STATE ROUTE (SR) 37 POLICY COMMITTEE

9:30 a.m., Thursday, November 3, 2016
American Canyon City Hall
4381 Broadway Street, Suite 201
American Canyon, CA 94503

MEETING AGENDA

1. **CALL TO ORDER AND INTRODUCTIONS** — **Chair Osby Davis, City of Vallejo**

2. **OPPORTUNITY FOR PUBLIC COMMENT**

3. **CONSENT CALENDAR**

   A. **Minutes of the September 1, 2016 SR 37 Policy Committee Meeting** — **Janet Adams, STA**
   Recommendation:
   Approve SR 37 Policy Committee September 1, 2016 Meeting Minutes
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4. **INFORMATION ITEMS**

   A. **Project Finance Advisory Ltd. (PFAL) Transportation Financing Case Studies** — **Jose Luis Moscovich, PFAL; Victoria Taylor, PFAL; Richard Kerrigan, PFAL**
   Presentation of the following case studies:
   1. Presidio Parkway - Pg. 11
   2. I-4 Ultimate P3 - Pg. 25
   3. South Norfolk Jordan Bridge - Pg. 35
   4. President George Bush Turnpike Western Extension - Pg. 45

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   B. **Projection of Traditional Public Financing Timeline** — **Daryl Halls, STA; Suzanne Smith, SCTA**
   The SR 37 Project Leadership Team has developed a project timeline if State transportation funds were solely relied upon to fund the project.
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   C. **Review of United Bridge Partners Unsolicited Proposal – Response to Questions** — **Suzanne Smith, SCTA**
   The SR 37 Policy Committee submitted questions to UBP in response to their unsolicited proposal for SR 37 at their May 5, 2016 meeting. UBP provided a response and a Letter of Intent to the Policy Committee questions at the September 1st meeting. Staff has developed a review summary for the SR 37 Policy Committee to consider.
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5. ACTION ITEMS

A. SR 37 Policy Committee Discussion of Public Policy — **Daryl Halls, STA**

Follow up discussion on the initial twenty-five policy questions presented to the SR 37 Policy Committee at their July 7th meeting. This is a first set of recommendations in a series of focused policy discussions planned for future SR 37 Policy Committee meetings. The recommendation categories for this policy discussion include:

1. SR 37 Corridor Policy Committee Role and Responsibilities
2. Public Process

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Recommendation:
Approve policy recommendations for SR 37 Policy Committee Role and Responsibilities and Public Process.

B. SR 37 Transportation and Sea Level Rise Corridor Improvements Scope of Work and Schedule — **Daryl Halls, STA**

The SR 37 Policy Committee was successful in obtaining funding from MTC for a Project Initiation Document equivalent. The Scope of Work and Schedule are include for discussion. The estimate for this effort is $800,000 with 88% of funding provided by MTC. Matching fund is to be provided by the County Transportation Authorities. Caltrans has also offered to provide up to $75,000 to assist in the Public Outreach for this effort.

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Recommendation:
Approve SR 37 Transportation and Sea Level Rise Corridor Improvements and Public Outreach Scope of Work

6. COMMITTEE COMMENTS AND STAFF UPDATES — Group Discussion

7. FUTURE TOPICS

A. 2nd Set of Policy Recommendations
B. SR 37 Corridor Financial Road Map from PFAL

8. ADJOURNMENT

Next SR 37 Policy Committee Meeting: 9:30 , Thurs., January 5, 2017 at Mare Island in Vallejo

Draft State Route (SR) 37 Policy Committee Meeting Minutes
9:30 a.m., Thursday, September 1, 2016
Sonoma Raceway, Drivers Lounge
29388 Arnold Drive
Sonoma, CA 95476

MEETING MINUTES

1. Call to Order/Introductions:

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

POLICY COMMITTEE MEMBERS PRESENT:	David Rabbit, Vice Chair	Sonoma County Board Supervisor
	Susan Gorin	Sonoma County Board Supervisor
	Jake Mackenzie	MTC Commissioner, City Council, Rohnert Park
	Mark Luce	MTC Commissioner, Napa County Board Supervisor
	Keith Caldwell	Napa County Board Supervisor
	Leon Garcia	Mayor, City of American Canyon
	Erin Hannigan	Solano County Board Supervisor
	Jim Spering	MTC Commissioner, Solano County Board Supervisor
	Elizabeth Patterson	Mayor, City of Benicia (Alternate Member)
EXECUTIVE DIRECTORS PRESENT:	Daryl Halls	STA
	Danielle Schmitz (acting)	NVTA
	Dianne Steinhauser	TAM
	Suzanne Smith	SCTA
OTHERS PRESENT:	Richard Kerrigan	Project Finance Advisory Ltd. (PFAL)
	Victoria Taylor	PFAL
	Jose Luis Moscovich	PFAL
	Anthony Adams	Solano Transportation Authority (STA)
	Janet Adams	STA
	Bernadette Curry	STA - Legal Counsel
	Peter Miljanich	Solano County - Legal Counsel
	Adam Brand	SCTA - Counsel
	James Cameron	Sonoma County Transportation Authority (SCTA)
	Rebecca Schenck	Napa Valley Transportation Authority (NVTA)
	Nick Nguyen	Transportation Authority of Marin (TAM)

Dick Fahey	Caltrans District 4
Kevin Chen	Metropolitan Transportation Committee (MTC)
Ed Diffendal	United Bridge Partners (UBP)
Linda Figg	UBP – Bridge Engineering (Figg Bridge)
Phil Vermeulen	UBP – Governmental Relations (PV Gov)
Gary Giacomini	UBP – Counsel (Hansen Bridget)
Mike Davis	ICF International
Chadi Chazbek	HNTB
Linda Meckel	SMART
David Oster	Friends of SMART
David Schonbrunn	TRANSDEF
Dan Keen	City of Vallejo- City Manager
David Yatabe	City of Vallejo- Public Works
John Kenyon	Parsons
Isaac Pearlman	BCDC
Treston Shull	Laborer Union Local 324
Doug LeMoinc	Laborers Local 324
Kate Powers	Marin Conservation League
Susan Stompe	Marin Conservation League
Justin Vadever	AECOM
Lee Sandahl	Inland Boatmens Union ILWU
Susan Klassen	Sonoma County Public Works
Pat Eklund	Mayor, City of Novato
Eric Whan	City of Napa
Ben Botkin	SF Bay Trail Project – ABAG
Jerry Peters	North Coast Rail Authority (NCRA)
Coy Smith	Novato Chamber
David McCrossan	KKCS Consulting
Barbara Salzman	Marin Audubon Society
Melissa Apuya	Assemblymember Marc Levine.
Steve Page	Sonoma Raceway

2. <u>Opportunity for Public Comment:</u>

David Schonbrunn introduced himself as an environmental advocate. He commented that UBP talked to wetlands environmentalists, but he does not believe they have talked to transportation environmentalists. He stated private capital is good, and that this would have been a good project 20 years ago, but today capacity increasing projects that increase greenhouse gases (GHG) are contrary to state policy.

3. <u>Approval of the July 7, 2016 Meeting Minutes</u>

Committee member Patterson clarified page 5 low hanging fruit comment to mean: use shoulders for buses and bridge type barriers to divert traffic, not paving an onramp or similar.

On a motion and a second from committee members, the SR 37 Policy Committee approved the July 7, 2016 meeting minutes with Patterson's Clarification..

4. **Information Items:**

A. **SR 37 Rail Options**

David McCrossan of KKCS presented the current status of rail owners and operators along and adjacent to the corridor. He also included rail issues and opportunities along the corridor, see slide presentation at:
https://scta.ca.gov/wp-content/uploads/2016/09/04.A_37-Rail-Services-Sep-2016-v3b.pdf

Committee/Public Comments:
Comment: SMART Railroad project is not as subject to Sea level Rise or as urgent as the highway. David McCrossan responded there are some hot spots along SMART rail subject to Sea Level Rise, but there are also areas near Sonoma at elevations over 20 feet. He would not comment on highway studies.

Public Comment from David Schonbrunn was that he sees a future rail transit option, possibly run by SMART if funds are available. There needs to be a system view of commutes without private vehicles.

B. **Project Finance Advisory Ltd. (PFAL) Transportation Financing Case Studies**

Jose Luis Moscovich, Richard Kerrigan and Victoria Taylor of PFAL provided an overview of finance alternatives and public private partnerships as well as two case studies on:

1. South Bay Expressway (SBX)
2. US 36 Managed Lanes

See slide presentation at:
http://scta.ca.gov/wp-content/uploads/2016/09/04.B_Finance-Overview-Case-Study-Findings-PFAL-08-26-16-FINAL.pdf

Committee/Public Comments:
Committee Member Gorin commented that the SBX project may have been bogged down in Environmental and that perhaps the US 36 project in Colorado had different environmental process with the public sector taking full responsibility. Victoria Taylor, PFAL, responded that the public used the environmental process to protest the SBX project.

Committee Member Patterson asked about project goals, guiding principles and shared values for the project case studies presented. Jose Luis, PFAL, responded that guiding principles would telegraph to the private sector the importance of the project and the public clarity of what is needed. Patterson responded with the importance of guiding principles to establish goals that reach outcomes and can define performance measures.

Committee Member Patterson asked about income disparity and life cycle cost. PFAL Team response was that policy decision could address income disparity, and that by including the private sector responsibility for long term maintenance and major replacement in the contract allows the private sector to account and be responsible for life cycle costs.

Committee Member Mackenzie asked about the status of new Colorado legislation SB15172, adding more public meetings and transparency if it passed. PFAL Team responded that it is still in the works. The Governor of Colorado has been quoted as being in agreeance with the revisions, but is concerned about scaring private concessioners away from Colorado. Mackenzie inquired about California legislation on P3 set to expire in December of this year. PFAL confirmed.

Vice Chair Rabbitt commented on the suspicion of the public getting ripped off, and the difference in the standards of transparency between public and private projects. He also questioned the general understanding of risk transfer that occurs in public private partnerships. PFAL Team discussion continued in agreement with Rabbitt's comments, and added that through alignment of financial interests effective risk transfer can be obtained and there are established ways to obtain reasonable and transparent processes that work for both the public and private sector. Conventional bidding of projects this large and complex, can lead to 60% or greater cost overruns based on Caltrans historical performance data.

Committee Member Garcia asked what best practices are available in the private sector that should be applied to the public sector to limit the cost overruns. Jose Luis, PFAL, discussed differences with the alignment of interest established with including the financing and maintenance of the projects. Garcia stated the need for those differences to be applied to the public sector.

Public Comment from David Schonbrunn asked about the PFAL contract, and the cost of the contract. Daryl Halls, STA, responded that there was a RFP process when consultant was selected. He explained that the contract value is $65k.

C. SR 37 Policy Committee Discussion on Public Policy

Follow up discussion on the twenty-five policy questions presented to the SR 37 Policy Committee at the July 7th meeting. This is the first in a series of focused policy discussions planned for future SR 37 Policy Committee meetings. The categories for this policy discussion include:

1. SR 37 Corridor Policy Committee Role and Responsibilities
2. Public Process

Daryl Halls, STA, presented the slide presentation at:
http://scta.ca.gov/wp-content/uploads/2016/09/04.B_Finance-Overview-Case-Study-Findings-PFAL-08-26-16-FINAL.pdf

Committee/Public Comments:
Committee Member Gorin asked if traditional public option would be looked at. Daryl Halls, STA, responded yes, and many options would be evaluated. Committee Member Spering stated at some point we need to hear from United Bridge Partners (UBP), if we are going to move forward. He also asked about a blended approach to the project with portions private and portions public. Jose Luis, PFAL, responded yes and that the Presidio project is a good example of that. He went on to say that there would be more discussion about the public sector advancing the design on that project, prior to the private concessionaire. He then stated that

there cannot be a public process if there is going to be a fixed price. Discussion continued between Spering and Jose Luis about a blended/hybrid approach.

Committee Member Gorin discussed the slide presented. On slide #4, comment was made that it is important for our 4 counties to work with legislature to extend legislation, and include tolling as needed.

Committee Vice Chair Rabbitt inquired about phasing of P3 projects. PFAL team responded with yes, and gave example of how to P3 projects can be phased.

Committee Member Patterson asked three questions directed at PFAL:

1. Outline a Systems Approach – taking into account the future
2. When do we develop goals, guiding principles, outcomes and performance measures
3. Would the Environmental Document still have the JPA, or a public agency as the Environmental lead agency

Jose Luis, PFAL, noted the project was included in the MTC RTP.

Committee Member Luce asked what our role is in the environmental process. He would like to see an elected body, potentially the JPA oversee the process. Daryl Halls, STA, responded that ultimately it is Caltrans, as the owner and operator of SR 37, but it can be negotiated with Caltrans and be done by a local agency.

Daryl Halls, STA, commented that the policy questions were designed to seek policy direction from the committee.

Suzanne Smith, SCTA, commented on the Marin Sonoma Narrows project as an example of Caltrans as the environmental lead agency where locals had input on the process through a MOU. Since Highway 37 does not have funds for environmental, we are not there yet.

Committee Member Mackenzie asked if we put the MOU cart in front of the JPA horse or are we good acting with only the MOU. He made the argument that the JPA should be formed now. Adam Brand, SCTA Counsel, responded that it depends what the MOU group wants to do. United bridged proposal requires the JPA for delivering project, alternatively with Caltrans as the implementing agency similar to the Marin Sonoma Narrows a JPA is not needed. Suzanne Smith, SCTA, asked if those can be parallel paths. Adam Brand, SCTA Counsel responded that a JPA can be formed and terminated. Committee member Gorin asked do we need a JPA now and Brand responded no, but we would need one to proceed with the letter of intent with UBP.

Committee member Spering said that he wanted to know what decision we need to make to negotiate or contract with UBP, and what things you negotiate after you have selected someone. He added that we need to tell UBP yes or no, and that he agrees with Smith that we can have a parallel track; otherwise we can negotiate with ourselves for a long time. Jose Luis, PFAL, responded that anything that happens now needs to go through Caltrans, until the relinquishment process happens. Spering clarified that we can be the advocate with Caltrans, but not until we agree.

Vice Chair Rabbitt asked what harm is there to forming a JPA. This would keep all our options open. Smith, SCTA, responded with the distinction that the MOU is with the Transportation Authorities, and the JPA is required to be with the Board of Supervisors. Discussion continued about when and how to form the JPA.

Committee member Spering commented let us not lose reality here, Caltrans will not fix the road in the lifetime of anyone in this room. I am not an advocate of UBP, but we have a proposal and we need to do a serious analysis to move this forward. A JPA can be formed fairly quickly. At our next meeting what are the decisions we need to make to contract with UBP or anyone. We are paralyzed talking to ourselves.

Committee Member Luce commented we should move forward with JPA. Suzanne Smith, SCTA, replied 2 or 4 County JPA. Committee member Gorin replied 4 County JPA. Luce stated Napa was a parking lot during maintenance on highway 37. Committee Member Caldwell stated that Napa County counsel would likely have an issue being a part of a JPA where it does not own any property. Committee Member Spering stated 2 counties might be fastest, and we will have 4 counties at the MOU committee table. Committee Member Mackenzie agreed with Spering.

Committee Member Hannigan commented that she supports moving forward with a JPA. She wanted to know who else is out there other than UBP. Her number one concern is charging a toll to the socio-economically challenged community she represents.

Vice Chair Rabbitt commented he supported a parallel track and we should form a JPA.

Suzanne Smith, SCTA, commented that there would be follow up meetings with attorneys from all four counties to discuss a 2, 3 or 4 county JPA.

Public Comment from David Schonbrunn stated the issue is congestion. Induced demand capacity is not the answer. He added that it is a system problem of mass transportation on an individual basis. Committee Member Spering responded that Sea Level Rise was ignored by the speaker, without the road a bus will not get through.

D. <u>Public Outreach</u>

As requested at the July 7th SR 37 Policy Committee, staff developed a summary of past, current, and future public outreach strategies.

Suzanne Smith, SCTA, discussed outreach past and present as outlined in the agenda packet.

<u>Committee/Public Comments:</u>
Committee Member Garcia commented that economic impact needed to be part of the discussion including housing, transportation, and business development.

Suzanne Smith, SCTA, commented that more detail could be added about this group in op-ed, or close to home article in the newspaper.

Public Comment Coy Smith, Novato Chamber and Chair of Marin County Council of Chambers offered to help with outreach.

Public Comment Pat Eklund, Mayor, City of Novato commented:

1. Most people that know about this project are in the room
2. City of Novato needs a representative as well as the City of Vallejo
3. Include Novato in the process
4. There is not a favorable opinion of toll roads
5. This is a restoration project not just a transportation project

Committee Member Hannigan commented that the Mayor of Vallejo is the Chair of the SR 37 Policy Committee.

Vice Chair Rabbitt commented that SR 37 is not the number 1 priority of any of the counties, but it is a priority.

Committee Member Patterson encouraged the use of a web site based data base with a map based graphic interface that she has seen on other projects.

Committee member Paterson asked are we looking at the big picture for the entire corridor. Daryl Halls, STA, responded that Caltrans will require we look at the length of the corridor and all CMAs want to look at all 22 miles.

