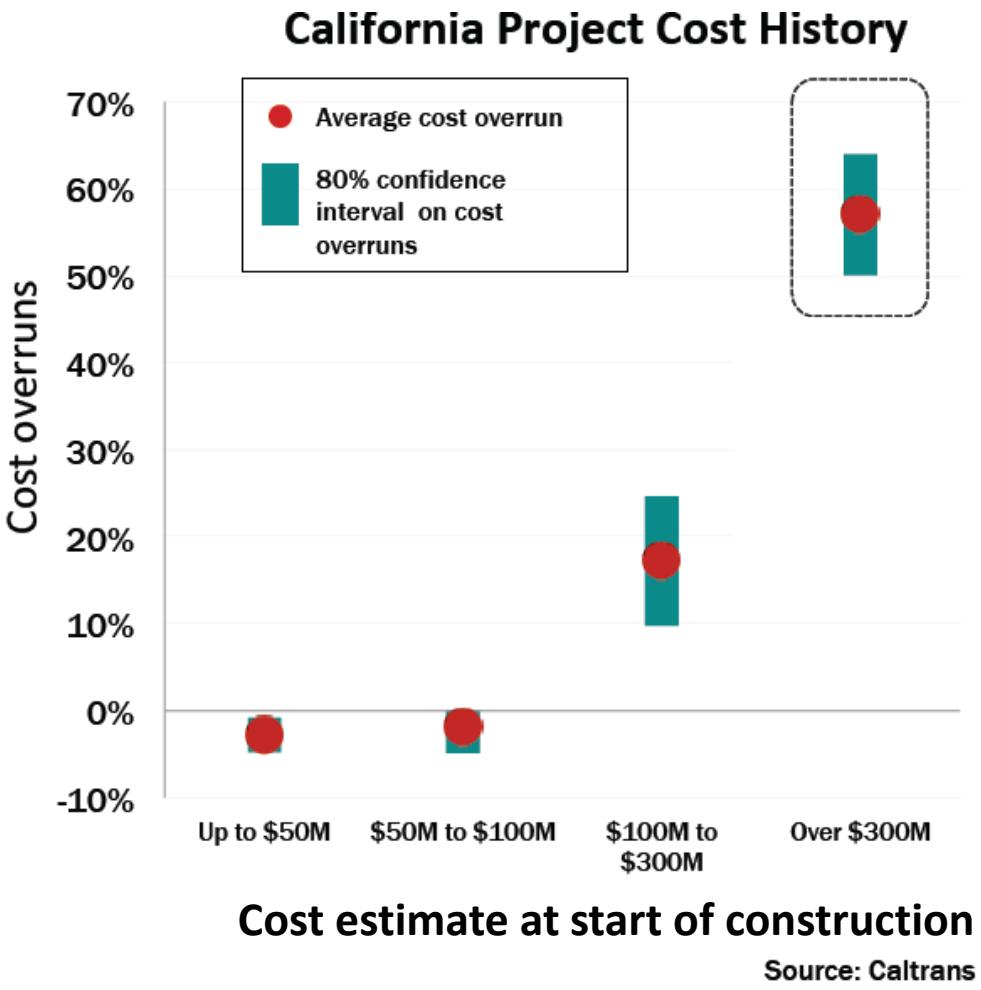
Financing – Public Finance**	
Debt/Equity	100 / 0
Public Debt Pricing*	3.90%
Debt tenor	40 years
Equity return	N/A

Case Studies:

- George Bush Turnpike, TX

**Base interest rates based on 30-year AAA MMD benchmark, Corporates Bonds benchmark, and Municipal Bonds Benchmark.*
***Design Bid Build (DBB) option includes 20% and 10% cost overrun adjustment for Construction and O&M costs, respectively*

PROJECT DELIVERY



For Caltrans projects with an initial budget of $300m or more, documented cost overruns are in the 60% range.

AFFORDABILITY ASSESSMENT – TOLLED IN EVERY SEGMENT



	Low CAPEX ($1.0 b)*					Medium CAPEX ($3.0 b)*					High CAPEX ($3.4 b)*				
	$5→	$7→	$10→	$5⇆	$7⇆	$5→	$7→	$10→	$5⇆	$7⇆	$5→	$7→	$10→	$5⇆	$7⇆
Segment A	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Segment B	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Segment C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓

Important Notes:

1. Check marks represent toll revenue in that segment is sufficient to fund the total cost of the segment under an availability payment P3 structure. Note; other delivery models may have less favorable results.
2. The reversible lane option revenue is insufficient across all options.
3. This affordability analysis relies on key inputs from third party sources. This third party information will need to be updated and reflected in any subsequently revised affordability analysis.
4. This affordability assessment includes O&M, full lifecycle and financing costs for years 1-50.
5. *Source: UC Davis Study, 2016. Note: construction costs for Segments A, B & C provided in 2022 dollars.

AFFORDABILITY ASSESSMENT – TOLLED IN SEGMENT B ONLY



	Low CAPEX ($0.5 b)*					Medium CAPEX ($1.7 b)*					High CAPEX ($2.0 b)*				
	$5→	$7→	$10→	$5⇆	$7⇆	$5→	$7→	$10→	$5⇆	$7⇆	$5→	$7→	$10→	$5⇆	$7⇆
Segment A	---------- Not applicable in this case, Segment B only----------														
Segment B	✓	✓	✓	✓	✓	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗
Segment C	---------- Not applicable in this case, Segment B only----------														

Important Notes:

1. Check marks represent toll revenue in that segment is sufficient to fund the total cost of the segment under an availability payment P3 structure. Note; other delivery models may have less favorable results.
2. The reversible lane option revenue is insufficient across all options.
3. This affordability analysis relies on key inputs from third party sources. This third party information will need to be updated and reflected in any subsequently revised affordability analysis.
4. This affordability assessment includes O&M, full lifecycle and financing costs for years 1-50.
5. *Source: UC Davis Study, 2016. Note: construction costs for Segments A, B & C provided in 2022 dollars.