Public Comment resident from San Rafael commented:

1. She talked to CA senator McGuire who is not familiar with this group
2. She is concerned about impacts to the Richmond San Rafael Bridge
3. She noted that none of Marin's elected are here

E. United Bridge Partners (UBP) Response to SR 37 Policy Committee Questions

The SR 37 Policy Committee submitted questions to UBP in response to their unsolicited proposal for SR 37 at their May 5, 2016 meeting. UBP provided an overview of their response to the Policy Committee questions that are included in the agenda packet and handed out a draft letter of intent (LOI) dated August 30, 2016.

Ed Diffendal, UBP introduced the item and Linda Figg presented the slide presentation at: https://scta.ca.gov/wp-content/uploads/2016/09/04.E_UBP.pdf

Committee/Public Comments:
Suzanne Smith, SCTA, stated staff is reviewing the information.

Vice Chair Rabbitt commented that some answers were more specific than others and we want as much specifics as possible.

Linda Figg handed out the draft LOI dated August 30, 2016 to the committee members
https://scta.ca.gov/wp-content/uploads/2016/09/04.E2-UBP-SR-37-Policy-Committee-LOI-DRAFT.pdf

5. **Action Item: - NONE**

6. **Committee Comments:**
None Provided.

7. **Future Topics**
   A. PFAL Case Studies
      - South Norfolk Jordan Bridge
      - George Bush Turnpike Western Extension
      - Presidio Parkway SR 37 Passenger Rail Option
   B. Status update on Caltrans SR 37 Letters
   C. Policy Questions (Continued)
   D. JPA Formation

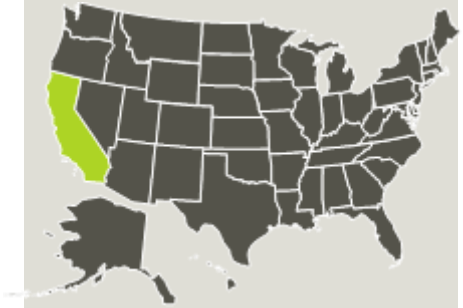
8. **ADJOURNMENT at about 12:30pm**

Next Meeting – Thursday, November 3rd, 2016, 9:30 a.m.

- ✓ AVAILABILITY PAYMENT
- ✓ PUBLIC FINANCING
- ✓ PRIVATE FINANCING
- ✓ CALIFORNIA PROJECT
- ✓ TIFIA LOAN
- ✓ COMPLEX CONSTRUCTION

PRESIDIO PARKWAY

SAN FRANCISCO, CA



BACKGROUND + PROJECT DRIVERS

The Presidio Parkway is the new south access to the iconic Golden Gate Bridge, which connects San Francisco to the North Bay counties. It replaced the original access structure, known as Doyle Drive, which was built together with the bridge in 1936. Doyle Drive was originally designed as a series of viaducts to fly over what was then a military base, the Presidio of San Francisco. Built to the standards of the 1930s, with six narrow lanes, no shoulders, and no dividing barrier between the two directions of travel, the facility could not handle even minor traffic incidents without creating major backups on the bridge.

Calls for the replacement of Doyle Drive started as early as 1955, when the State Division of Highways, responding to the post-war traffic boom, proposed a project as part of a large freeway expansion plan in San Francisco; but in 1966 the freeway revolt movement put a stop to all new freeway construction plans in the city. Head-on collisions and traffic jams kept Doyle Drive periodically in the public eye, but the next major step did not occur until 1989, when Congress voted to close the Presidio military base, eventually giving rise to the initiative to make it into a major urban national park. The concept of undergrounding part of the facility, to lessen noise and pollution impacts while providing improved multi-modal access to the park, dates back to that period. In October of that year, the Loma Prieta earthquake doomed the Embarcadero freeway and brought into focus the seismic deficiencies of Doyle Drive.

In 1991, the San Francisco Board of Supervisors established the Doyle Drive Task Force. The Task Force considered design options and made recommendations that were approved in 1993. In 1994, the National Park Service released the Final General Management Plan Amendment (“GMPA”) identifying the main objectives for Doyle Drive improvements, which focused on maintaining the historic value of the surrounding areas, minimizing noise and pollution impacts and enhancing Presidio access and circulation features.

That same year, the San Francisco County Transportation Authority (“the Authority”) initiated the Doyle Drive Intermodal Study. Completed in 1996, and consistent with the general design concepts from the Task Force and GMPA reports, this document was crucial in confirming the replacement of Doyle Drive as

a San Francisco infrastructure investment priority. By detailing the likely devastating traffic impacts on the regional highway network, and on the regional economy, from a potential earthquake-induced Doyle Drive closure, the Authority's study kicked off the process of establishing the replacement of Doyle Drive as a major regional priority for funding, and it cemented a partnership with Caltrans, the facility's owner, but one where the Authority played the lead role in championing the project and securing federal funds for it, and managing the local and regional consensus-building process.

Subsequently, the Authority obtained a $6 million federal earmark to continue studying the project and initiate environmental evaluation. The historic assessment for the project began in 2000. At the November 2003 ballot, the Authority succeeded in reauthorizing the local sales tax for transportation, which included $100 million for the Doyle Drive replacement project, creating a tangible source of local matching funds to leverage state and federal dollars for the project. The Draft Environmental Impact Statement/Report ("DEIS/R") was released in 2005. On September 26, 2006, the Authority Board unanimously selected the Presidio Parkway as the Preferred Alternative for the replacement of Doyle Drive. The Final Environmental Impact Statement/Report ("FEIS/R") was certified on December 16, 2008, clearing the way for the detailed design and construction phases of the project. The project's cost estimate had climbed by then to over $900 million, and the funding gap was close to $200 million.

DELIVERY METHOD ASSESSMENT

In 2009, the Authority began discussions with Caltrans and the California Transportation Commission ("CTC") for consideration of the Presidio Parkway as a public private partnership ("P3"), under California's newly approved P3 legislation, SB4. Later that year, citing urgent concerns about the seismic vulnerability of the existing structure, the Caltrans Director ordered the project divided in two phases and expedited for construction. The phasing plan contemplated the construction of the southbound portion first, using the traditional design-bid-build ("DBB") delivery method, followed by a second phase, which would build the rest of the project using a P3.

The decision helped to expedite the project's initiation and deal with internal challenges raised by the design engineers' union at Caltrans, the Professional Engineers in California Government ("PECG"). However, it also had its downsides, restricting opportunities for creativity in design and construction methods in Phase II, increasing contractor interface risks and reducing the potential benefits of the P3 by reducing its overall size and tying its scope and schedule to those of Phase I. A number of components initially slated to be delivered in Phase I ended up being shifted to Phase II, creating contractual complexities and opportunities for claims by the concessionaire that eventually resulted in costs for additional scope, which would likely have been lower if they had been planned as part of Phase II from the start.

To assess the benefits of alternative delivery methods a business case study and Value-for-Money ("VFM") analysis was initiated comparing different project delivery alternatives. In comparing delivery methods, the DBB option was used as the Public Sector Comparator ("PSC"), against which the Design-Build-Finance ("DBF") and the Design-Build-Finance-Operate-Maintain ("DBFOM") alternatives were evaluated. The analysis included both quantitative and qualitative aspects. The quantitative analyses used a net present value ("NPV") approach to compare the life-cycle costs of the two P3 options (DBF and DBFOM) with the traditional DBB approach.

The analysis showed that the DBFOM delivery option offered the best value for the project. In a DBFOM, the government makes certain fixed payments as construction milestones are reached. Then, over the term of the contract (in this case 30 years), the government makes fixed annual payments to compensate the private concessionaire for the expense of operating and maintaining the facility to the contractually agreed-upon standards, and to repay equity contributed to the project by the concessionaire and provide a return on investment. The analyses showed that the DBFOM approach would cost $147 million (23%) less than the traditional DBB approach and achieve greater VFM over the project's life-cycle. Some issues were not easily expressed in monetary terms and a qualitative assessment had to be considered for these three delivery options.

The timing of availability of funds was a compelling issue. In order to go with the traditional DBB delivery option, Caltrans and the Authority would have to ensure that all committed project funding was available up front to address all costs within a three-year construction period. Some of the funding, however, would only be available over a longer period of time, as dictated by county shares and other funding program guidelines, resulting in construction delays which would increase the cost of the project and reduce user benefits. The use of private finance in both the DBF and DBFOM options would allow Caltrans and the Authority to better match the timing of payments with anticipated revenue availability over a longer period of time. In addition, adopting a P3 approach for the project created short-term funding program capacity for Caltrans to address other projects around the state, because less funding was required up front for the Presidio Parkway. This was particularly relevant at the time, because the state was dealing with the effects of the Great Recession and the State Highway Account was nearly depleted.

The CTC approved the entry of the Presidio Parkway project into the P3 procurement track in May 2010. The

action took place over several months and it was the subject of fierce debate. CTC staff recommended against the project, arguing that the recession provided an opportunity to build the project cheaper using the traditional method. The Authority argued that final price would not be the same as the low bid, especially on a project of this complexity, and pointed to the business case study of the Caltrans track record, which demonstrated that on projects with an initial cost estimate of over $300 million, delivered traditionally through DBB, the likely cost overrun level at completion was 60% over the initial budget. The CTC eventually voted to override the staff recommendation and approve the P3, but it doing so it lowered the maximum annual availability payment level from $40 million to $35 million. The change did not deter the market from bidding on the project.

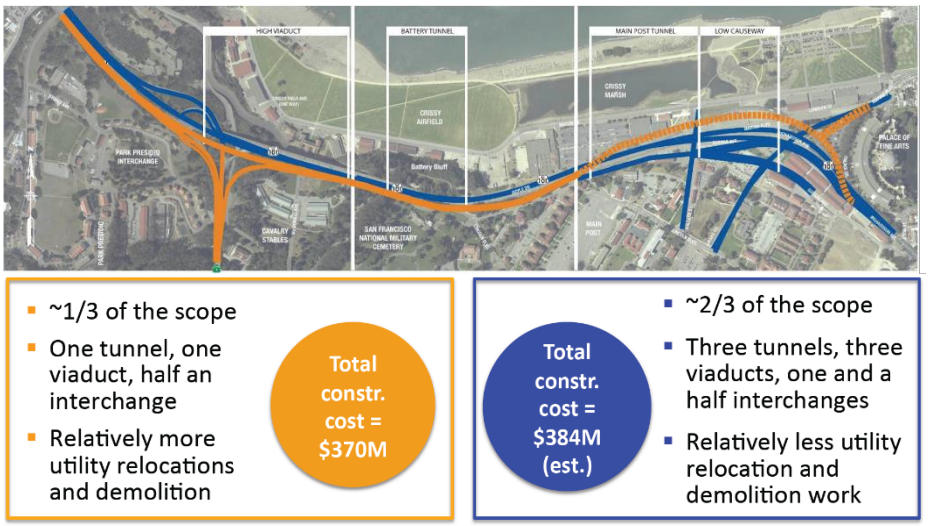
PROCUREMENT BENEFITS

Transfer project risk to private partner:
The DBFOM option offered a more extensive and appropriate transfer of risks to the private sector. This option transferred key risks related to construction (such as construction means and methods, construction quality, and long-term asset performance) to the party best able to manage them, which is a private company who has a business model dedicated to delivering these services. The concessionaire is responsible for both project delivery and long-term operations and maintenance. Caltrans and the Authority would be protected from any cost overruns or price escalation due to delays. In addition, there were material benefits to delivering the design, construction and maintenance as part of an integrated strategy under one contract, minimizing interface risk, and optimizing economies of scale and opportunities for collaboration across multidisciplinary teams.

Alignment of interests:
The DBFOM commercial structure, contracts, and financial security packages assisted in aligning the incentives of the concessionaire with those of Caltrans and the Authority. The concessionaire has a strong incentive to achieve project performance specifications for construction, operations, and maintenance because documented failure to meet performance standards will reduce the size of the annual availability payment. This reduces the return on investment for the concessionaire's investors who, in turn, will apply internal pressure to meet performance standards and avoid financial penalties.

Greater price and schedule certainty:
P3s allow government agencies to share risks with, or in some cases entirely transfer certain risks to a private sector developer who has proven experience dealing with such risks and has developed strategies to mitigate potential delays and cost increases that can result from such risks. In addition, the concessionaire must build the project first and get it ready for operation and the public agencies get to formally inspect it and accept it before they authorize a significant milestone payment. The agencies can also achieve greater price certainty from P3s because the contracts often have a maximum price, which means that the private partner must pay for any cost increases above the agreed upon price. In a DBB, which awarded to the lowest responsive bid, change orders and time charges during construction can mean a big difference. The final cost is usually much higher than the lowest bid, especially for larger, complex projects.

Cost efficiencies:
Due to the integration and innovation that can be achieved in construction of large scale DBFOMs, significant cost savings can be realized against original



construction estimates. Here is a striking comparison: the Presidio Parkway construction costs for Phase I, which represents approximately one-third of the physical scope, were $370 million. By contrast, Phase II (the P3 phase), which represents approximately two-thirds of the physical scope, cost approximately $385 million. Therefore, the P3 delivered almost twice the scope for virtually the same price based on these interim results.

The annual affordability limit set by the CTC was $35 million and the P3 agreement at financial close was $22 million, approximately 37% below the affordability limit. These payments are fixed over the concession term, but subject only to inflation or deductions due to poor performance by the private partner. These payment certainties make for easier annual budgeting and fiscal planning.

"Freed up" public funds for other uses:
In an availability payment-based DBFOM, the government pays a portion of the total cost of the project during construction and the remainder is paid over the 30 to 40 year concession term. This minimizes the need to raise public debt to complete a project. It also frees up other available cash to be used towards other projects. Therefore, using a private sector concessionaire to access capital can free up government funds to advance the construction of other infrastructure projects in the near-term and, therefore, provide the public with access to improved infrastructure sooner than would otherwise be possible with traditional delivery methods.

Performance-based asset management:
Under a P3 agreement with availability payments, the public agency gets to deduct a portion of the annual payment if the concessionaire fails to maintain the asset to the contractually agreed performance standards, as inspected according to specified procedures. This means the public sector effectively receives a 30-year performance and quality warranty and the private sector is incentivized to operate and maintain the asset appropriately over the concession term. At the end of the contract term, the government will regain operating control of the asset and the asset will have a pre-determined useful life left in it because of the routine and regular maintenance level specified in the contract.

Throughout the concession period, rehabilitation costs are the responsibility of the private sector; this also means that there are no surprises, as far as major investments needed by the public sector over that period. This simplifies budgeting and fiscal planning and ensures the continued, safe operation of the project.

Sustainability
A sustainability program for the project was built into the P3 performance and payment mechanism, to incorporate sustainability principles throughout the design, construction, operation and maintenance of the project. In 2015, the Presidio Parkway became the First Greenroads® Certified State Highway Project in California.

PROCUREMENT APPROACH

The overall P3 competitive procurement approach for Phase II was as follows:

- December 2008: Environmental assessment completed
- February 2010: Issued Request For Qualifications ("RFQ") and submitted the project proposal to the CTC
- May 2010: The CTC approved the proposal; Issued draft Request For Proposals ("RFP")
- October 2010: Three bidders shortlisted; Issued final P3 Agreement
- January 2011: Awarded contract to Golden Link Partners ("GLC"); Commercial Close
- November 2011: California State Supreme Court denies legal appeal by PECG (the last of three court decisions in the case)
- June 2012: Financial Close
- July 2015: Project completed and open for traffic

Following the RFQ, Caltrans/Authority announced three companies as being qualified for the potential P3 in April 2010. These companies qualified based on demonstrated successful experience on similar sized projects in the past. The shortlisted teams were;

- Golden Link Partners: Meridiam Infrastructure North America and Hochtief PPP Solutions North America in a 50/50 equity venture. Their construction team comprised of Kiewit and Flatiron Construction.
- Golden Gate Access Group: ACS Infrastructure Development, with a construction team of Dragados, the local employee-owned CC Myers and design firm CH2MHill.
- Royal Presidio San Francisco Partners: Globalvia Infrastructure (equity member, lead O&M), FCC Construction, Tutor Perini Corporation and the Parsons Transportation Group as lead engineer.

The proposed P3 approach was controversial. PECG, the state-employed engineers union, strongly criticized the P3 concept and argued that tolls and user fees were required by law for P3 transportation projects. They also argued that the proposed P3 project did not go through the normal procedures developed to ensure public funding accountability. State officials responded that the state law does not prohibit the government from using availability payments for P3 projects and the state can benefit from the P3 arrangement by transferring risks to GLC.

On November 2, 2010, PECG filed a lawsuit to block the P3 procurement and claimed that the process was illegal. On December 22, 2010, the Superior Court in Alameda Country granted a temporary restraining order ("TRO") to restrain Caltrans from awarding the contract to GLC while the complaint was considered. The TRO was lifted on January 3, 2011, and Caltrans and the Authority signed the P3 contract with GLC for Phase II. Financial close was reached in June 2012 and the project opened in July 2015.

ORGANIZATION CHART (PHASE II)

COSTS AND FINANCING

GLC will be repaid over the 30-year period with the annual availability payments. Note; the facility was not tolled. The project was financed with;

Bank Debt:

- A $170 million, 3.5-year bank facility, which priced at 180 bps over monthly LIBOR, funded construction until GLC received a milestone payment from Caltrans and the Authority. The bank facility came from a group of five international banks, BBVA, BMO, BTMU, Santander and Scotia Capital. The five banks all contributed equally to the loan.

- Once construction was complete, GLC was entitled to receive availability payments of $22 million per year during the 30-year concession, subject to inflation adjustment. These payments were used to cover operations and maintenance costs, fund major maintenance reserves, and pay a modest return on equity.

TIFIA Loan

- GLC received two tranches of a TIFIA loan; a short-term tranche for $90 million and a long-term tranche for $60 million. This was the first project with direct Federal-aid participation in availability payments and the first TIFIA loan to be repaid in part with a milestone payment following substantial completion.

- The short-term tranche, which helps cover construction costs, had an interest rate of 0.46%, and the long-term tranche, which expires in 2045, had an interest rate of 2.71%.

- GLC had once planned to issue up to $150 million in private activity bonds (“PABs”) but decided the project was better suited for bank financing as the cost of debt for the bonds would be slightly higher.

Equity Contributions

- GLC contributed $46 million in equity, split evenly between Hochtief and Meridiam, resulting in a debt-to-equity ratio of 87.5:12.5.

CONSTRUCTION

The risks to the schedule and to the budget were significant:

- The existing highway had to remain open to traffic throughout the construction phase;

- Sixteen state and federal agencies either have jurisdiction over portions of the right-of-way or had to be consulted for other reasons;

- Several different construction contractors depended on the timely implementation of and interface with separate construction contracts for Phase I to be able to access the site and deliver their portion of the overall project on time and on budget.

Construction cost increases:

- At completion, Phase I costs were $391 million, which was a 24% increase over the budget and 61% increase over bid.

- Phase II had a 9% increase over budget, based on change orders supported by the project review board. It is important to stress that the Caltrans is currently recommending paying over $100 million in additional compensation to the concessionaire for disputes related to extra costs, but the vast majority of these costs, as documented by Caltrans’ own report to the CTC, are for scope increases requested by Caltrans.

Construction schedule impacts:

- Phase I planned delivery was 20 months, against an actual 48.

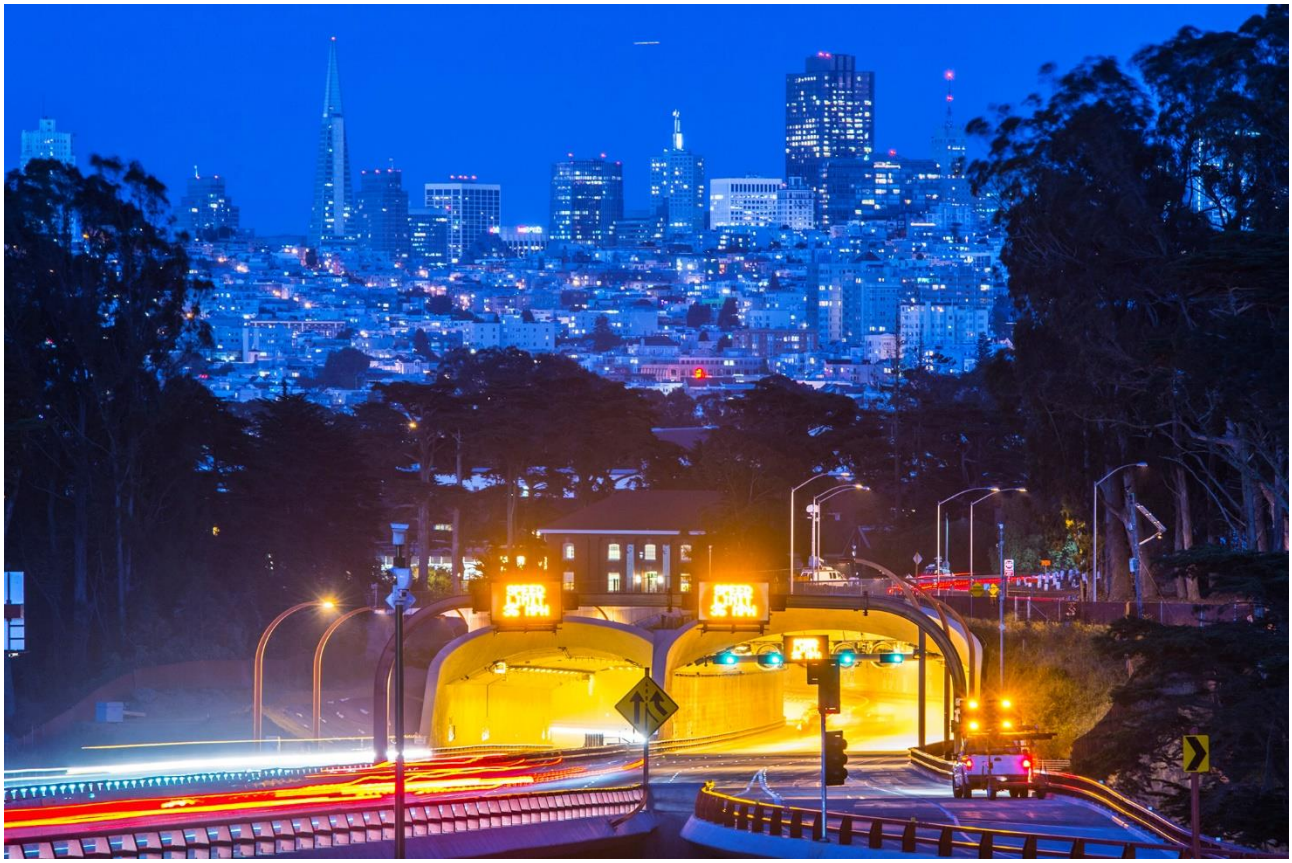
- Phase II was delivered as planned, in 51 months, and it delivered twice the scope value of Phase I

and most of the complex structures, including three of the four tunnels, the Park Presidio and Girard Street interchanges, and all of the complex life safety systems.

In April 2012, traffic was shifted onto a seismically-safe temporary bypass that carried traffic until Phase II was complete in July 2015.

OPERATIONS

The project is open to traffic. Over the long-term GLC has to ensure a safe and durable facility over the 30-year contract term. GLC is responsible for operation and maintenance of the entire project facility, including all Phase I and Phase II elements.



PROJECT CAPITAL COSTS & PUBLIC FUNDING SOURCES (JUNE 2012)

Capital Cost	Phase I	Phase II
	Design-Bid-Build	**Public-private partnership**
Environmental	$27,800,000	
Development and Design	$50,100,000	
Right of Way	$83,800,000	
Transaction, Construction Management and Oversight	$59,100,000	$37,400,000
Construction	$274,400,000	
Construction Completion Milestone Payment		$185,400,000
TIFIA Tranche A Loan Repayment		$91,000,000
TIFIA Tranche B Loan Repayment		
Reserve	$1,100,000	$46,500,000
Availability Payments		
TOTAL	**$496,300,000**	**$360,300,000**
Funding	**Phase I**	**Phase II**
Federal Grants	$70,800,000	$5,900,000
American Recovery and Reinvestment Act	$86,700,000	$46,000,000
State Highway Operations and Preservation Program	$197,100,000	$72,200,000
State Highway Account		
Transportation Congestion Relief Program	$15,000,000	
Prop K Sales Tax	$29,600,000	$36,000,000
Regional Improvement Program	$17,100,000	$67,000,000
State Local Partnership		$19,400,000
Metropolitan Transportation Commission Bridge Tolls	$80,000,000	
Metropolitan Transportation Commission STC/CMAQ		$34,000,000
Golden Gate Bridge Highway and Transportation District		$75,000,000
Transportation Authority of Marin		$4,000,000
Sonoma County Transportation Authority		$1,000,000
TOTAL	**$496,300,000**	**$360,500,000**

ROLES AND RESPONSIBILITIES

Risk	Obligations assumed by Caltrans	Obligations assumed by Concessionaire
Design and Construction	Oversight	Yes
Financing		Secure financing
Traffic and Revenue	Yes	
Toll Rate Setting	Not tolled	Not tolled
O&M and Major Maintenance	Oversight	Yes
Insurance		Yes
Change in Law (discriminatory)	Yes	
Environmental Permitting & Licensing		Yes
ROW Acquisition	Yes	
Hand-back	Oversight	Yes
Police and Emergency Services	Yes	
Traffic Management		Yes
Environmental	Yes	
Utility Relocation		Yes
Hazardous Materials	Shared	Shared
Termination for Convenience	Yes	
Protection from Competitive Transportation Facilities	NA	NA
Federal Requirements		Yes
Force Majeure	Shared	Shared

APPLICABILITY TO HWY 37

Legislation:
California has had a number of successful P3 projects across a number of different sectors (i.e. transportation, public buildings, energy and water) which has injected excitement into the US market, but a bankable pipeline has yet to materialize. Typically, this has been constrained by the short-term nature of enabling legislation, given the time required to prepare and execute complex infrastructure projects.
Under the current law, Caltrans and regional transportation agencies' authority to enter into P3 agreements expires on 31 December 2016. The legislation did not limit the number or location of the P3 projects that Caltrans or the local agencies could pursue, but the Presidio Parkway was the only project procured since the 2009 legislation was introduced. Given the pending expiration, in April 2016 the California General Assembly's Transportation Committee approved legislation that will extend Caltrans authority and regional agencies to enter into P3 agreements. The new bill, AB 2742, would allow Caltrans and regional agencies to enter into P3 agreements until 1 January 2030. If adopted, this new legislation would give sufficient authorized time for the SR 37 project to contemplate a P3 delivery.

Education:
Ambiguity with the use of new terms like P3 and a common understanding of the benefits and limitations of alternative procurement is a major challenge for the public sector and taxpayers, especially during the procurement and approval process of projects. Sufficient time and resources are necessary to educate and gain feedback early in the process. Most importantly, a project champion on the public sector side is needed to drive the process and make the project procurement a success.

Public sector management:
The success of the P3 model that has been proven in California, the U.S. and around the world relies on adopting best-practices management and implementation techniques that support timely decision making and a predictable process. Typically, the private sector comes prepared with the necessary P3 experience and wherewithal; however, with any emerging P3 program and with any project "first", there will be lessons learned and improvements to adopt, especially when public agencies initially lack the comparable level of experience. On the public side, there should be a clear understanding of the P3 approach and how it differs from traditional project delivery (i.e. DBB). Without continued professional training, public agencies will tend to transfer back onto themselves many of the risks that they aimed to transfer to the private sector by using a P3.
This is especially important during the oversight and inspection of design and construction phases of the project. For the Presidio Parkway, Caltrans retained the inspection and documentation functions. Typically, for P3 projects this inspection mechanism is done by an independent third party (i.e., an independent engineer) who is hired and compensated by the project, and is therefore objective to the terms of the agreement and impartial to both the public and private sector. Alternatively, if the independent party role in not an option, a common compromise is that the local agencies retain a certain level of oversight and control during this process to sustain a vested position during performance reviews and any potential disputes or claims.

Multi-phased project:
The fact that the project was separated into two phases meant that there was a material interface risk. For example, additional scope requests were placed on the Phase II contractor related to Phase I. In addition, given the constrained site location, the Phase II contractor was delayed in accessing the site until Phase I could be completed. This resulted in additional time charges. The potential project interface risks should be carefully considered in the context of a multiple-phase procurement of the SR 37 project.

Multi-agency cooperation:
With sixteen federal and state agencies either having jurisdiction over portions of the right-of-way or a consultation role for other reasons, the public side of the P3 equation had to find the right balance between a timely decision-making process, requirements of each agency and effective cooperation to make the project a success. For the SR 37 project, there would need to be clear documentation of each agency's commitments to the project, spelled out in cooperative agreements or multi-party agreements, to avoid misunderstandings that can undermine the success of the project. In particular, it is crucial that transparent and unambiguous reimbursement agreements among the funding partners be put in place to address the parties' interest but also, and very importantly, to minimize the potential for fund appropriation challenges. This is particularly important for availability payment-based transactions where revenues that are subject to annual appropriations by the public sector are a primary source of repayment funds.

Environmental clearance process:
Given a similarly environmentally sensitive context for SR 37 corridor, an extensive stakeholder engagement and approval process will likely be required. This may also require significant time and resources to achieve the necessary clearances. For example, the cost of the environmental clearance for the Presidio Parkway project was $27.8 million.

WHAT LEGISLATION NEEDS TO BE ENACTED TO PERMIT A SIMILAR EFFORT FOR HWY 37?

The Presidio Parkway was California's first P3 transaction under the SBX2 4 legislation and the first transportation P3 with availability payments. This legislation expires on December 31, 2016. An extension to the enabling legislation, with similar authority, is currently proposed through AB 2742, as previously discussed.

SOURCES OF INFORMATION

FHWA http://www.fhwa.dot.gov/ipd/project_profiles/ca_presidio.aspx; Accessed August 19, 2016

Presidio Parkway Project website http://www.presidioparkway.org/about/env_review.aspx; Accessed August 19, 2016

Presidio Parkway Delivery Option, Value-for-Money Report: http://www.presidioparkway.org/project_docs/files/presidio_prkwy_prjct_bsnss_case.pdf; 2010

Wiki Books https://en.wikibooks.org/wiki/Public-Private_Partnership_Policy_Casebook/Presidio

Caltrans, Presidio Parkway Project Summary Agreement http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/04/04-1637U4/P3Agt_Summary/P3_Agt_Summary.pdf

Infra-Americas http://www.infra-americas.com/legislation/; Accessed August 19, 2016

Infra Deals https://www.infra-deals.com/deals/511398/presidio-parkway-doyle-drive-concession.thtml; Accessed August 19, 2016

GLC/Caltrans P3 Agreement, http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/04/04-1637U4/P3Agt_Final_Form/App_2E_101910.pdf

SFCTA 2015 Update, California Foundation on the Environment and the Economy

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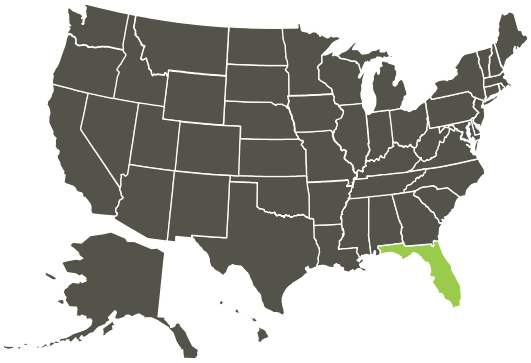
- ✓ TOLLS FUND AVAILABILITY PAYMENT
- ✓ PUBLIC FUNING
- ✓ PRIVATE FINANCING
- ✓ COMPLEX CONSTRUCTION
- ✓ TIFIA LOAN
- ✓ > $1 BILLION

I-4 ULTIMATE P3



ORLANDO, FLORIDA

Construction on I-4 Ultimate began in early 2015. The project will rebuild 21 miles of I-4 from west of Kirkman Road in Orange County to east of State Road ("SR") 434 in Seminole County, add two new dynamic tolled Managed Lanes in each direction, replace more than 140 bridges, reconfigure 15 major interchanges, reconstruct the entire existing roadway and increase the posted speed to 55 mph.

The existing general purpose lanes, which range from three to four lanes in each direction, are approximately 50 years old and experience significant levels of congestion. Once the project is completed, the Florida Department of Transportation ("FDOT") will set toll rates and collect all revenue. Access and egress will be provided at five exchange areas and by direct connectors at major intersections. The project is expected to be complete in 2021.

BACKGROUND + PROJECT DRIVERS

Already a vacation hot spot to more than 4.5 million visitors annually, Florida's popularity began skyrocketing in the 1950s. The advent of air-conditioning and the expanding space industry in Cape Canaveral are credited with bringing more than 60 new industries to Central Florida by 1960, prompting the Census Bureau to declare Orlando the highest growth area in the US. In 1971, Disney World opened, and Orlando's tourism industry skyrocketed.

Popularity in tourism and increased economic activity gave rise to increased traffic. In addition to the Orlando metropolitan area's commuting population of 2.4 million people, Disney World, Epcot Center, Sea World, and Universal Studios attract millions of visitors each year. Just prior to the I-4 Ultimate procurement, a traffic study identified over 210,000 vehicle trips per day in and out of the metro Orlando/Winter Park area on a highway designed and built in 1965 to accommodate 70,000 trips per day.

Over the last 25 years, interim interchange, reconstruction and auxiliary lane widening projects have provided band-aid solutions to the serious capacity issues on the I-4 corridor. FDOT forecasted a loss in mobility for the area's residents, visitors, and employees resulting in a severe threat to the continued viability of the economy and the quality of life in the Orlando region if no major improvements were made to I-4.