MINIMUM TOLL RATE NEEDED

Tolling Scenarios		Minimum Toll Rate Needed*	Construction Cost Affordability**
Toll Road	One Direction	$6 o/w	$1.0 b
	Both Directions	$3 e/w	$1.0 b
Toll Bridge	One Direction	$6 o/w	$1.0 b
	Both Directions	$3 e/w	$1.0 b
Toll Bridge (Segment B only)	One Direction	$4 o/w	$0.5 b
	Both Directions	$2 e/w	$0.5 b

* Toll rate is weighted; includes higher toll rates for visitors and truck traffic
** Construction costs from the UC Davis Study, 2016

e/w = each way; o/w = one way

Note: affordability assessment includes O&M, full lifecycle and financing costs for years 1-50
High level proxy for indicative purposes only. Further analysis required.

MAXIMUM REVENUES

Tolling Scenarios		Revenues (Years 1-50)	Additional Revenues (Years 51-80)	Approximate CAPEX * affordable with additional revenue
Toll Road	$5 →	$6.3 b	$4.0 b	$0.6 b
	$5 ⇆	$12.5 b	$9.9 b	$1.5 b
	$7 →	$9.4 b	$6.9 b	$0.3 b
	$7 ⇆	$16.9 b	$14.1 b	$2.1 b
	$10 →	$13.1 b	$10.5 b	$1.6 b
Toll Bridge	$5 →	$4.6 b	$3.2 b	$0.5 b
	$5 ⇆	$9.3 b	$8.1 b	$1.2 b
	$7 →	$7.5 b	$6.1 b	$0.9 b
	$7 ⇆	$11.6 b	$10.5 b	$1.6 b
	$10 →	$9.4 b	$8.2 b	$1.2 b
Max Toll Road	**$7 ⇆**	**c. $16.9 b**	**$14.1 b**	**$2.1 b**
Max Toll Bridge	**$7 ⇆**	**c. $11.6 b**	**$10.5 b**	**$1.6 b**

* Capital expenditure approximation coefficient derived from the availability payment delivery model.

MAXIMUM AFFORDABILITY

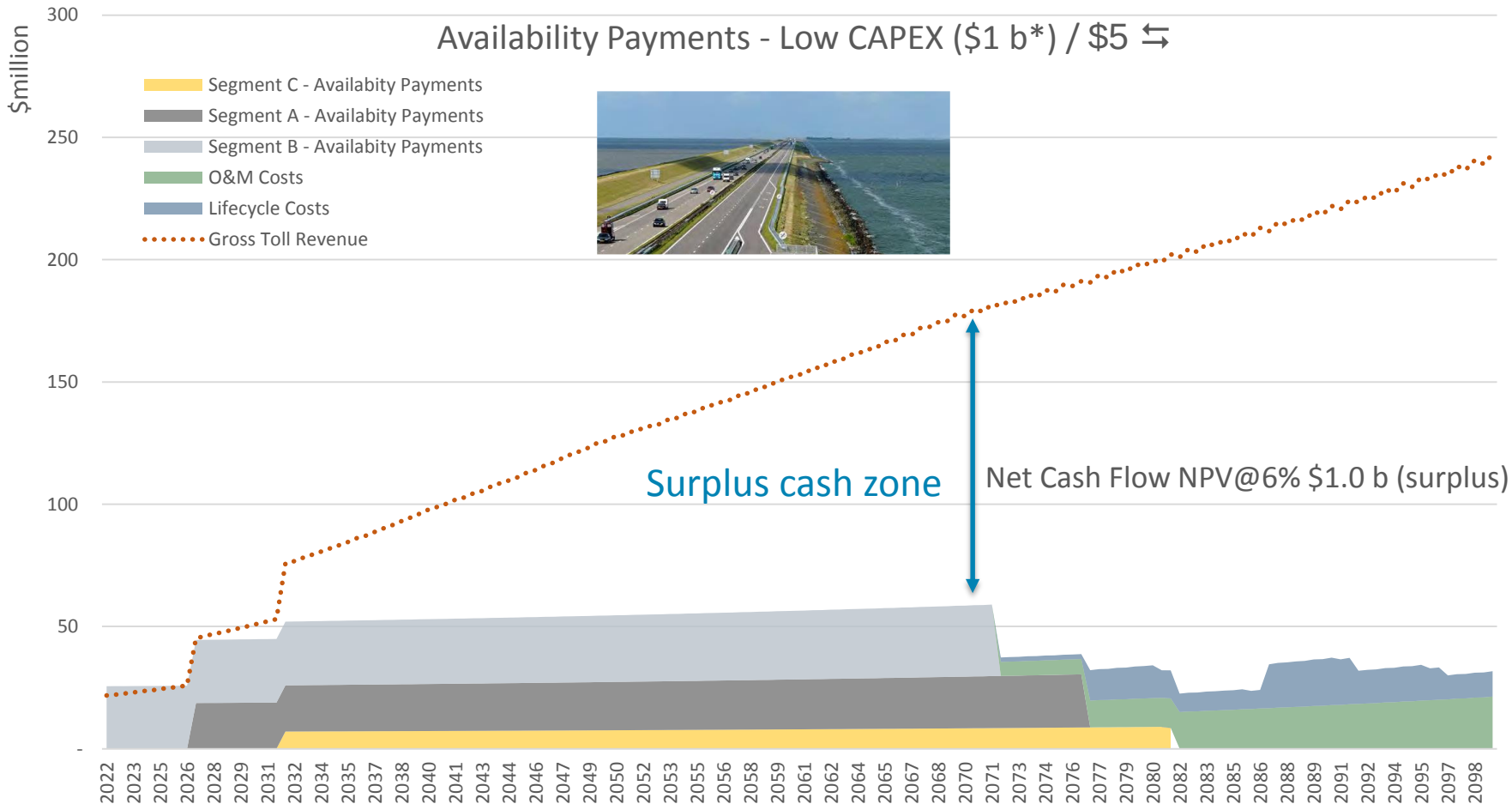
Tolling Scenarios		Max. Construction Cost Affordability*
Toll Road	$5 →	c. $0.8 b
	$5 ⇆	c. $1.9 b
	$7 →	c. $1.3 b
	$7 ⇆	c. $2.6 b
	$10 →	c. $2.0 b
Toll Bridge	$5 →	c. $0.7 b
	$5 ⇆	c. $1.5 b
	$7 →	c. $1.2 b
	$7 ⇆	c. $1.9 b
	$10 →	c. $1.5 b
Max Toll Road	**$7 ⇆**	**c. $2.6 b**
Max Toll Bridge	**$7 ⇆**	**c. $1.9 b**