Due to inflation and increases in fuel efficiency (and resultant declines in gas tax receipts), FDOT is unable to keep pace with growing demands on the statewide interstate system. FDOT did not have sufficient funding available for the I-4 Ultimate project. In fact, FDOT had approximately half of the $2.3 billion needed for the project in 2014. FDOT completed analysis that showed that if the I-4 Ultimate was built as traditional funding became available; it would take 27 years to complete.

The I-4 Ultimate is a project that involves demolishing, rebuilding and improving — including adding tolled Managed Lanes on 21 miles of existing highway. The project is being designed, built, financed, operated and maintained as a public-private partnership, or P3, which means that Concessionaire, I-4 Mobility Partners, will shoulder most of the responsibility for designing and building the roadway, as well as making sure it operates correctly and is well-maintained for 40 years.

Construction is scheduled to be completed in 2021 and the roadway will remain open during that time.

The need for the project is driven by:

- Severe congestion in the Orlando region
- Observed and expected population growth around the city of Orlando
- Observed and expected growth in tourism and commercial traffic

The I-4 Ultimate project is expected to achieve the following goals:

- Provide new commuter options on I-4
- Improve traffic flow, safety, community connections, sustainability, and use of technology
- Improve highway throughput
- Deliver improved aesthetic treatments, including a signature pedestrian bridge, accent lighting, fountain illumination, art sculptures and monuments, and other architectural treatments

DELIVERY METHOD ASSESSMENT

Limited by prohibitive additional right-of-way purchase costs and the need to navigate environmentally sensitive wetland in the vicinity of the existing highway, FDOT explored the idea of double-decking the existing interstate to create the 12 to 14 lanes that would be needed to handle projected traffic. It was determined to be a non-viable option primarily due to cost. Eventually the managed lanes concept was recognized as a way to expand capacity and give commuters a travel alternative without having to incur significant right-of-way acquisition.

FDOT has successfully delivered two complex infrastructure projects using P3s. The Port of Miami Tunnel ($914 million in 2009) was the first P3 project in the US to use availability payments as a form of compensation to the private sector developer and it was followed by the I-595 Managed Lanes ($1.8 billion also 2009), which also used availability payments. The I-4 Ultimate project, with a capital requirement of $2.3 billion, was the largest project to be considered.

In 2011/2012, a Value for Money analysis was performed by FDOT to compare the benefits of a design-build-finance-operate-maintain model (“DBFOM”) with availability payments against a design-build (“DB”) delivery model. Value for money

analysis is a tool used to compare the total potential costs over the full life cycle for a project over a fixed time period (which can be anywhere from 30-75 years), adjusted for risk factors under different delivery methods. Risk factors can include elements such as cost and schedule overruns, operations and maintenance cost increases, or increased materials cost risk. This type of analysis allows for a simple apples-to-apples quantitative comparison of the net present value of potential project costs over a specified period under different delivery methods.

The Value for Money analysis performed by FDOT for I-4 Ultimate assumed a post-tax equity IRR (internal rate of return) of 12% and a nominal discount rate of 5% for both the DB and DBFOM alternatives. The analysis showed that the lowest cost delivery option over the project life was a DBFOM.

The 5% nominal discount rate applied by FDOT to its Value for Money analysis is relatively low compared to the few US projects where the analysis has been used. Discount rates are intended to reflect the time value of money. A detailed discount rate calculation will take account of a number of factors, including the public benefit of the project and the cost of capital that would be used to build the project, so they are highly dependent on current financial markets. Typical discount factors in the UK, Canada, and US range from 3.5% - 10%. Higher discount rates (which would be in the range of 9-10%) usually favor the P3 alternative, but it is important to note that several factors contribute to the overall results of the quantitative analysis, including risk assessment and risk allocation, expected equity return requirements, the magnitude of operations and maintenance costs, and public benefits. In the case of FDOT, its cost of borrowing is relatively low as a AAA-rated agency of the state of Florida. Qualitative results also need to be considered when making a decision to proceed with a P3 procurement.

BENEFITS

I-4 Ultimate's Value for Money analysis demonstrated a cost savings of $1.375 billion (35% of project costs) over a 40-year period between a DB and a DBFOM.

By using the P3 procurement method, the project is being designed and built in less than 7 years – 20 years earlier than a traditional procurement would allow.

The results of the received bid compare favorably to the Value for Money analysis, and the results show that FDOT has saved over $70 million from their initial assessment of the value of a DBFOM.

PROCUREMENT APPROACH

FDOT completed its Value for Money analysis in 2012.

In February 2013, Florida Governor Rick Scott and the Florida Legislature gave FDOT approval to move forward with the procurement process for the I-4 Ultimate Project in Central Florida P3, valued at $2.1 billion. Under Florida law, a contractor-financed P3 project requires both the Governor's approval and a 14-day legislative consultation and notification period.

The transaction was launched to the P3 market in March 2013. Over 1,000 industry players attended the public information session held in early March 2013.

By the time the RFQ was released on March 8, 2013, funding had been lined up and initial environmental permits and 97% of the required right-of-way were in hand for the full 21-mile corridor. Updated toll revenue forecasts were prepared and the design was 60% complete.

FDOT received seven responses to their RFQ and on May 21, 2013. FDOT announced that they had shortlisted four of the respondents to move forward with the procurement and receive a formal RFP.

In October 2013 FDOT issued the RFP.

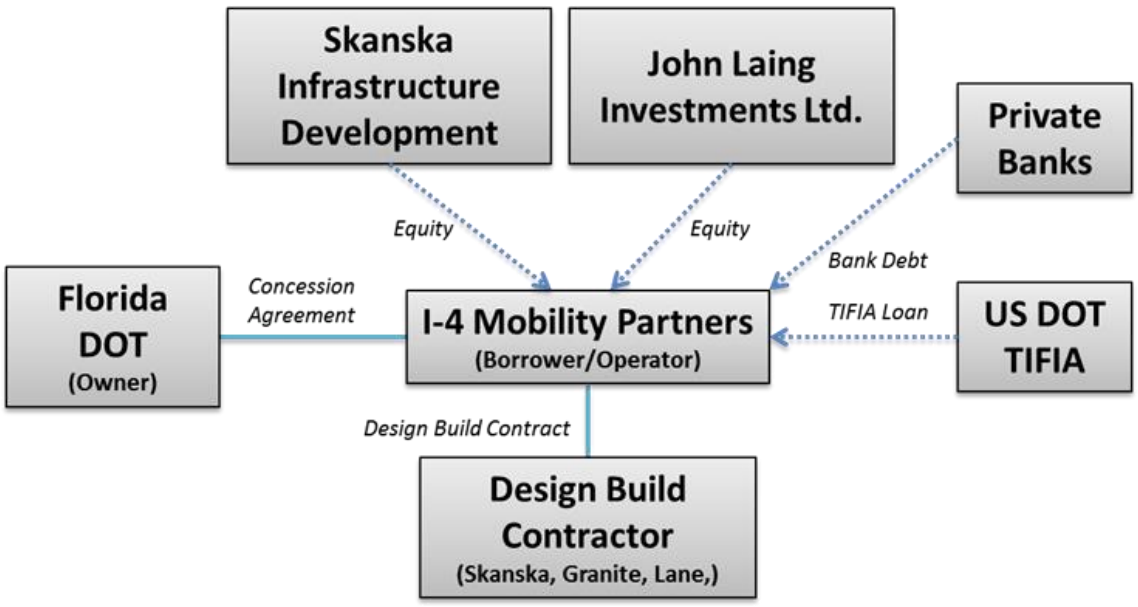
On February 12, 2014 FDOT received all four technical proposals.

On March 13, 2014 all four financial proposals were submitted.

On April 23, 2014, I-4 Mobility Partners was named as the preferred proponent and all of the unsuccessful, responsive bidders were eligible to receive a $2 million stipend.

Financial close was reached on September 5, 2014.

ORGANIZATION CHART



FINANCING

When the I-4 Mobility Partners team submitted their bid to FDOT, they had secured commitments from banks to provide financing to the Project. The commitments were oversubscribed to protect against interest rate movements in the period between selection of the Best Value Proposer and Financial Close. They also had secured credit approvals and letters of support from two underwriters who were prepared to market private activity bonds ("PABs") to the tax-exempt markets if market movements resulted in PABs being a more efficient financing solution during the time period from selection to financial close.

A TIFIA term sheet had been negotiated by FDOT and made available to the bidders for a maximum TIFIA Loan amount of $950 million.

The winning bidder's sources of financing included:

- $949 million TIFIA loan (which in turn breaks down into a short-term 8-year tranche A of $127.3 million with an average cost of 2.32% and a long-term 38-year tranche B of $822.2 million with an average cost of 3.17%)
- $483 million senior bank loan with an 8-year maturity (priced at 125 bps over 1-month LIBOR for an average cost of 3.85%)
- $103 million of sponsor equity with a 12% return

The average total debt service cover ratio was 1.26x at the time of bid submission with a minimum TIFIA loan life cover ratio of 1.28x. The debt was rated Baa1 by Moody's.

At financial close, interest movements went in favor of the project, and the total weighted average cost of capital for the project was 4.45%. The project's financing mix consisted of 94% debt to 6% equity, which is high gearing for a project financing but reflective of the low-risk nature of the revenue stream and the payment structure offered by FDOT (which includes payments at specific construction milestones and annual availability payments during operations).

The sources and uses chart at the bottom of this page is taken from the proposal submitted by I-4 Mobility Partners. It was adjusted prior to financial close to take account of current interest rates and marginal adjustments in the loan quanta.

FDOT's milestone and availability payments are funded with a combination of federal, state, local, and private funding sources. Revenue from the I-4 Managed Lanes fund more than half of the project during the 40-year concession period.

Sources		Uses	
Periodic Payments	1,034,984,132	Design Build Agreement	2,323,000,000
Senior Bank Facility	488,988,484	Development Costs	27,274,297
TIFIA Loan Tranche A - Principal	126,825,942	Ongoing Overheads	77,258,026
TIFIA Loan Tranche A - Capitalized Interests	21,550,225	O&M Startup	5,947,209
TIFIA Loan Tranche B - Principal	823,174,058	Interest during Construction	261,326,233
TIFIA Loan Tranche B - Capitalized Interests	136,837,404	Arrangement & Underwriting Fees	6,612,356
Equity	105,468,201	Commitment Fees	5,053,796
Interest Income	7,507	Reserves and cash accounts	31,364,037
Total Sources	2,737,835,954	Total Uses	2,737,835,954

CONSTRUCTION

The I-4 Ultimate project includes reconstructing 15 major interchanges; constructing more than 145 bridges; adding four variable priced toll Managed Lanes in the median; and completely rebuilding the general use lanes along the entire corridor.

FDOT will make capital payments totaling $1.7 billion as specific milestones are achieved during the construction period. Of the $1.7 billion, $688 million will be paid at final acceptance of the facility.

About 99 percent of the material being pulled from the existing I-4 is being recycled and reused as road bed, according to the report. One hundred percent of the steel that is being reclaimed is melted down and turned around as new material.

FDOT and its Construction Oversight Services ("COS") team (comprised of HNTB, Elipsis Engineering & Consulting, the Corradino Group and New Millennium, among other companies) oversees the concessionaire, ensuring they are adhering to all requirements in the contract through regular check-ins and audits of processes and procedures, as well as a review of materials and workmanship. Construction is in progress and the Concessionaire is obligated to keep at least two lanes of traffic open at all times.

The Concessionaire has established an informative website for the public to view information about the project, the P3 delivery model, and construction progress.

OPERATIONS

The project is expected to open for operations at the end of 2021. In exchange for fulfilling their obligations under the concession, I-4 Mobility Partners will receive a maximum $75 million annual payment (July 2014 dollars), subject to performance deductions and inflationary adjustment, during each year that the I-4 Managed Lanes are in operation.

Once completed, two dynamic tolled Managed Lanes in each direction on I-4 will provide more reliable travel times for Central Florida drivers and manage traffic efficiently. The Managed Lanes will be operated with variable tolls which will be adjusted to improve traffic flow throughout the corridor. Pricing will be set by FDOT and will increase or decrease depending on the number of vehicles using the Managed Lanes. The tolls will be collected electronically, with automated signs notifying motorists of the cost, which drivers will lock in when entering the Managed Lanes.

The Managed Lanes will be separated by a concrete barrier and are designed to keep traffic moving around a steady 50 mph. Monumental pylons will be placed at each entry and exit point, adding a unique aesthetic feature to I-4. Direct-access ramps will link the I-4 Managed Lanes with State Road 408 for a smooth transition.

According to the traffic study completed in 2012, the Managed Lanes are expected to gross $27.4 million in 2021. Under its most conservative forecast, the Project is expected to be generating sufficient toll revenue after 10-15 years of operations (depending on the conservatism of the forecast) to cover the annual availability payment and toll collection expenses. Projected estimates show the Managed lanes grossing $200 million (in nominal dollars) by 2040. Therefore, over the long term FDOT is anticipating a significant return on its investments in the Project.

CURRENT STATUS

I-4 Ultimate was honored by the Infrastructure Journal and Project Finance Magazine as the 2014 "Deal of the Year" in the Transportation category.

Construction by all accounts is progressing well and there is significant support for the Project in the local press.

ROLES + RESPONSIBILITIES

RISK	OBLIGATIONS ASSUMED BY FDOT	OBLIGATIONS ASSUMED BY CONCESSIONAIRE
Design and Construction	Oversight	Yes
Financing		Secure financing
Traffic and Revenue	Yes	
Toll Rate Setting	Yes	
O&M and Major Maintenance	Oversight	Yes
Insurance		Yes
Change in Law (discriminatory)	Yes	
Permitting & Licensing		Yes
ROW Acquisition	Yes	
Hand-back	Oversight	Yes
Police and Emergency Services	Yes	
Environmental	Yes	
Termination for Convenience	Yes	
Protection from Competitive Transportation Facilities	Yes	
Federal Requirements	Reasonable Assistance	Yes
Force Majeure	Shared	Shared

APPLICABILITY TO HWY 37

FDOT is a clear winner in this Project. FDOT officials have confirmed in public statements that the I-4 Ultimate project was advanced by 20 years, and that the safety improvements and congestion relief that are provided by the project are a genuine benefit to the public. Using a P3 for a large, complex project such as I-4 Ultimate or Highway 37 can help accelerate delivery because the project's funding requirement can be deferred in to the future. In the case of I-4 Ultimate, FDOT was able to make a case that managed lanes toll revenue would be sufficient to cover their payment obligations to the private sector, reducing the impact of the availability-based project on FDOT's balance sheet.

FDOT officials have noted that the public private partnership creates an alignment of incentives between the public and private sectors, and that lenders and investors are highly motivated to achieve project completion to realize their anticipated returns. While construction oversight and approval is still required at all stages of construction by the public sector, the nature of the contracts in a concession-based P3 provides for a significant level of oversight by lenders and equity investors, who are in a first loss position if the project fails to be delivered. Typical P3 agreements provide lenders with specific rights of enforcement in the event that a contractor fails to perform its obligations. These types of provisions have successfully insulated the public sector from problems that have arisen in other P3 projects in the US.

FDOT has also noted the benefit of the innovation that the private sector has provided to the design and construction of the I-4 managed lanes, which helped to drive costs below engineers' estimates and add to an efficient delivery of the new lanes. A documented benefit of P3s is that through efficiencies in construction and reduction of interface risk, reduction in construction costs from engineers' estimates can range from 20-30%.

By utilizing an availability-based structure where funding for the payments is provided primarily through toll revenue, FDOT was able to achieve two important benefits: firstly, FDOT minimized the budgetary impact and funding needs of the project. Secondly, by assuming payment risk over the long term, FDOT effectively offered the private sector a AAA-rated payment stream. As reflected in the private financing that the concessionaire was able to secure, which was far below the tax exempt rate of debt, the financial markets had a favorable view of this structure. Lowering the costs of financing is one of the ways that a P3 can help provide value to the public sector.

FDOT was able to leverage its reputation for successful P3 projects into its largest project yet. California can similarly take advantage of a newly-established P3 track record (on the heels of Presidio Parkway, South Bay Expressway, Long Beach Courthouse and Long Beach Civic Center), a regional acceptance of tolls, and state-wide experience in managed lanes to make a compelling case to the market that California agencies are high quality partners to have in concession-based P3s.

WHAT LEGISLATION NEEDS TO BE ENACTED TO PERMIT A SIMILAR EFFORT FOR HWY 37?