* Construction cost affordability from revenue generated in years 1-50
** Construction costs from the UC Davis Study, 2016

Note: affordability assessment includes O&M, full lifecycle and financing costs for years 1-50

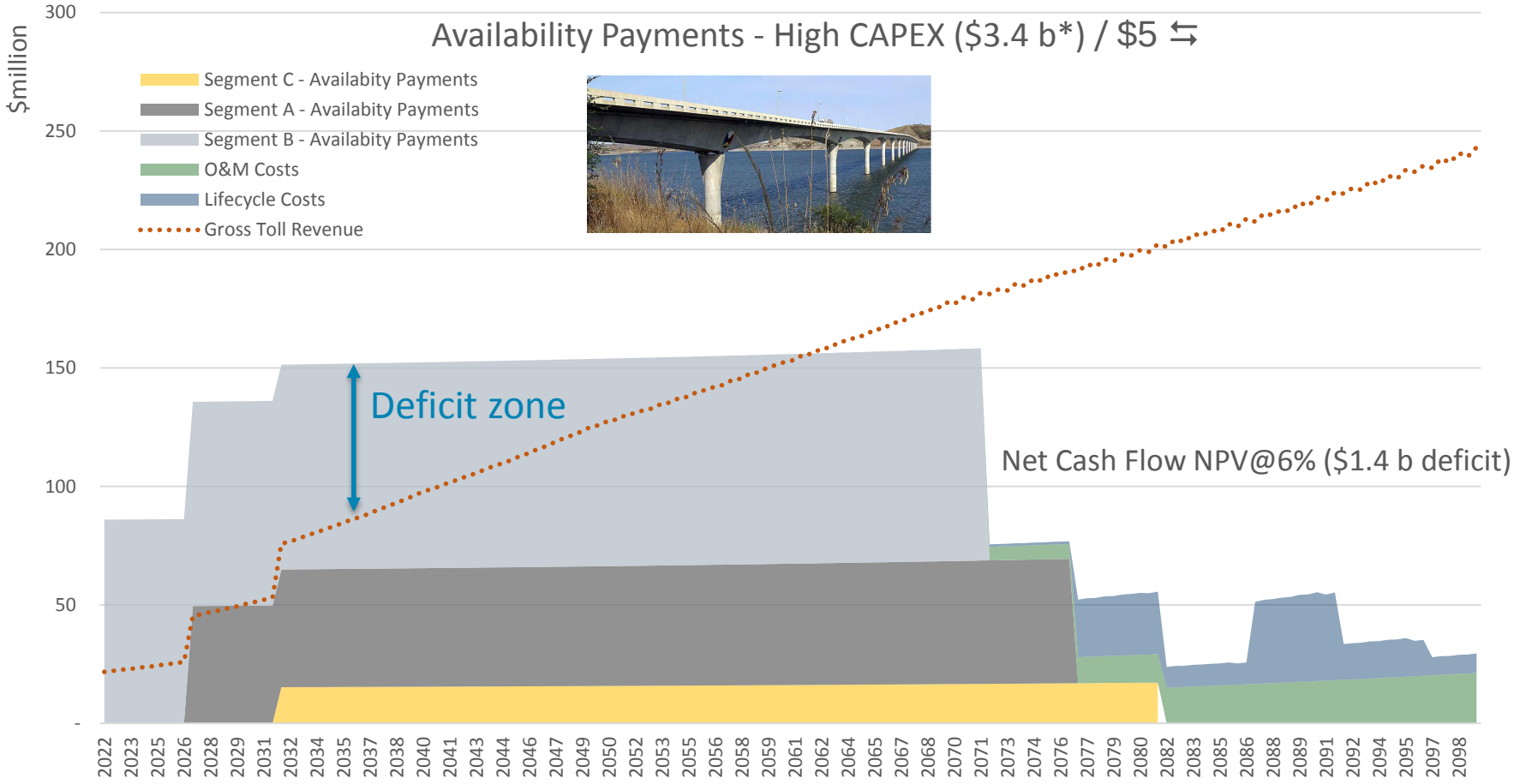
Technical Alternatives	Construction Cost in 2022**
1. Levee/Embankment	$1.0 b
2. Slab Bridge Causeway	$3.0 b
3. Box Girder Causeway	$3.4 b

P3: FULLY FUNDED PROGRAM



* Construction costs from the UC Davis Study, 2016.
NPV means Net Present Value.

P3: UNDERFUNDED PROGRAM

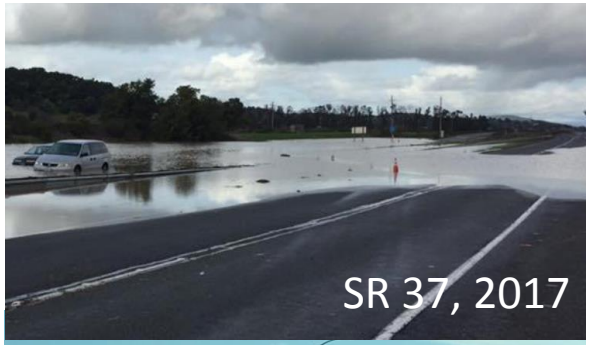


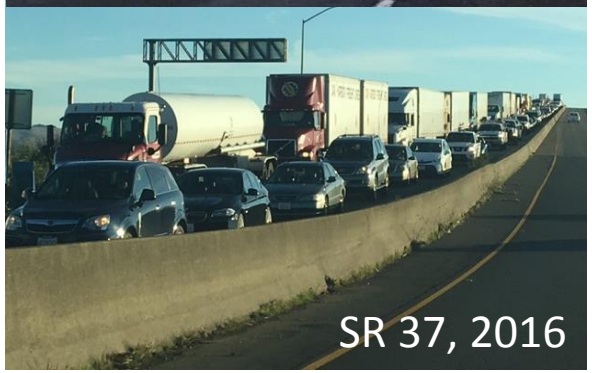
* Construction costs from the UC Davis Study, 2016.
NPV means Net Present Value.

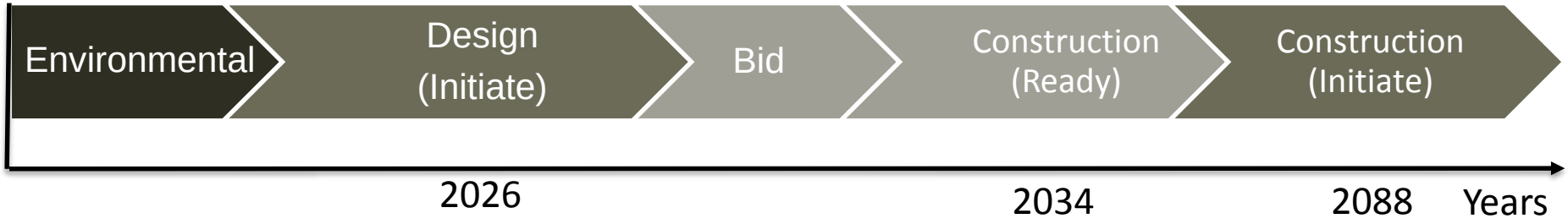
TRADITIONAL ALTERNATIVE

Traditional funding approach with STIP/ITIP*:

- ❑ Design-bid-build delivery model
- ❑ $1 b construction cost (Segment B)
- ❑ $20 m environmental
- ❑ $90 m design
- ❑ $30 right-of-way
- ❑ Estimated start of construction 2088
- ❑ Delayed due to funding shortfall







* STIP/ITIP share for four North Bay Counties

CONCLUSIONS

Tolling at least 2 lanes is necessary in order to fund a viable project.

Tolling only segment B can fund a $1.9 b project.

Toll rates and project size can vary to define a suitable project within the affordability envelope.

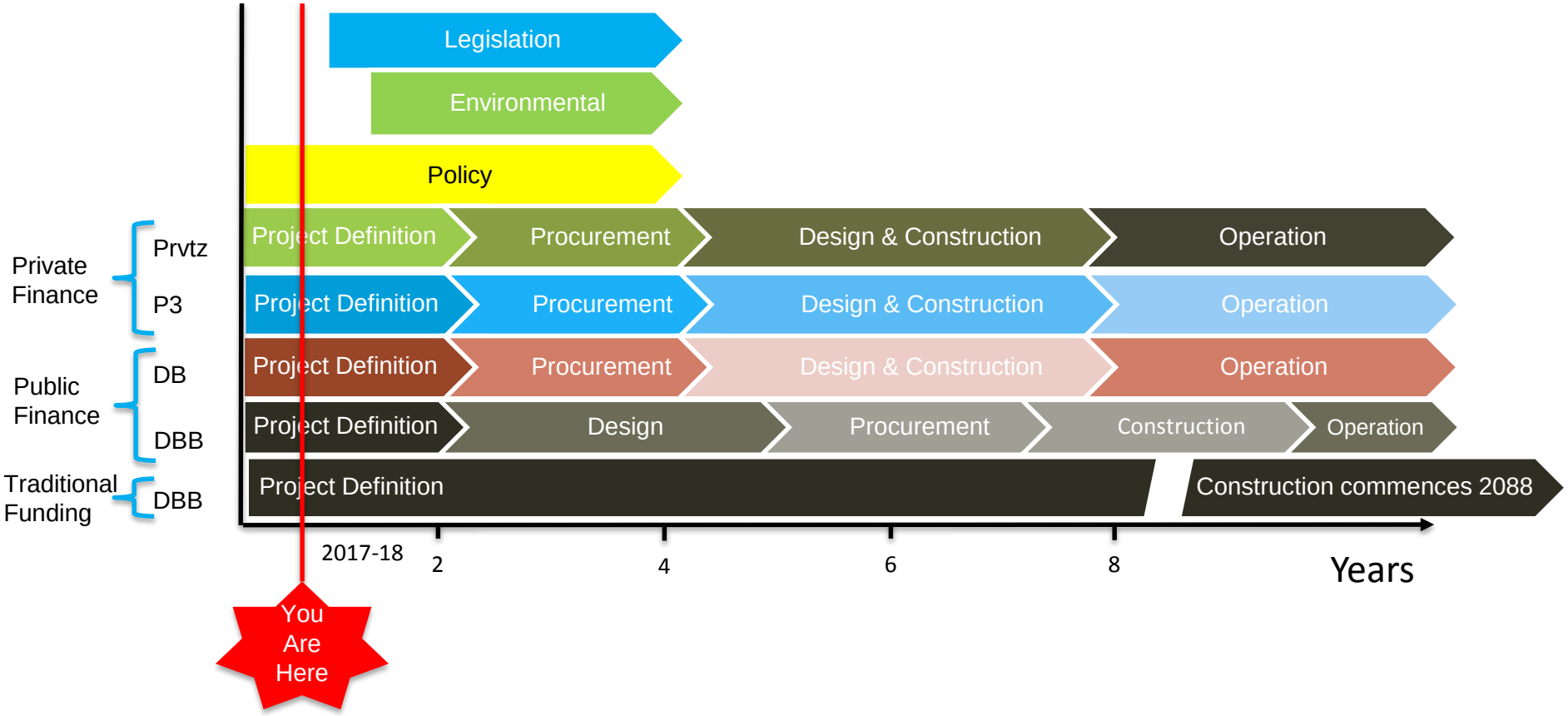
Will have to address increased traffic diversion rate to “free” alternatives.