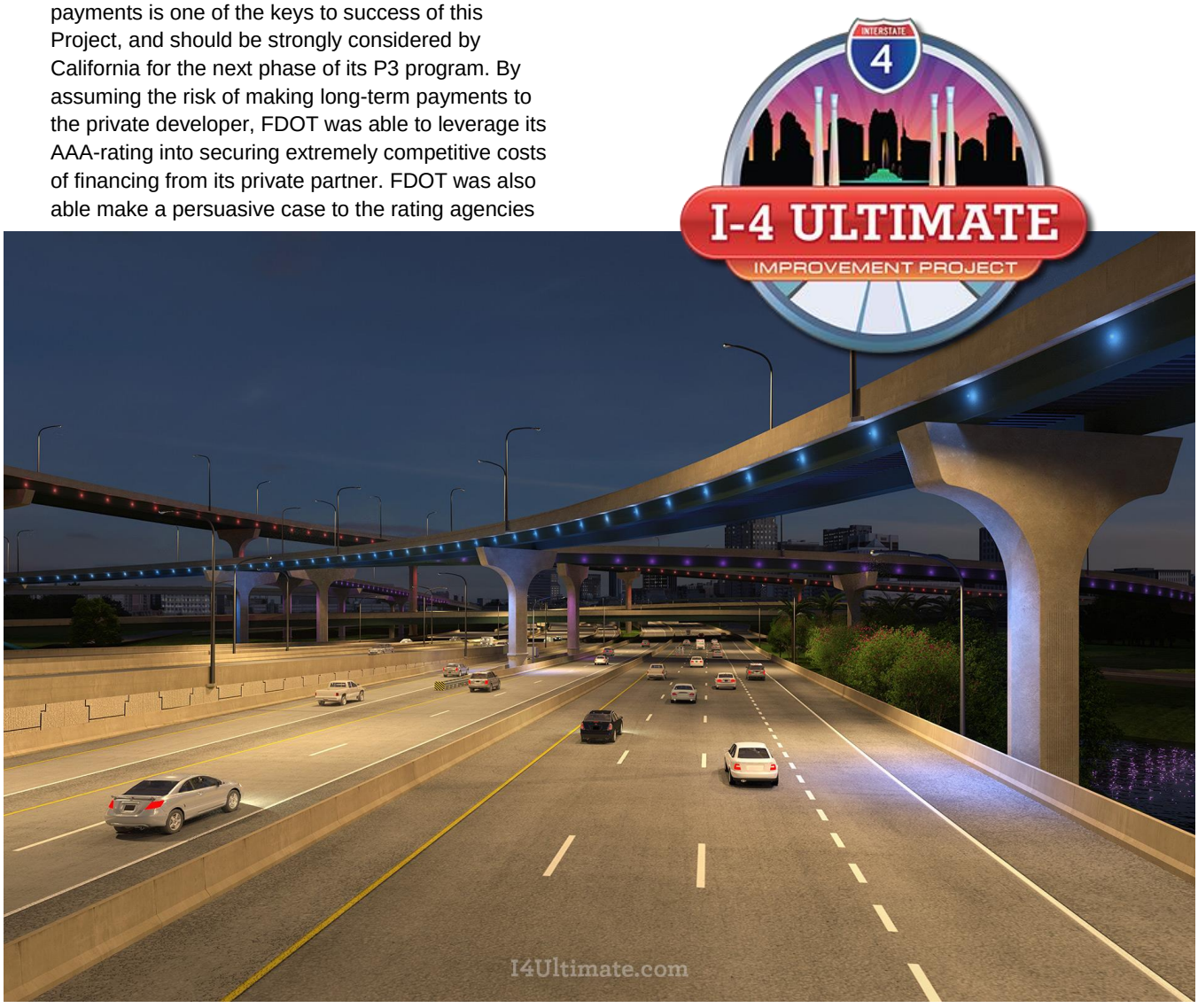
One area where many governments struggle with P3s is that the procurement process needs to be highly confidential. In the I-4 Ultimate, in response to a question about the biggest challenge, FDOT's project manager Laureen Bobo was quoted as saying: "The procurement process was very confidential. We had four teams made up of firms from around the world spending millions to pursue the contract. We couldn't share any of the cool ideas the teams had. Even the meetings were very confidential, where your name had to be on a list to get in and we had to put our cellphones down. We couldn't take anything out of the room, even if we wanted to read up on things after hours. We had about nine months like that." In a state where sunshine laws dictate that all procurement information is public, special dispensation needed to be given to ensure that the teams' bid concepts and

questions would be protected to ensure a highly competitive process.

By having the Governor and Legislature approve the project prior to launching the project in to the market FDOT resolved an issue that has caused the downfall of many P3 projects in the US: political risk. Because P3 delivery is still a novel concept, they are viewed negatively by some and they are subject to political wrangling. This is a major risk area for private developers, who invest heavily in assembling bids for full DBFOM procurements. Hints of political infighting or potential failure of the project at the last minute will suppress developer appetite and reduce competitive tension among bidders.

Using toll revenue as a source of availability payments is one of the keys to success of this Project, and should be strongly considered by California for the next phase of its P3 program. By assuming the risk of making long-term payments to the private developer, FDOT was able to leverage its AAA-rating into securing extremely competitive costs of financing from its private partner. FDOT was also able make a persuasive case to the rating agencies that the Managed Lanes revenue supported over half of the availability payment requirement, which helped to preserve FDOT's rating and debt capacity.

On the Federal level, the new Fixing America's Surface Transportation Act includes a five-year, fully paid-for surface transportation reauthorization of federal highway, transit, highway safety, motor carrier safety, hazardous materials, and passenger rail programs. The bill promotes the use of private investment using P3s for the surface transportation system. Perhaps most compelling for California are the new federal matching strategies, particularly the potential use of toll credits in lieu of local funds. This should be considered in the context of the options that are investigated for Highway 37.



SOURCES OF INFORMATION

Bain, Robert of Robert Bain Traffic & Transportation; Public Sector Comparators for UK PFI Roads: Inside the Black Box; Association for European Transport and Contributors 2009

Fluker, Anjali; Orlando Business Journal; Loreen Bobo on building Central Florida's $2.3b I-4 Ultimate project; November 21, 2014

Gifford, Jonathan L.; Kweun, Jeong Yun; Wheeler, Porter K.; A Comparative Analysis of Value for Money Studies: Highway Public-Private Partnerships Projects in the U.S.; George Mason University School of Policy, Government, and International Affairs; January 2015

Sigo, Shelly; The Bond Buyer; Florida: $70m Savings on I-4 P3 Financing; September 10, 2014

http://www.fhwa.dot.gov/ipd/project_profiles/fl_i4ultimate.aspx, Accessed 8/24/2016

http://www.i4express.com/about_the_study.shtm; access 8/15/2016

http://i4ultimate.com/project-info/faqs/; accessed 8/16/2016

https://ijglobal.com/Articles/92848; accessed 8/16/2016

http://www.p3bulletin.com/features/view/1275; accessed 8/18/2016

FINAL I-4 Summary – FDOT Pricing Policy Scenario (http://i4ultimate.com/project-info/express-lanes/ Traffic and Revenue Reports, T&R Support Data)

I-4 Mobility Partners: I-4 Ultimate Project Financial Management # 432193-1-52-01, Volume 4: Financial Proposal REDACTED Part I and Part II

I-4 Ultimate Draft Traffic and Revenue Summary (http://i4ultimate.com/project-info/express-lanes/ Traffic and Revenue Reports)

I-4 Ultimate with Managed Lanes Financial Fact Sheet – September 4, 2014 (http://cdn.bondbuyer.com/pdfs/I-4.pdf), accessed 8/16/2016

P3 Toolkit Value for Money Assessment for Public-Private Partnerships: A Primer; December 2012; Innovative Program Delivery, US Department of Transportation Federal Highway Administration

- ✓ TOLL REVENUE
- ✓ NEW BUILD / REPLACEMENT
- ✓ PRIVATIZATION
- ✓ PRIVATE FINANCING
- ✓ UNSOLICITED BID

SOUTH NORFOLK JORDAN BRIDGE

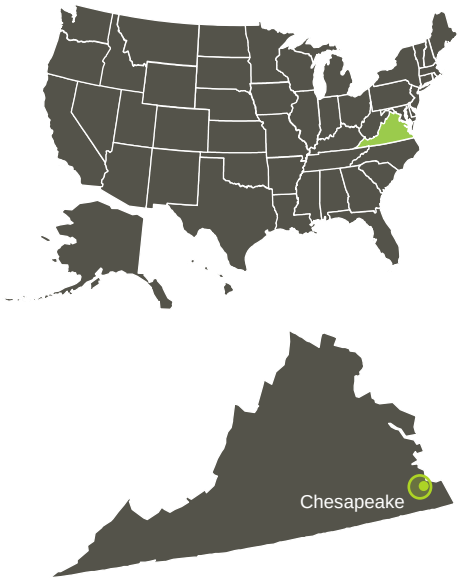


Figure 1: Elizabeth River Crossings.
Source: Pickard, A. (2008, June). Elizabeth River Crossings Study

CHESAPEAKE, VA

The South Norfolk Jordan Bridge ("SNJB") is a 5,372 ft fixed bridge that connects the City of Chesapeake to the City of Portsmouth over the Elizabeth River in Virginia. The City of Chesapeake had decommissioned the original Jordan Bridge in November 2008. An unsolicited proposal submitted by United Bridge Partners ("UBP") to replace the Jordan Bridge with a new, privately owned bridge was approved by the City of Chesapeake in January 2009[1] by executing an Acquisition and Development Agreement ("ADA") between UBP and the City of Chesapeake. As part of the ADA, UBP assumed responsibility to demolish the existing Jordan Bridge, aquired the right of way and easments associated with the bridge, and the right to toll, design, construct, finance, operate and assume ownership of a new bridge and associated tolling facilities on the SNJB. The construction of the SNJB was reported to be privately financed. Project revenue on the SNJB comes from tolls, set by the private operator with no defined limit, which are collected electronically on the bridge[2].

Note: the facts of this case study were reviewed by UBP. We have provided footnotes to describe instances where UBP disputes information in the public domain.

BACKGROUND + PROJECT DRIVERS

The Elizabeth River Corridor between Midtown Tunnel and High Rise Bridge in southern eastern Virginia near the Chesapeake Bay serves approximately 250,000 vehicle trip crossings per weekday. It is a growing corridor that primarily serves naval and industrial operations. The original Jordan Bridge, opened in 1928, was the first highway crossing of the Elizabeth River. Since the Jordan Bridge opened in 1928, four additional crossings (two tunnels and two bridges) were added to the Elizabeth River Corridor to accommodate the needs of the growing population and military in the area. Prior to construction of the SNJB, there had not been any new crossing or expanded capacity since the construction of the eastbound Downtown Tunnel in 1987.

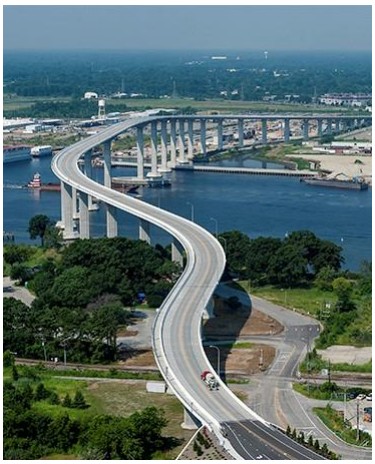
[1] City of Chesapeake. (2009, January 27). City Council Work Session.
[2] UPB responses from September 21, 2016

The original Jordan Bridge was a vertical-lift drawbridge built in 1928 by a private company to support their own industrial needs. It was operated by the South Norfolk Bridge Commission, Inc. until 1977, when ownership and operations of the Jordan Bridge and landings were transferred to the City of Chesapeake. By 2008, the Jordan Bridge was serving approximately 7,200 vehicles per weekday despite an estimated "unrestricted" demand of 18,000 per weekday[3]. Limited usage of the Jordan Bridge was primarily driven by delays due to the manual toll collection operation, delays from daily bridge lifts, delays from rail crossings and a vehicle weight limit of 3 tons owing to the age and condition of the Jordan Bridge structure.

Deferred maintenance of the asset further compounded the deteriorating integrity of the structure, resulting in the Virginia Department of Transportation downgrading the Sufficiency Rating (which is based on a 0-100 scale) of the Jordan Bridge from a 3 ("serious condition") in 2007 to a 0 ("failed condition") in 2008[4]. Due to structural concerns, the City of Chesapeake had to decide to repair, replace or decommission the Jordan Bridge. At the time, the City of Chesapeake had $17 million available to repair the bridge[5] and estimated full-replacement with a four-lane bridge was approximately $200 million[6]. Lacking sufficient funding and given the concerns over the safety of the bridge, the Chesapeake City Council voted to decommission the Jordan Bridge in October 2008.

In December 2008, UBP formally submitted an unsolicited proposal to the City of Chesapeake to replace the Jordan Bridge using private financing. By January 27, 2009, the City of Chesapeake's City Council authorized the execution of the ADA between the City and UBP[7]. The project received significant political support from both local governmental agencies and the Commonwealth of Virginia despite concerns over SNJB's height and width clearance requirements to accommodate New Panamax-sized ships[8]. In November 2010, the City of Chesapeake issued UPB a Notice-to-Proceed ("NTP")[9]. Approximately 45 months after the City of Chesapeake approved the ADA and approxiamtely 23 months after the NTP, the SNJB opened to traffic in October 2012[10].

According to UBP, the total cost to demolish the Jordan Bridge and construct the new SNJB was $142 million on completion[11]. The SNJB was constructed as a 5,372-ft long pre-cast concrete bridge. There is one 12-ft wide lane in each direction (the City originally contemplated 2 lanes in each direction[12]), two 8-ft shoulders and one pedestrian walkway. At its maximum clearance height, the SNJB is 145-ft tall. Tolls are collected using a fully electronic tolling system.



[3] Pickard, A. (2008). Elizabeth River Crossings Study (pp. 6). Hampton Roads MPO.
[4] City of Chesapeake. (2008, October 14). City Council Work Session.
[5] City of Chesapeake. (2008, October 14). City Council Work Session.
[6] Harell, W., & Saunders, M. (2012, July). Build that bridge. ICMA/PM, 12. A request to the City of Chesapeake to obtain the cost estiamte report was made in August 2016 but no report was furnished. According to UBP, the City's replacement cost estimates were approximately $300 million.
[7] City of Chesapeake. (2009, January 27). City Council Work Session.
[8] Virginia Marine Resources Commission. (2009, August 25). Commission Meeting Minutes
[9] UPB responses from September 21, 2016
[10] Rohleder, J., & Woodruff, S. (2013, Winter). South norfolk jordan bridge. ASPIRE, 29.
[11] South Norfolk Jordan Bridge Project Information Sheet
[12] Pickard, A. (2008). Elizabeth River Crossings Study (pp. v). Hampton Roads MPO.

The acceptance of the unsolicited proposal and need for the new SNJB was driven by:

- City Council's decision to decommission the Jordan Bridge due to structural concerns and limited use
- City of Chesapeake was not willing to seek funding, raise financing or taxes to pay for the Jordan Bridge's repair or replacement
- City of Chesapeake's view that private financing and delivery of SNJB would reduce risk to the City and expedite delivery
- New bridge would allow heavier vehicles and reduce congestion at neighboring crossings

Timeline

- 1928 – original Jordan Bridge constructed by private party
- 1977 – original Jordan Bridge ownership transferred to City of Chesapeake
- November 2008 – Jordan Bridge decommissioned
- December 2008 – Unsolicited proposal submitted to City of Chesapeake by UBP
- January 2009 – Approval of Acquisition and Development Agreement between the City and UBP
- November 2010 – NTP issued
- October 2012 – South Norfolk Jordan Bridge opened for traffic

BENEFITS & ISSUES

Benefits:

- The new SNJB increased the weight limit over the prior bridge, reducing traffic burden on adjacent bridges/tunnels
- No City imposed taxes were required to fund the project
- Responsibility for demolishing the old bridge was transferred to UBP
- Permitting, design, construction and revenue risk was transferred to UBP
- Provided additional non-tunnel route for emergency use
- City waived liablity for the asset e.g. for cost increases, lawsuits from construction claims/accidents and schedule delays.

Issues:

The chief concerns raised during the City's decision-making process and issues after construction were:

- Public loss of control on toll pricing set by UBP; however it was agreed that City and State vehicles would travel for free and there would be no tolling during a state of emergency
- City of Portsmouth filed a lawsuit over their ability to collect tax on the project. Note, they were not party to the original ADA.
- Concerns regarding the use of eminent domain on a privately financed and constructed project. No eminent domain was ultimately required and it was explicitly prohibited in the ADA.

DELIVERY METHOD ASSESSMENT

Prior to the unsolicited proposal by UPB, the City of Chesapeake was considering the following three options for the Jordan Bridge:

- Repair: Estimated to be approximately $17 million in 2007 dollars
- Replace: Estimated to be approximately $200 million in 2007 dollar. UPB has stated that estimates were $300 million.
- Decommission in place

The City, along with the Hampton Roads Metropolitan Planning Organization, developed a report in 2008 that indicated the potential traffic impact and costs of the three options for the Jordan Bridge. The 2008 report indicated the "replace" option would require a $0.60 toll in 2007 dollars and assumed volume crossing of the Jordan Bridge would increase by approximately 30% by 2030[13]. The decommission option indicated that existing ridership would primarily shift to the existing Downtown Tunnel, further straining the tunnel's capacity.

It appears the decision to select between the three options was primarily made on the basis of cost. Lacking dedicated funding or the desire to increase taxes and fees, the City of Chesapeake voted to decommission the bridge with no apparent analysis on potential delivery methods of procuring a new bridge.