Tolling only one lane (leaving one lane free) is not enough even to fund Technical Alternative 1 ($1.0 b).

Potential for “additional cash” beyond initial investment scope.

4 SR 37 DECISION ROADMAP

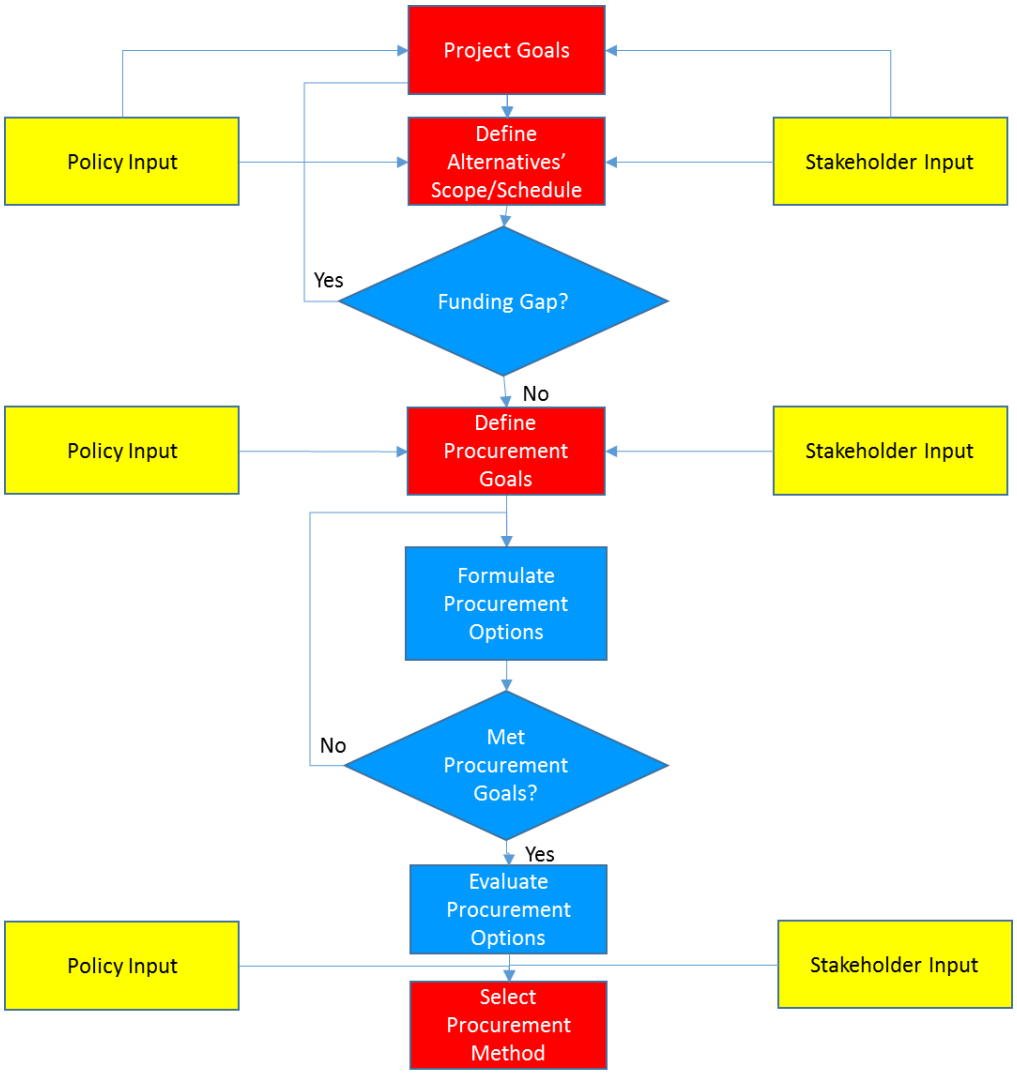
PROJECT DEVELOPMENT INDICATIVE TIMELINES



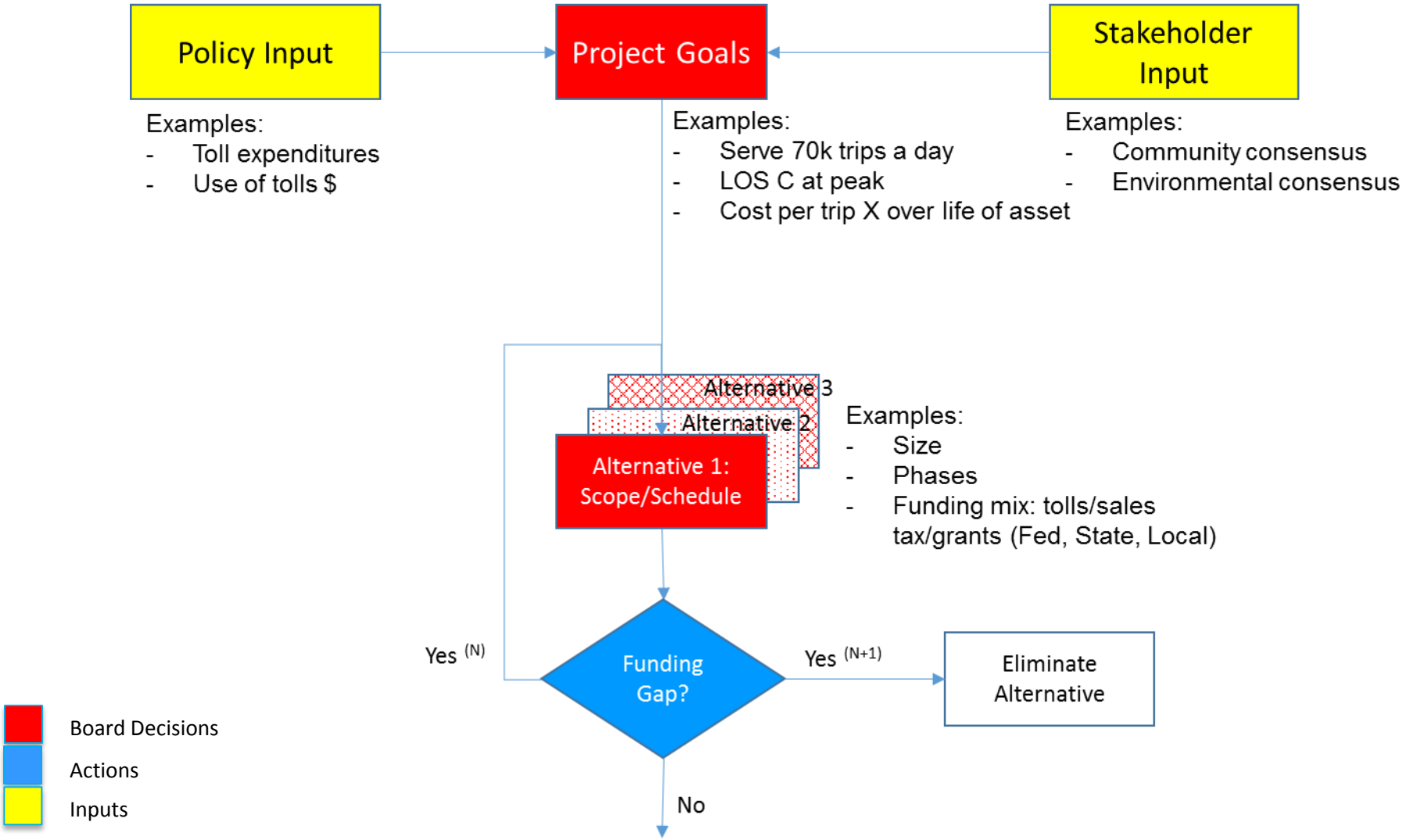
Delivery models: Prvtz = Privatization, P3 = Public Private Partnership, DB = Design Build, DBB = Design Bid Build

Private finance means private debt/equity e.g. developer/infrastructure funds, bank debt, private placement, PABs;
Public finance means municipal/federal debt e.g. revenue bonds, TIFIA loan;
Traditional funding means the highway is not tolled e.g. federal/state/local funding such as STIP/ITIP;