Upon receiving the unsolicited proposal from UBP, the City did not appear to perform any independent alternative delivery method assessment. With the Jordan Bridge no longer operational, the decision to deliver the SNJB as a privately funded project was primarily driven by the unsafe condition of the structure, as indicated by the speed of approval of the ADA and approval by the Virginia legislature[14].

PROCUREMENT APPROACH

Unlike typical public transportation projects, the SNJB project did not go through a competitive public procurement process. The City instead chose to negotiate directly with UBP once the unsolicited proposal was submitted. The City of Chesapeake did not appear to have an unsolicited proposal policy in place, nor was the project subject to Virginia Department of Transportation's unsolicited proposal policy. As a result, the unsolicited proposal process for the SNJB did not involve an unsolicited proposal review fee, a requirement to conduct a financial feasibility

[13] Pickard, A. (2008). Elizabeth River Crossings Study (pp. 19). Hampton Roads MPO.
[14] An Act to authorize the emergency replacement of the Jordan Bridge in the City of Chesapeake; emergency, § 581 (2009).

assessment, or a mandatory public procurement for the project.

In January of 2009, an ADA was signed between the City of Chesapeake and UBP. The City of Portsmouth, the city on the west landing of the SNJB, was not party to the ADA. The ADA provided for the sale of City of Chesapeake property to UBP for $10.00 and the transfer of ownership of the Jordan Bridge to UBP. It obligated the purchaser to demolish the existing Jordan Bridge and gave the purchaser sole responsibility to set tolls on the SNJB.

Legislation was required to permit execution of the ADA. Shortly after the ADA was signed, the Virginia legislature unanimously (40-0) passed SB1550 in February 2009. The bill confirmed the City of Chesapeake's right to transfer the bridge to a private entity and enter into an ADA for a private entity to design, build, finance, operate and maintain the bridge so long as no public funds were used. It also clarified the City has no financial obligation or responsibilities for the bridge's construction and ongoing operations.

Under the ADA, UBP was responsible for obtaining necessary permits including from Virginia Marine Resources Commission and the US Coast Guard. All construction and material contracts were the responsibility of UBP and were privately negotiated.

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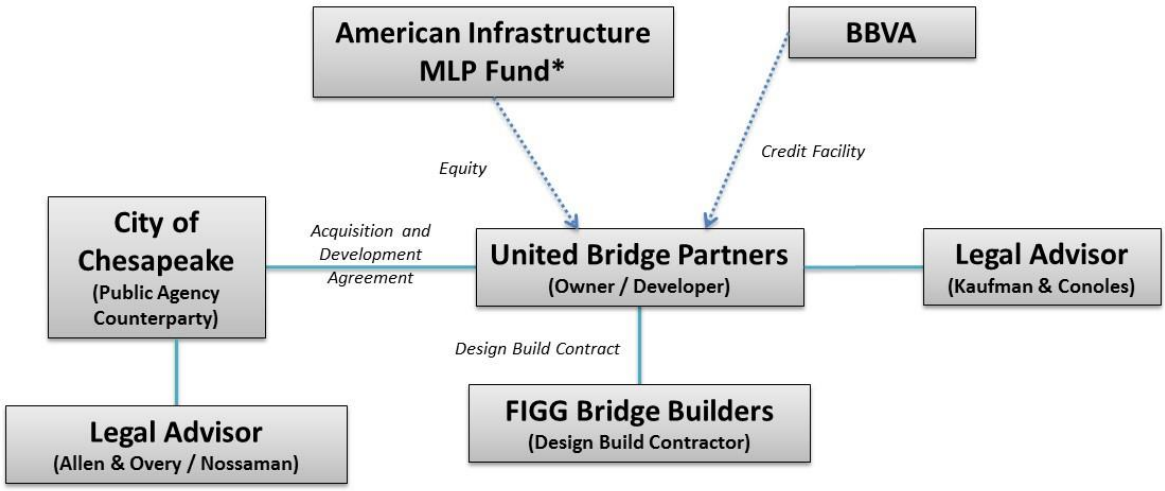
ORGANIZATION CHART



*American Infrastructure MLP Fund replaced Britton Hill Partners, LLC in October, 2009

FINANCING

Under the ADA, no City, State or Federal funds were used to finance the SNJB. The SNJB was privately financed by American Infrastructure MLP Fund, a partner to UBP. Because SNJB was privately financed, limited information is available regarding the financing of the SNJB.

According to UPB, the project was financed using a combination of equity from UBP through American Infrastructure MLP Fund and debt from BBVA. Exact details are confidential and were not made available by UBP. As reported by the global Infrastructure Journal publication, SNJB used $105 million financed with $66 million in equity and a $39 million credit facility from BBVA. The credit facility had a 12 year term and a maturity date of October 22, 2022. The accuracy of this information and a "like-for-like" comparison of the project scope is in question based on UBP's feedback, but no other additional information sources could be identified in our research.

Toll revenues are used to pay debt service for the project's private financing, operating costs and equity returns. As demonstrated in the following table comparing rates prior to decommissioning the Jordan Bridge and the SNJB tolls as of January 2016, tolls increased by a factor of four and added tolling in each direction.

Vehicle Type	2008 City of Chesapeake each way	2016 UBP each way E-ZPass[15]	2016 UBP Pay by Plate	2016 UBP Pay by Mail[Error! Bookmark not defined.]
Motorcycles	$0.50	$2.00	$3.50	$4.75
Two axles	$0.75	$2.00	$3.50	$4.75
Three axles	$1.00	$4.00	$5.50	$6.75
Four axles	N/A	$5.00	$6.50	$7.75
Five + axles	N/A	$6.00	$7.50	$8.75

DESIGN & CONSTRUCTION

The SNJB is a precast, post-tensioned fixed-span bridge. The span of the bridge is 5,375-ft with a 145-ft vertical and 270-ft horizontal clearance for shipping and naval vessels. Because the SNJB was designed with an 8-ft pedestrian walkway, SNJB's pavement gradient could not exceed 5 degrees, thus limiting the vertical clearance for ships to 145-ft instead of 185-ft, the height recommended by local shipping contractors and associations. SNJB has a total of two 12-ft wide lanes and two 8-ft wide shoulders for vehicle traffic.

All permits were the responsibility of UBP under the ADA. UBP initiated the US Coast Guard application in May of 2009[16] and appeared to obtain approval in December of 2009. As part of the US Coast Guard permit, UBP conducted an Environmental Assessment ("EA"). It does not appear an Environmental Impact Statement ("EIS") was required. The project also obtained a Nationwide Permit from the US Army Corps of Engineers, Water Protection Permit from the Virginia Department of Environmental Quality and approval from the Virginia Marine Resources Commission.

In November 2010, the City of Chesapeake issued the NTP to UBP. The use of pile driving dampeners and bubble curtain enabled UBP to work throughout the year by limiting disturbance to marine life. By January 2012, SNJB's foundations were completed and the construction of the SNJB's precast piers and spans were underway. The main span was constructed using precast concrete segments that were cast on site. The main span used precast concrete segments and the balanced cantilever construction method.

In the ADA, UBP agreed to advance "best efforts" to complete the SNJB by July 4, 2010, but no later than January 2012. UPB indicated to the City that work would be completed two years from start of construction, though no mention of construction time limit was included in the ADA. UBP's presentation to the Chesapeake City Council on June 23, 2009 stated the SNJB would be opened to traffic 18 months after construction start. The SNJB opened in October of 2012, nine months later than the planned, and approximately 23 months after the NTP was issued to UBP. No documentation was disclosed to determine if penalties were incurred by UBP for the delay in the planned opening. The exact reasons for the delay in operations commencement are not clear. One influencing factor may have been a reported accident

[15] Traveling the SNJB. (2016, January 1). Retrieved September 9, 2016, from http://www.snjb.net/traveling-the-snjb/travel-fees-accounts

[16] FIGG Bridge Developers (2009, June 23). South Norfolk Jordan Bridge a private proposal. Presentation presented at Chesapeake City Council

involving one of the pre-cast concrete spans, but UBP disputes this information[17].

UBP's unsolicited proposal indicated the SNJB Project would cost approximately $100 million[18, 19]. Total construction costs, including the demolition of the existing Jordan Bridge was reported by UBP to be $142 million. None of these additional costs were the responsibility of the City of Chesapeake.

TOLLING & OPERATIONS

All operations and maintenance of the SNJB and the tolling facilities are the responsibility of UBP under the ADA. No termination or handback date was noted in the ADA, indicating UBP ownership and operation of the SNJB is perpetual. Inspections and compliance with State standards are also the responsibility of UBP.

Tolls on the SNJB are collected using a fully electronic tolling system. UBP is responsible for collecting tolls, but utilizes E-ZPass. The E-ZPass tolling tags used for the SNJB are compatible with the neighboring toll systems operated by the State.

CURRENT STATUS

SNJB is currently operational. Ridership has averaged around 6,400 daily riders since 2012. UBP disputes these numbers but did not provide additional information.

Year	Annual Average Daily Traffic Volume
2015	6,300[20]
2014	6,200[21]
2013	6,400[22]
2012	6,600[23]

A lawsuit was filed by the City of Portsmouth against SNJB over a property tax dispute. The lawsuit was settled in August of 2016. According to UBP, the settlement created a revenue sharing mechanisum between UBP and the cities of Portsmouth and Chesapeake. According to the Virginian-Pilot, the settlement resulted in a $1 million payment from the State to the City of Portsmouth for back taxes and obligated SNJB to pay the City of Portsmouth annual payments of approximately $130,000[24].

[17] Forster, D. (2013, April 27). Railroad company sues over Jordan Bridge accident.
[18] Saewitz, M. (2008, December 24). Proposal: Tolls to pay for new $100M Jordan Bridge.
[19] City of Chesapeake. 2011 Annual Report
[20] Average daily traffic volumes with vehicle classification data on interstate, arterial and primary routes (Rep.). (2015).
[21] Average daily traffic volumes with vehicle classification data on interstate, arterial and primary routes (Rep.). (2014).
[22] Average daily traffic volumes with vehicle classification data on interstate, arterial and primary routes (Rep.). (2013).
[23] Average daily traffic volumes with vehicle classification data on interstate, arterial and primary routes (Rep.). (2012).
[24] Somers, J. (2016, July 29). Portsmouth and South Norfolk Jordan Bridge reach settlement over taxes, document says.

ROLES + RESPONSIBILITIES

RISK	OBLIGATIONS ASSUMED BY CITY OF CHESAPEAKE	OBLIGATIONS ASSUMED BY PRIVATE DEVELOPER
Design and Construction		Yes
Financing		Yes
Traffic and Revenue		Yes
Toll Rate Setting		Yes
O&M and Major Maintenance		Yes
Insurance		Yes
Change in Law (discriminatory)		Yes
Environmental Permitting & Licensing		Yes
ROW Acquisition		Yes
Hand-back	N/A	N/A
Police and Emergency Services	Yes	
Environmental		Yes
Termination for Convenience	N/A	N/A
Protection from Competitive Transportation Facilities		Yes
Federal Requirements		Yes
Force Majeure		Yes

APPLICABILITY TO HWY 37

The six main lessons applicable to Hwy 37 are: approval process of an unsolicited proposal, the bridge was originally built with private funds, availability of alternate routes, toll setting policy, potential for political challenge and direct versus indirect public use of funds.

It is important to note the review and approval of the unsolicited proposal for the SNJB was done under "emergency" conditions. The Jordan Bridge was decommissioned over structural concerns and a lack of dedicated funding or financing to repair or replace the entire existing facility. The unsolicited proposal may have been seen as an option of last resort by the City of Chesapeake and the State. These conditions do not currently apply to Hwy 37 and should be taken into consideration.

The Jordan Bridge was originally built and funded by a private party, the ownership was transferred to the City in 1977, therefore, the political support for transferring the ownership of the facility back to private partners was likely politically more acceptable given no public funds were used to originally build the project and it was not part of the statewide highway system. Unlike Hwy 37 which was built with public funds and is part of the statewide system, the transfer of ownership may have different political challenges and consequences compared to the Jordan Bridge.

The Elizabeth River Corridor has five different crossings within approximately 5 miles, including SNJB. The existence of alternative routes in the vicinity of the privately owned bridge is a relevant fact that likely entered in to the City of Chesapeake's decision to accept the UBP proposal. Because constituents have several travel options in the immediate vicinity of the Jordan Bridge, there were likely fewer stakeholder engagement and political issues to consider for the government.

Toll setting is seen as a potentially contentious issue, both for the SNJB and Hwy 37. The loss of public control of the tolls on the SNJB could have serious implications. As would be expected from more than a 4x increase in tolls, we understand users have filed complaints to the City of Chesapeake. As a result, an economic benefit report was meant to be conducted in December of 2014. No additional information on this report was found.

Despite SNJB's strong political support through the development of the project, public records indicate that the City of Portsmouth sued SNJB over their ability to collect property tax after construction was completed. It should be noted, property tax has been an obligation of other road projects in California that were developed via public private partnerships. It is difficult at this stage to determine what type of political challenges Hwy 37 may face, but it important to understand a private company will most likely not receive tax relief from state and county authorities without prior engagement and agreement.

Though no public funds were used to finance the SNJB, there are questions around the use of indirect public resources such as the cost to review and negotiate the ADA, toll increases, and loss of future toll revenue once the cost to replace and operate the facility is paid off. The City of Portsmouth's settlement also included the State to provide $1 millionin back taxes related to the SNJB. For clarity, no breach of the ADA occurred, but total costs to the government should be scrutinized and considered when evaluating a full privatization for Hwy 37.

Based on information reviewed, the City did not conduct a valuation of future toll revenue and did not consider alternatives to privatizing the SNJB. In a separate transaction, a privately developed toll road in Virginia, the Pocahontas Parkway, was leased to a private developer for 99 years in 2006 for $604 million. The $604 million was used to pay an upfront consideration to the Virginia Department of Transportation for the lease and to complete the legal retirement of the existing debt on the highway. The Virginia Department of Transportation and the Pocahontas Parkway operator have a revenue-sharing mechanism in the project lease agreement once a certain equity return threshold is met. The implication of this example is that all revenue-generating assets have value and cost obligations that should be calculated and considered to avoid potentially sacrificing long term benefits of an asset to a private developer.

WHAT LEGISLATION NEEDS TO BE ENACTED TO PERMIT A SIMILAR EFFORT FOR HWY 37?

The City of Chesapeake's main legislative requirement was obtaining State approval for the sale of the Jordan Bridge to a private entity. The State unanimously passed SB1550 in February 2009 which allowed the City to proceed with the ADA. The Jordan Bridge was owned and operated by the City of Chesapeake which did not requirement them to follow the legislation applicable to the Virginia Department of Transportation.

SOURCES OF INFORMATION

An Act to authorize the emergency replacement of the Jordan Bridge in the City of Chesapeake; emergency, § 581 (2009).

Average daily traffic volumes with vehicle classification data on interstate, arterial and primary routes (Rep.). (2015).

Average daily traffic volumes with vehicle classification data on interstate, arterial and primary routes (Rep.). (2014).

Average daily traffic volumes with vehicle classification data on interstate, arterial and primary routes (Rep.). (2013).

Average daily traffic volumes with vehicle classification data on interstate, arterial and primary routes (Rep.). (2012).

City of Chesapeake. (2016, January 20). Resolution in support of south norfolk jordan bridge

City of Chesapeake. (2014, December 9). City Council Work Session.

City of Chesapeake. (2009, January 27). City Council Work Session.

Chesley, R. (2016, August 2). Chesley: A compromise that should pay off. Retrieved from http://pilotonline.com/news/local/columnist/roger-chesley/chesley-a-compromise-that-should-pay-off/article_d6a9c5a6-9182-56b7-acce-a096f26f0f34.html (n.d.). Retrieved August 25, 2016, from http://www.snjb.net/traveling-the-snjb/travel-fees-accounts

Forster, D. (2013, April 27). Railroad company sues over Jordan Bridge accident. Retrieved from http://pilotonline.com/news/railroad-company-sues-over-jordan-bridge-accident/article_a631f89b-e3c9-5392-bb5f-86bfa60a6cd8.html

Chesapeake Department of Public Works. Innovative Finance. (2012). Lecture presented at Urban Construction Initiative Annual Meeting.

Jordan bridge closure traffic analysis (Rep.). (2008, September 18).

Navigational evaluation technical memorandum (Rep.). (2014, October).

Pickard, A. (2008, June). Elizabeth River Crossings Study (Rep.).

Rohleder, J., & Woodruff, S. (2013, Winter). South norfolk jordan bridge. ASPIRE.

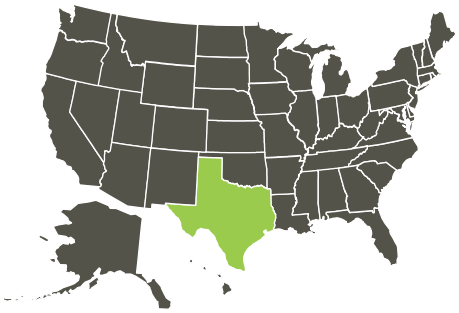
South Norfolk Jordan Bridge a private proposal by FIGG Bridge Developers. (2009, June 23). Lecture presented at Chesapeake City Council Update.

South Norfolk Jordan Toll Bridge BOO. (2010, October 22). Retrieved from ijglobal.

Virginia Marine Resources Commission. (2009, August 25). Commission Meeting Minutes

- ✓ TOLL REVENUE
- ✓ CONNECTOR BETWEEN MAJOR HIGHWAYS
- ✓ PUBLIC FINANCING
- ✓ COMPLEX CONSTRUCTION
- ✓ > $1 BILLION

PRESIDENT GEORGE BUSH TURNPIKE WESTERN EXTENSION



BACKGROUND + PROJECT DRIVERS

As one of the fastest growing states, both economically and demographically, infrastructure in Texas has come under increasing pressure in recent decades. In 2001, for example, planners in Texas discussed the need to build over 4,000 miles of new highways badged "the Trans-Texas Corridor" ("TTC") to sustain the robust economic and demographic growth otherwise enjoyed by the State. However, the planners at the time had failed to identify ways in which projects of such significant scale could be readily funded and financed. It was in this context that the Comprehensive Development Agreement ("CDA") program evolved.

Driven by the Texas Department of Transportation ("TxDOT"), the CDA program was intended to address many of the issues in Texas, which were common to Departments of Transportation across the US, namely: a divergence of investment requirements from the (financial) resources to meet these needs. More specifically, the CDA program was TxDOT's attempt to ensure the delivery of many billions of dollars of highways used private capital to avoid over-extending the State's constrained financial resources. Furthermore, by requiring significant upfront payments and revenue sharing from the private-sector developers who would deliver and operate these new highways, the CDA program was also intended to be a means of expanding/supplementing TxDOT's financial resources. The President George Bush Turnpike Western Extension ("PGBT WE") was a constituent of this CDA program and along with a number of other projects, notably SH 121 (latterly renamed the Chisholm Park Trailway, "CTP"), formed the initial batch of pathfinder projects.

The Project under review here entailed a new 11.5 mile link between State Highway (SH) 183, I-30 and 1-20. Known initially as SH 161, later called the PGBT WE, it now forms part of a western orbital around Dallas, lying to the south of Dallas Fort Worth International Airport and connecting the cities of Irving and Grand Prairie. The project was intended to serve as a major link within the wider Dallas-Fort Worth regional transportation network, reducing commuter and freight congestion along adjacent corridors such as the parallel SH 360.

PROCUREMENT APPROACH AND DELIVERY METHOD ASSESSMENT

Open for Business

In 2005, TxDOT officially declared Texas was "open for business" for public private partnerships ("P3s"), and under its CDAs program invited the private sector to participate in the development of a number of highway projects.

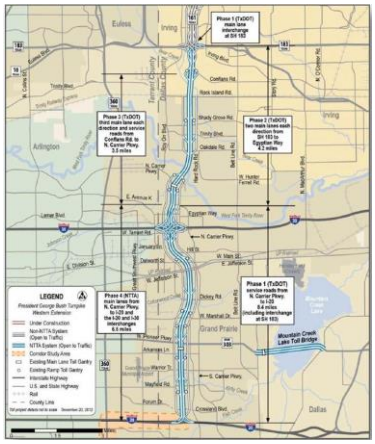
TxDOT moved forward with this initiative by soliciting qualifications from private developers for a number of projects in 2006, including the SH 161 Project. Ten separate consortia presented their qualifications for the SH 161 Project in September 2006 with four shortlisted by November of the same year. Shortly thereafter, however, extenuating political circumstances altered the course of the procurement in a fundamental way with the result that the Project, subsequently renamed the PGBT WE, was delivered almost entirely at public-sector risk with a modest, narrowly defined, element delegated to the private sector.

Asset Monetization

The CDA program was, in many respects, an evolution from the "asset monetization" approach but did not yet adopt, in other essential areas, the full concept of a P3. Typically, in the asset monetization approach, private-sector developers bid to acquire existing, brownfield, assets with well-established patterns of usage.

Frequently cited examples of this approach are the Chicago Skyway monetization from early 2005 and the Indiana Toll Road ("ITR") project from 2006. In this approach, the assets were leased to private-sector developers for 99 and 75 years, respectively. The private developers were then required to operate the highways and were afforded the rights to collect tolls under a given tariff regime which allowed for limited upward adjustments over time according to certain contractual prescriptions. Certain upgrades and operational standards were also required to be achieved.

However, the principal concern of the public sector authorities was to extract the highest possible value from the private developers by way of an upfront payment and a share of toll revenues during the lease. In part facilitated by the fact the leases were very long dated and, in part the result of very favorable terms available in the capital markets at the time, efforts to monetize these assets yielded very substantial upfront payments ($1.4 billion and $3.8 billion respectively) and constituted a welcome boon to the public purse.



Greenfield Evolution

The CDA program was very much designed with this notion in mind: public assets could be leased to private developers and the proceeds of these transactions could supplement public-sector revenue and, in a virtuous circle, be applied to further develop public infrastructure. Additionally, there was limited (or no) impact on the credit standing/debt capacity of the public sector as the financing obligations had recourse solely to the project by itself (as is typical in many projects, the financing raised by the private-sector developers was a direct obligation of their special project company). The evolutionary step taken by the CDA program, however, was to apply this concept to greenfield assets. That is, projects would entail not just the payment of an upfront consideration and share of toll revenues, but also include the design and construction of a new highway as well. In this sense, the CDA program

envisioned a much more radical transfer of risks to the private sector than in the initial set of asset monetization projects, namely:

(i) design and construction risks;

(ii) revenue risks where a track record of user demand had yet to be established empirically

Virtuous Circle

In theory, therefore, the CDA program could not only facilitate the delivery of an extensive program of works across the State with limited or no impact on the State Highway Fund, it could also provide additional financial resources for the further development of Texas transportation infrastructure where tolls were perhaps not suitable or permissible.

By 2006, Texas already had P3 enabling legislation in place, which allowed TxDOT to move forward with its centrally-driven CDA program in earnest. However, shortly after announcing the shortlist for the SH 161 Project, moves were afoot in the Texas legislature to place a moratorium on the privatization of state toll roads. By March 2007, trade press reported[1] that at least two thirds of legislators (sufficient to override a governor's veto) in both houses were in favor of the moratorium. By April, legislators had begun to discuss additional language in the moratorium, which vastly expanded the participation and role of regional tolling agencies in the development of new toll road capacity. These discussions culminated in Senate Bill 792, which was signed into law in June 2007.

Moratorium and Regional Authorities

SB 792 imposed a two-year moratorium on CDA projects but exempted practically all those projects that were under active procurement including the SH 161. Crucially, SB 792 incorporated the provisions that were discussed in April which expanded and enshrined the powers of local transportation authorities to develop toll projects by ensuring that local authorities had the first option to build new toll roads. Now regional authorities, such as the North Texas Toll Authority ("NTTA"), had an intervening right of first refusal to develop projects in their areas of jurisdiction. Arguably, SB 792 was a clear message from the regions (through their legislators) to the center that the CDA program was only deliverable with the consent of the relevant regional authorities.

The consequences of SB 792 for private-sector developers were undoubtedly adverse. One of the shortlisted bidders on the SH 161 noted, "With our partners we have invested a significant amount of time and money to be successfully shortlisted on two major projects in Dallas that are now, regrettably, surrounded by an uncertain process"[2]. Other projects under the CDA banner were at an even more advanced stage than the SH 161 and considerable resources had been invested. Private-sector developers on the SH 121 project, for example, had, at great cost, already submitted binding bids and the Texas Transportation Commission had mandated the winning bidder. The SH 130 was in the process of meeting its conditions precedent to financial close. Another bidder noted that the moratorium, "greatly hampered and certainly cast doubt into the Texan P3 market, and combined with giving away the SH 121 and SH 161 to the NTTA, has forced us to re-evaluate ambitions to build a lasting partnership with Texas. Texas caused us plenty of heartburn and heartbreak"[3]. Private-sector developers now talked about needing "political risk insurance," a product typically only required in emerging markets, when doing business in Texas. Sentiments about future opportunities in Texas were negative as developers looked elsewhere for more reliable opportunities, "We [are] seeing sponsors withdrawing or moving their focus away from Texas"[4]. In effect, SB 792 would bring to a halt the CDA program and, for the present case, end the SH 161 procurement with private-sector bidders.

Procurement After SB 792

In order to move forward with the SH 161 Project, the relevant regional authority, the NTTA had to submit a bid to TxDOT that comprised a design and construction solution along with an upfront payment to TxDOT. SB 792 required that the upfront payment had to be "negotiated" between TxDOT and NTTA (and not that it had to be superior to any private sector bid). This negotiation proved to be problematic and the process was suspended in August 2007 when a value could not be agreed.

[1] (Allison 2007)

[2] (Allison 2007)

[3] (Hilderbrandt, Is Texas Skating on Thin Ice? 2008)

[4] (Allison 2007)

It is fair to say that the value of the upfront payment that was initially proposed, $548 million, was met with some derision by the private sector. One private-sector developer, for example, stated that his company would have been prepared to offer $1.2-1.9 billion and that the NTTA's proposal undervalued the road by three to four times[5]. Of course, it is not possible to determine the validity of this statement as binding bids were not submitted by the time SB 792 was enacted and, it is worthy of note, that the value of the upfront payment suggested above was made by a private-sector developer that did not make the shortlist of qualified teams for the SH 161 Project. Nevertheless, as a result of the vacillation of the procurement objectives and without any objective framework to assess and compare the NTTA's proposal the criticisms of the private-sector developers cannot be dismissed out of hand. In short, it is impossible to know whether TxDOT, in fact, got a "good deal". Indeed, the process precipitated changes at the Federal level, with the Federal Highway Administration ("FHWA") noting that, "TxDOT may have benefitted from conducting a competition"[6] in the case of SH 161. The FHWA would subsequently initiate a rule change which required public toll authorities to offer fair market value in order to lease roads from states that are built with Federal assistance. Arguably, the rule change was intended to prevent states from giving regional toll authorities the first right of refusal to operate and develop toll roads and, thereby, circumvent market mechanisms when determining value.

Executed Transaction

The disruptions caused by the credit crunch and other financial market dislocations no doubt contributed to delays from late 2007 but it is notable that financial close did not occur until four years later, in 2011. By the time the Project reached financial close, several aspects of the transaction were conspicuously weaker from the TxDOT perspective including:

- The final upfront consideration reduced by 15%, or $79 million, to $469 million;
- The Project would not be operated under a term-limited concession/lease of 52 years and revert to TxDOT ownership upon maturity but, rather, would be effectively owned by the NTTA in perpetuity; and
- The vast majority of the cost risks including the repayment risks of the project debt were shifted from NTTA and the Project to TxDOT under the executed financial structure.

Procurement Outcomes In Review

Clearly, therefore, the key weakness of the CDA program was political and it is apparent, initially at least, TxDOT had not adequately addressed the concerns of relevant regional toll authorities before it launched the procurement of the SH 161 Project. In assessing the procurement process as it developed from the moratorium and SB 792, we would also note that:

- A lack of a competitive process to challenge NTTA's proposal means the upfront consideration would never be robust to a counterfactual critique ("our bid would have been higher if we had been given a fair opportunity");
- From the perspective of TxDOT, the final Project terms were noticeably weaker and did not necessarily meet the broader objectives of the CDA program as initially envisioned;
- The transaction took an inordinate amount of time between NTTA's appointment of "preferred bidder" to financial close (four years); and
- The benefits of risk transfer never appeared to be an integral component of discussions. In essence, the vast majority of risks were retained by the public sector and, more specifically, mostly by TxDOT.

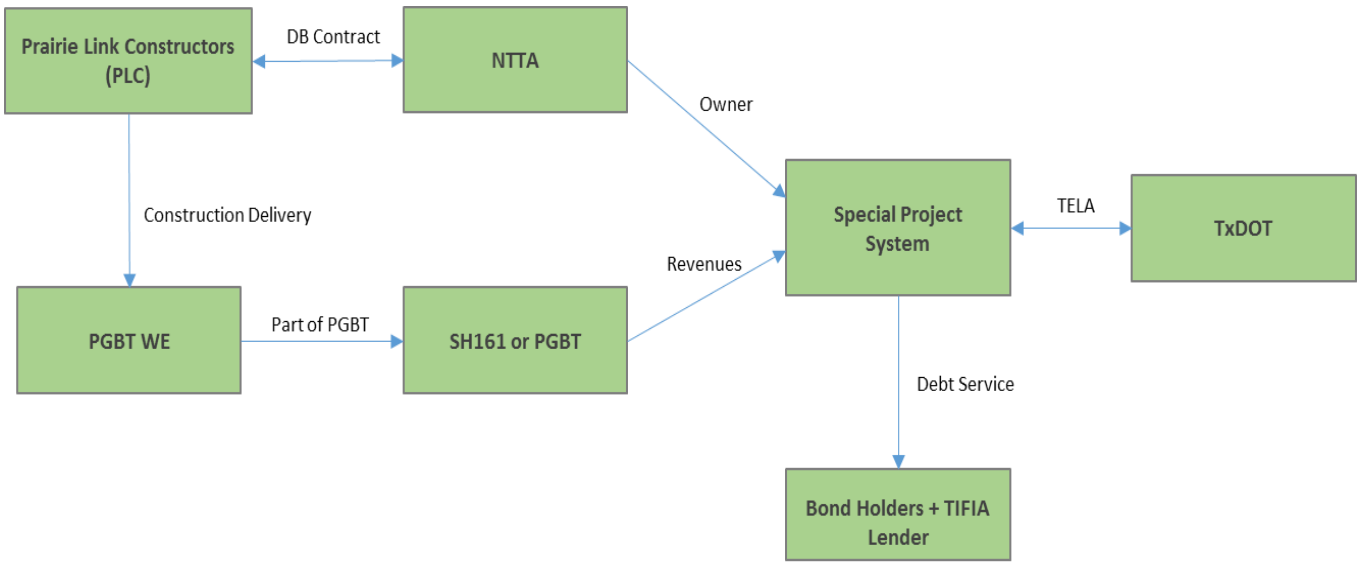
Indeed, in later generations of P3 projects, a value-for-money ("VFM") analysis has been used as a tool, along with other feasibility measures, to determine, on objective grounds, whether it makes sense to move forward with a P3 and, more specifically, what risks should be transferred to the private developer and what should be retained by the public sector. We note that the greenfield SH 130 project was one of the few CDA projects that successfully navigated procurement, financial close (in 2006) and construction delivery. Once the construction was completed, the traffic and revenue numbers, however, were substantially below forecasts and, by March 2016, the project company had filed for bankruptcy protection. A VFM analysis can be very compelling when rationalizing a particular

[5] (Hilderbrandt, Is Texas Skating on Thin Ice? 2008)
[6] (Hilderbrandt, FHWA Rule Could Ensure Fair Market Valuation of Toll Road Concessions 2008)

procurement approach and it is arguable that a more robust discussion of risk transfer during the planning and procurement of this project may have led to less value-destructive outcomes.

Ironically, in November 2015, the NTTA launched a solicitation for a P3 advisor.

ORGANIZATION CHART



FINANCING AND FUNDING SOURCES

A summary of the Project's sources and uses of funds is shown in the table below:

Table 1 - Project Sources and Uses

Sources		Uses	
Bond and Note Proceeds*	1,091,238,450	Upfront Payment to TxDOT+	469,074,676
Revenue**	7,219,191	Design and Construction Costs (PGBT WE)	546,598,381
TxDOT Contribution***	12,000,000	Capitalized Interest on Bonds and Notes	86,711,324
NTTA Contribution	72,471,089	Deposit to Rate Stabilization Fund	65,376,911
		Deposit to Major Maintenance Fund	4,002,391
		Cost of Issuance	12,645,301
Total	**1,184,408,984**	**Total**	**1,184,408,984**

* Comprises tax-exempt bonds and taxable notes. Taxable notes were repaid by way of a $418.4 million TIFIA Loan and a $9.1 million TIFIA TIGER Grant.
** Revenues generated on the partially opened highway before the entire corridor was completed
*** Partial Reimbursement for a railroad bridge
+ For delivering Phase 1-3 of the WE. This includes accumulated interest on the upfront payment of $11 million.