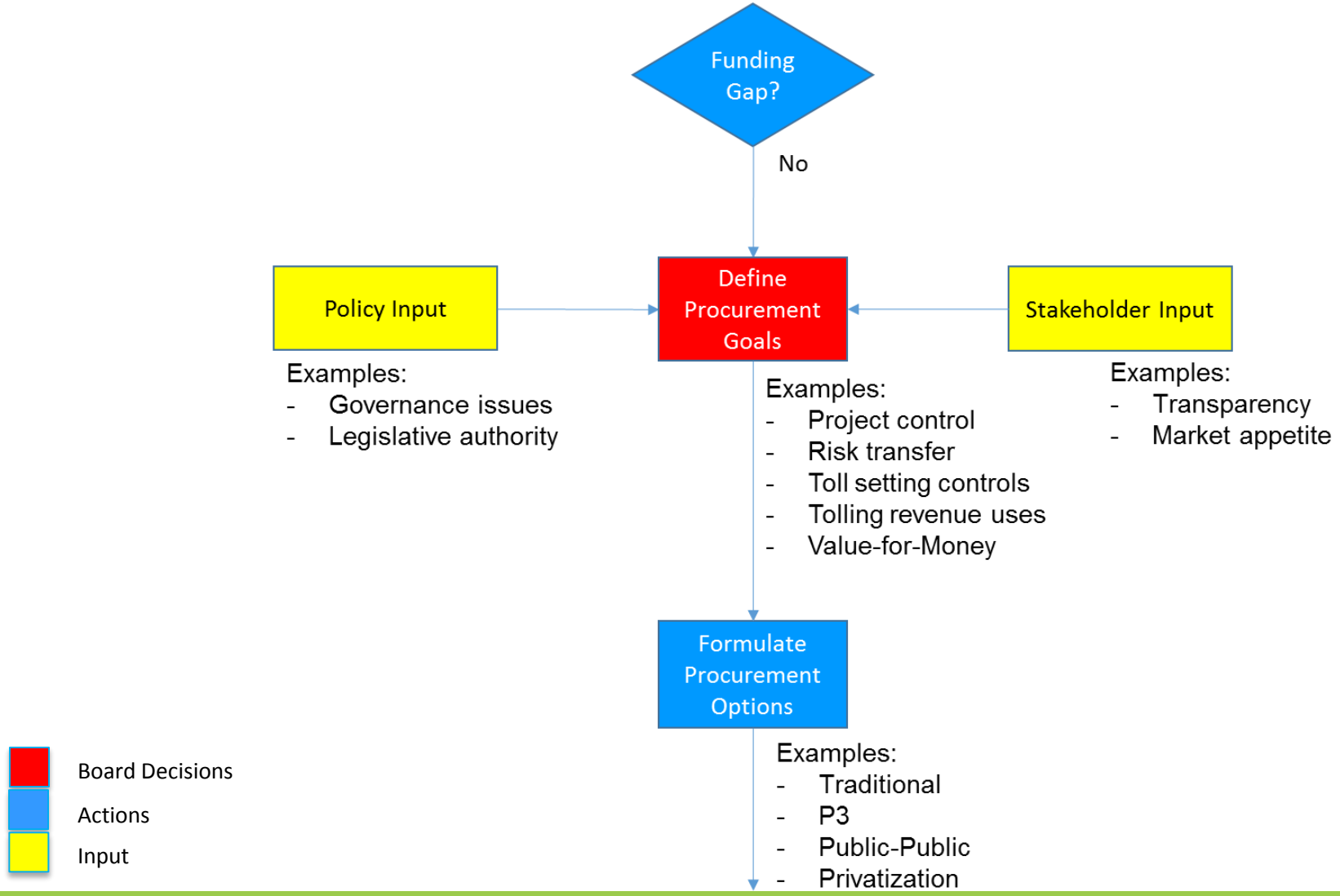
DECISION ROADMAP OVERVIEW



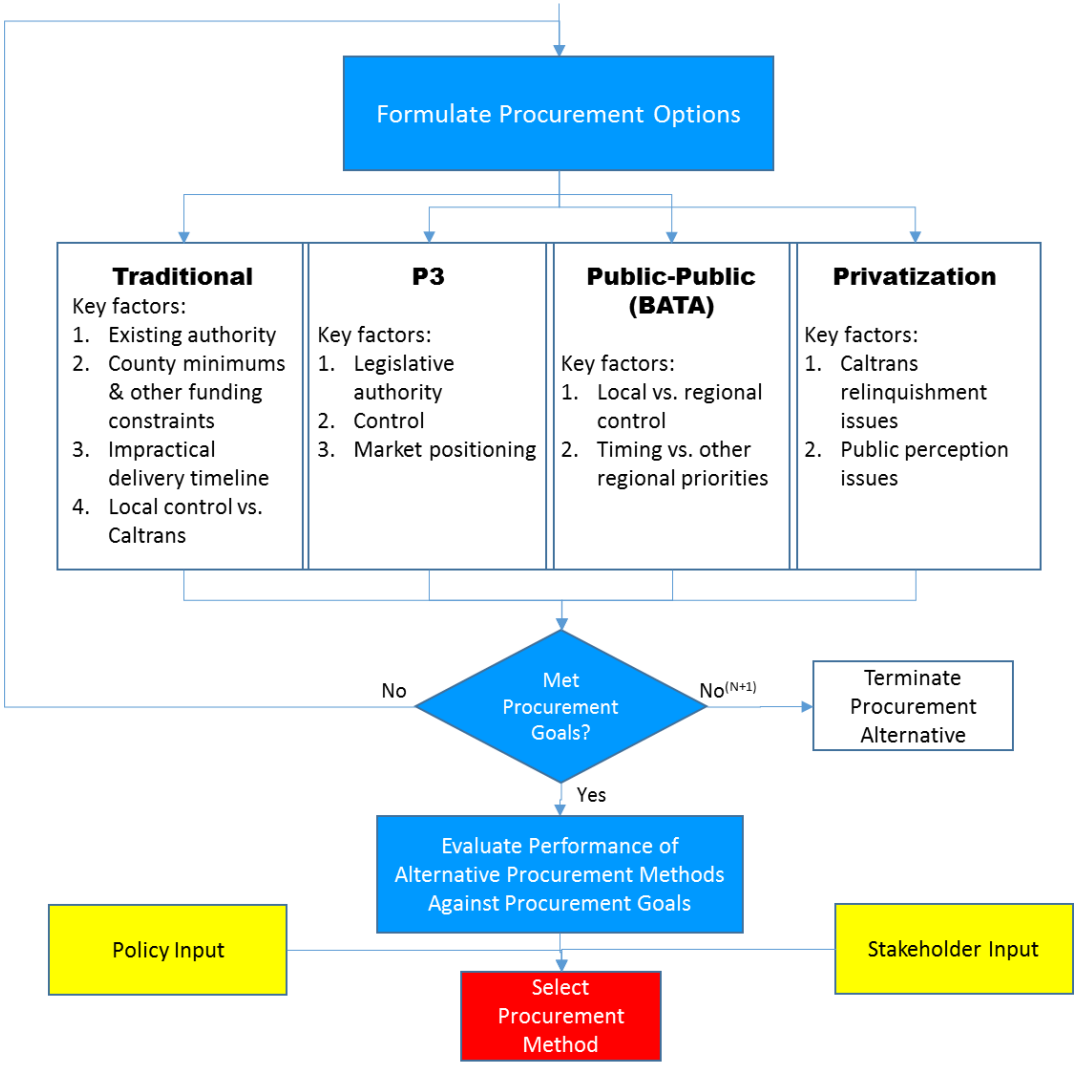
DECISION ROADMAP: STEP 1



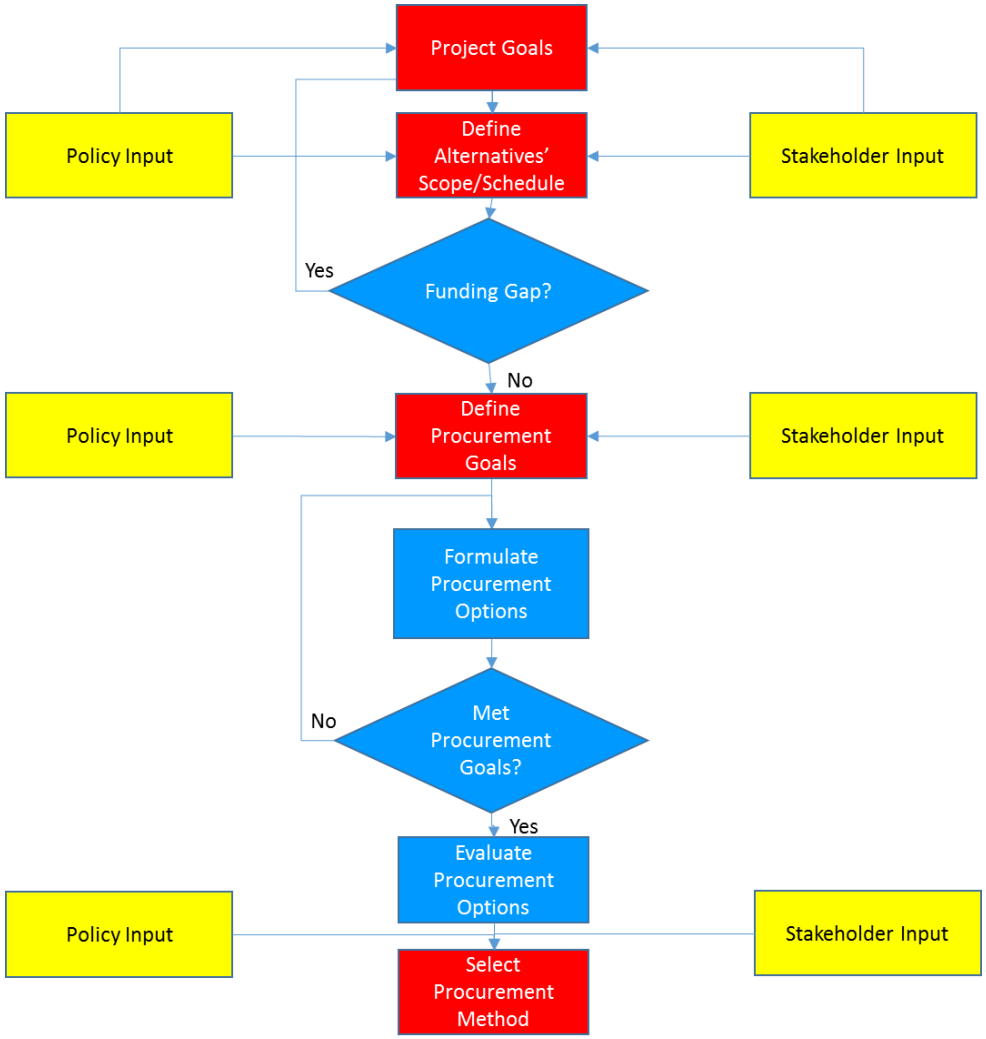
DECISION ROADMAP: STEP 2



DECISION ROADMAP: STEP 3



INDICATIVE TIMELINE



Step 1 — 6-12 months

Step 2 — 3-6 months

Step 3 — 3-6 months

Total 12-24 months

TYPICAL PROCUREMENT PROCESS

Once project(s) approved for procurement:

12–18 MONTHS

5 Q&A

TOLLING CONCEPTS

"Toll Road"

Three toll locations
Toll charge per mile travelled

Segment	Toll
A	$1.70
B	$2.25
C	$1.05
Total	$5.00

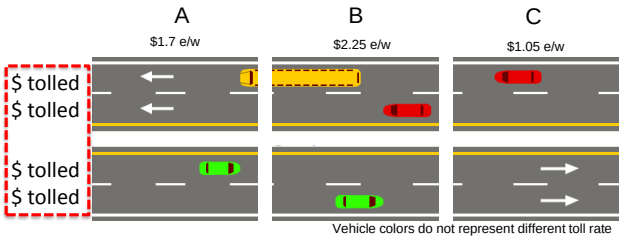
"Toll Bridge"

One toll location
Toll charge per "crossing"

Segment	Toll
A	-
B	$5.00
C	-
Total	$5.00

TOLL REVENUE SUMMARY

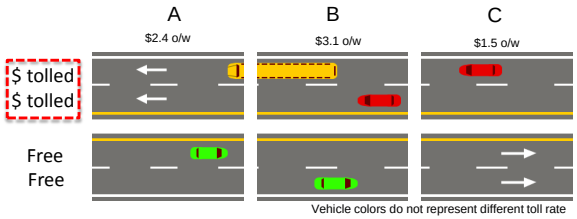
1. Four lanes tolled, $5 each way



e/w = each way; o/w = one way

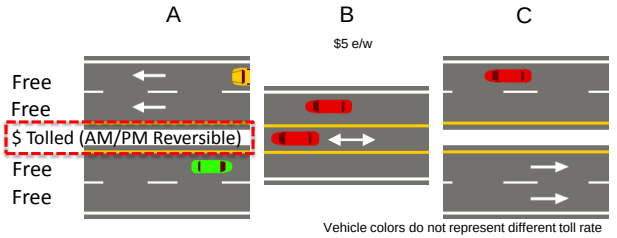
Tolling Options	A	B	C	Sum Total (over 50 Years)*
Toll Road	$3.7 b	$5.3 b	$3.6 b	**$12.5 b**
Toll Bridge	$5 in Segment B only			**$9.3 b**

2. Two lanes tolled, $7 one direction



A	B	C	Sum Total (over 50 Years)*
$2.7 b	$3.9 b	$2.7 b	**$9.4 b**
$7 in Segment B only			**$7.5 b**

3. One reversible lane tolled, $5 each way



A	B	C	Sum Total (over 50 Years)*
N/A	N/A	N/A	N/A
$5 in Segment B only Reversible toll: AM – westbound, PM – eastbound			**$0.3 b**

Scenario	Toll Rate	Toll Option	Total Revenue*
1. Four lanes tolled	$5 →	Toll Road (3 locations)	$12.5 b
		Toll Bridge (1 location)	$9.3 b
2. Two lanes tolled one direction	$7 →	Toll Road (3 locations)	$9.4 b
		Toll Bridge (1 location)	$7.5 b
3. One reversible lane tolled	$5 ⇆	Toll Bridge (1 location) AM – westbound PM - eastbound	$0.3 b

* Total revenue generated over 50 years of tolling. Toll rate escalated over this period.

Note: UC Davis Study, construction costs for technical alternatives include Levee/embankment at $1.0 b, Slab Bridge Causeway at $3.0 b and Box Girder Causeway at $3.4 b (all costs in 2022 dollars).