The enactment of SB 792 and the NTTA's role as project developer shaped the financing structure to a great extent. Some private-sector developers had questioned NTTA's ability to finance the SH 161 and the SH 121 projects simultaneously, "[The NTTA] has mortgaged every room in the house. They don't have the leverage left to borrow the money they need for the long list of projects they have promised"[7]. In order to understand how the NTTA addressed these pertinent debt capacity issues, the following features of the financing structure are salient:

- The NTTA established a Special Projects System ("SPS") – The SPS was a separate system to the NTTA System and comprised the PGBT and the SH 121 (subsequently renamed Chisholm Trail Parkway ("CTP")[8]) assets. Debt raised to finance both the PGBT WE and the CPT projects would be recourse only to the combined revenues of the SPS (and not the wider NTTA system). In effect, this limited recourse of debt providers (and preserved the credit rating of the NTTA System bonds) while ensuring some diversity of income and risk for bondholders and the Transportation Infrastructure Finance and Innovation Act ("TIFIA") lender;
- NTTA's Equity Investment – $400 million of subordinated NTTA debt was issued in 2010 as the NTTA's "equity" contribution to the SPS projects. $72.5 million of this was allocated to fund the required sources of PGBT WE project;
- The Toll Equity Loan Agreement ("TELA") with TxDOT – to make the bonds of the SPS more marketable, the NTTA was able to extract certain guarantees from TxDOT covering project expenditures including debt service for the bonds and TIFIA loan as well as certain operating, maintenance and capital expenditures. TxDOT's obligations to pay these sums is subject to the necessary appropriations and limited to a defined annual amount. Further any TELA payment made by TxDOT from the State Highway Fund would be subordinate to the fund's other debt obligations (including $6 billion of first tier bonds and $500 million of subordinated commercial paper). However, the credit profile of the SPS bonds is reflective not of the underlying project risks (construction risks, operational risks, toll revenue risks) but, rather, of the high quality of the State Highway Fund in Texas. As a result, the SPS bonds have carried a AA- rating from Fitch[9] and a AA+ rating from Standard & Poors[10] since inception. This latter feature of the finance structure is of important consequence. In essence, this means that TxDOT and not the NTTA (nor the Project) absorbs the vast majority of project risks[11].

Shortly after inviting private-sector developers to qualify for bidding on the SH 161 Project, TxDOT and the FHWA signed an Early Development Agreement ("EDA"). This formalized how TxDOT would approach the Federal government to access credit assistance under TIFIA. This was a watershed moment in respect of how transportation infrastructure projects with private-sector developers could access TIFIA loans. Until this point, each private-sector developer bidding in the procurement of transportation projects had to wait until their consortium was selected before they could secure the favorable terms and low costs of the financing available under the TIFIA program. Effectively, this meant that private-sector developers had to run the risk of applying for a TIFIA loan and then not receiving this financing before financial close. The EDA process, therefore, established a template which reduced the financing uncertainty of these types of projects considerably. Ultimately, this approach to securing TIFIA credit assistance was not utilized once SB 792 was enacted but the NTTA was, nevertheless, able to avail the SPS of a long-term TIFIA loan. The TIFIA Loan itself was not funded until August 2013 when it was drawn to retire the Bond Anticipation Notes (BANs) which funded the Project at financial close.

[7] (Hilderbrandt, NTTA Seeks Funding for SH 161 2008)

[8] The CTP is a 27.6 mile extension of SH 121 from I-30 to Farm-to-Market Road 1187 in Tarrant County, and extending further south to US 67 in Johnson County

[9] (Fitch Ratings 2011, 2013)

[10] (Standard & Poors Ratings Services 2011)

[11] (Citi, Barclays Capital, Estrada Hinojosa & Company Inc, Loop Capital Markets, Morgan Keegan, Morgan Stanley, Ramirez & Co, Inc 2011)

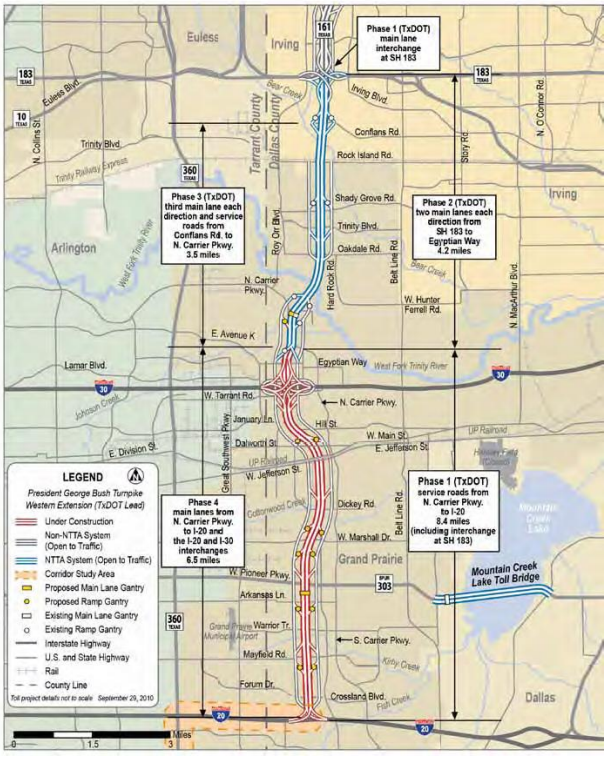
CONSTRUCTION

The construction on the SH 161 or, as it became known, the President George Bush Turnpike, began in 1998 and was completed in seven segments between December 1998 and October 2012. Segment VI, the Western Extension, was actually the last segment to be built and includes the project highway currently under review. The PGBT WE runs between the SH 183 in Irving to the I-30 in Grand Prairie and was itself delivered in four phases:

- Phases 1 to 3 – covering portions of the Western Extension between from the SH 183 to the I-30 (11.5 miles). These phases of the project were principally constructed by TxDOT and opened to traffic between August 2009 and April 2010; and

- Phase 4 – covering part of the Western Extension between North Carrier Parkway and I-20 (6.5 miles). This phase included the delivery of two toll lanes in each direction and interchanges with the I-30 and the I-20. Phase 4 also included delivery of a railroad bridge and the installation of toll gantries for Phases 2 and 3. The NTTA was responsible for the delivery of the Phase 4 scope of work and contracted with Prairie Link Constructors (a consortium comprising Balfour Beatty and Fluor) to execute the construction obligations under a design build ("DB") contract. Phase 4 opened in October 2012 with the railroad bridge completed later in 2012 and the interchange with I-30 fully opened in early 2013.

Figure 2 – PGBT Corridor and Project Phases



Although a separate project, much of Phase 4 was completed in parallel to the construction of the CTP and, as noted above, together these highways sit outside NTTA's core system, forming part of the NTTA's Special Projects System.

Progress of the Phase 4 construction works was monitored by an independent engineering firm, HNTB. HNTB's reports showed steady, on-time, progress and reasonable performance against the cost budget throughout the construction period[12]. At the publication of the last full report on PGBT WE dated August 2012, HNTB estimated the construction would be delivered on time and to the budget at $546.6 million.

OPERATIONS AND CURRENT STATUS

Operations for the PGBT WE are undertaken in-house by the NTTA. Objective measures of operational and financial performance of the PGBT WE are more difficult to ascertain because:

- there is no independent engineer's report available for the post-construction period;

- in available management discussions the performance of the PGBT WE is largely wrapped up with that of CPT with performance metrics described at the SPS level ; and

- the period of performance under the present assessment falls within the "ramp up" period for both the PGBT WE and CPT projects. Characteristically, the ramp-up period begins with the opening of the highwayto traffic as its starting pointing and continues through the earliest years of operations until users have familiarized themselves with the new highway and its layout and the highway reaches its steady state of usage. The ramp-up can be challenging to forecast with a high degree of accuracy and the methodologies for applying ramp-up factors to traffic and revenue models can be quite

[12] (HNTB 2011-2012)

crude. So it is not unsurprising to find revenue estimates, in particular, considerably above or below the forecasted projections during this time. This can also be impacted by the adoption and increasing penetration over time of more efficient methods oftoll payment (e.g. electronic tags). Indeed, the performance data of NTTA's SPS do show that there has been considerable variance in respect to forecasted revenue performance.

However, we do know that there has been no default under the debt instruments and, likewise, there has not yet been any need to utilize funds under the TELA arrangements. This suggests that on a net basis, the revenue and costs performance has remained within acceptable parameters for the SPS projects overall

APPLICABILITY TO HWY 37

The PGBT WE Project is a salutary lesson in ensuring that key stakeholders are aligned with or do not impede the objectives of the procuring authority. While the construction and operations of the project appear to have been delivered satisfactorily in this example, the procurement outcomes have varied from the initial prime objectives of investing private capital to develop public infrastructure and in doing so bolstering the financial resources of the State itself. To the contrary, when analyzed from a risk perspective, it is arguable that the financial structure absorbed the resources of the State.

WHAT LEGISLATION NEEDS TO BE ENACTED TO PERMIT A SIMILAR EFFORT FOR HWY 37?

Beyond basic tolling authorization and P3 enabling legislation, the legislation impacting this project is generally not applicable to the Hwy 37.

Table 2 - NTTA's Special Project System - Toll Revenues[13]

Year	Actual ($)	Estimate ($)	Variance ($)	Variance (%)	Actual Growth (%)
2011	6,466,245	8,281,900	(1,815,655)	(21.90)	N/A
2012	10,488,973	6,861,500	3,627,473	52.90	62.20
2013	24,429,140	24,566,814	(137,674)	(0.60)	32.90
2014*	38,179,423	34,529,300	3,650,123	10.60	56.30
2015	69,698,415	46,897,500	22,800,915	48.60	82.60

*NTTA change traffic and revenue forecast consultant

[13] (NTTA, Finance Department 2011-2015)

SOURCES OF INFORMATION

Allison, Peter. "Texas Toll Moratorium Moves A Step Closer." Infra Americas, April 20, 2007: 1.

Citi, Barclays Capital, Estrada Hinojosa & Company Inc, Loop Capital Markets, Morgan Keegan, Morgan Stanley, Ramirez & Co, Inc. "NTTA Special Projects System Bonds and Bond Anticipation Notes - Official Statement." 2011.

Fitch Ratings. "Fitch Rates North Texas Tollway Auth SPS Bonds "AA-"; BANS "F1+"." 2011, 2013.

Hilderbrandt, William. "NTTA Seeks Funding for SH 161." Infra Americas, September 2008.

—. "FHWA Rule Could Ensure Fair Market Valuation of Toll Road Concessions." Infra-Americas, October 2008.

—. "Is Texas Skating on Thin Ice?" InfraAmericas, May 18, 2008.

HNTB. "North Texas Tollway Authority Semi-Annual Progress Reports (President George Bush Turnpike Western Extension (formerly SH 161)) Progress Reports 1-4." 2011-2012.

NTTA, Finance Department. "Budgets - 2011-2015." 2011-2015.

Standard & Poors Ratings Services. "North Texas Tollway Authority Special System Bonds." 2011.

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Traditional Public Finance Option Timeline

Year 2016
SR 37 DAA

Year 2018
Estimated STIP/ITIP Avail: $32 Million
Initiate Environmental Documents
- Estimated Cost: $20 million
- Estimate 5-8 Years to Complete

Year 2026
Estimated STIP/ITIP Avail: $140 Million
Initiate Design
- Estimated Cost: $90 million
- Estimate 3-4 Years to Complete

Year 2030
Estimated STIP/ITIP Avail: $104 Million
Initiate ROW/Mitigation
- Estimated Cost: $30 million
- Estimate 1-2 Years to Complete

Year 2034
Estimated STIP/ITIP Avail: $138 Million
Project Construction Ready
- Estimated Cost: $1 Billion
- Shortfall: $862 Mil

Year 2050
Regular Inundation and Flooding Events Occurring

Year 2060
Estimated STIP/ITIP Avail: $555 Million

Year 2088
Estimated STIP/ITIP Avail: $1,004,445,588
Initiate Construction
- Estimated Cost: $1 Billion
- Shortfall: $0

Year 2100
Complete Inundation of the Corridor

Assumptions:
1. SR 37 Segment B Cost $1.2 Billion (Starting Point)
2. All STIP from all 4 N. Bay Counties committed
3. ITIP Population Share of 4 N. Bay Counties also committed
4. Cost assumptions for each phase is noted above

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DATE: October 26, 2016
TO: SR 37 Policy Committee
FROM: Daryl Halls, STA Executive Director
Suzanne Smith, SCTA Executive Director
Dianne Steinhauser, TAM Executive Director
Kate Miller, NCTPA Executive Director
RE: Review of United Bridge Partners Unsolicited Proposal – Response to Questions

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Background:
United Bridge Partners (UBP) is a joint venture private investment company that builds, owns and operates private toll bridges across the United States. UBP expressed interest to acquire State Route 37 through an unsolicited proposal in order to design, build, own, operate and maintain and expand a section of the SR 37 corridor. To accomplish this, UBP proposed to toll SR 37. The UBP unsolicited proposal was submitted to the SR 37 Policy Committee on May 5, 2016.

At the request of the SR 37 Policy Committee, the four North Bay Transportation Authority Executive Directors, their project management staff (the Project Leadership Team or PLT), and their legal counsels reviewed the proposal and submitted follow up questions to clarify sections of the proposal. UBP provided a response to the questions on August 30, 2016 and also submitted a Letter of Intent for the "Proposed Acquisition of a Portions of California State Route 37 between Mare Island and Sears Point". The items were presented to the SR 37 Policy Committee as information at their September 1, 2016 meeting.

Discussion:
Staff has reviewed UBP's responses to the original questions regarding their May 5th Unsolicited Proposal. Attached (Attachment A) is staff's comments in response to the responses provided by UBP to the original set of questions authorized by the SR 37 Policy Committee. In summary, several fundamental areas still remain unclear or unknown. The attachment outlines staff's identified areas of questions related to the following:

- Legislative and 3rd Party Approvals
- Obtaining Property Rights
- Non-Compete Clauses Outside the Relinquished Area
- Financial Commitment to the Project
- Toll Rates

At this time, there is additional information that needs to be gathered pertaining to corridor improvements, an initial project description, consideration of numerous policy questions, and the legislative authority needed to consider a Letter of Intent with UBP.

Recommendation:
Informational.

Attachment:
A. Review of United Bridge Partners' Response to SR 37 Unsolicited Proposal Questions

Project Leadership Team Review of United Bridge Partners' Response to SR 37 Unsolicited Proposal Questions

SUMMARY:

1. Some response were complete, while others were vague and unclear.
2. More details will be needed to evaluate the UBP proposal, primarily related to areas of risk noted below.
3. The JPA is the appropriate body to enter into negotiations on a Letter of Intent (LOI).

BACKGROUND:

The original questions were drafted to seek necessary details that the proposal either didn't address or lacked said detail. They were also meant to flesh out areas of potential high risk or potential fatal flaws.

The areas of risk are grouped into:

- ✓ Legislative and 3rd party approvals
- ✓ Obtaining Property Rights (Governmental, Inverse Condemnation, Non-Responsive Owners)
- ✓ Non-Compete Clauses outside the Relinquished Area (outside a future JPA Authority)
- ✓ Financial Commitment to Project
- ✓ Toll Rates

The MOU Committee staff is not able to recommend entering into a Letter of Intent without the areas of risk addressed and detailed in writing.

Legislative and 3rd party approvals:

While we understand UPB has met with many important stakeholders over the last 4 years, UPB needs to detail the specific legislative changes they will be seeking. Legislative changes that involve relinquishment are complex due to the need to determine greater good for the public. In other words, why not use the existing P3 legislation. The area of privacy in California is a barrier to any legislative changes. If UBP seeks the ability to enforce the toll through DMV records on a private facility, this could likely be a fatal flaw. The need to determine if any federal funds were or were not used for the original right-of-way necessary to determine if FHWA approvals are required. In our experience, having no records is not an affirmative that no federal funds were used. Further, it is likely CTC staff will see the need of the JPA to actually value the asset (the highway segment) and provide payment knowing the facility is planned to transferred to a private entity.

Obtaining Property Rights (Governmental, Inverse Condemnation, Non-Responsive Owners):
Property rights exist in many forms, and the legal manor in which that can be obtained have strict requirements. While staff understands UBP intends to obtain all the necessary rights between the two private parties, the Proposal doesn't address if the rights need to come from a governmental body that doesn't want to "sell" their rights. For example, if the railroad doesn't want to agree to an overcrossing and they have superior rights, UBP has no recourse to obtain the right to build a facility over their facility. Inverse condemnation can be as a result of changed conditions to adjacent properties to a project. In this case, it will likely be from flooding. Whereas the "environmental enhancements" will change the existing waterways. We can't always fully model the changes. Nor will property owners necessarily agree to the compensation being proposed. In California these property owners would then be forced into court and to the elected officials in the area. While UBP states they will resolve these compensation issues, what is the elected official's recourse to the potential outcry? Further, while UPB says they will retain all existing access to the corridor, there may be rights of adjacent property owners to obtain access to the corridor, they just haven't gone through the approval process yet. In other words, unless the corridor purchased Abutters Rights, prohibiting future rights without compensation of mitigation, is a taking of property rights. What is UPB recourse if an adjacent property owner doesn't want to sell? What if the adjacent property has an easement on the property to be held in perpetuity for land preservation, how does UBP, a private organization relinquish this right? UPB has indicated a "Connection Agreement" with Caltrans will be required. While this makes sense and should be done at the exact time of the relinquishment. What happens if they (a 3rd party) refuses or terms of such an agreement can't be reached?

Non-Compete Clauses outside the Relinquished Area (outside a future JPA Authority):
Non-compete clauses are common, however the JPA can't bind an outside party, like Caltrans to a no-compete clause on their facility. The JPA could only limit these clauses with the area in which they would in the future control. As a result, UPB needs to understand this complexity.

Financial Commitment to Project:
Financial disclosures are done to insure the public is entering into an agreement with a viable entity and that the entity has dedicated resources to fulfill their obligations. Further, that the entity is not overly benefiting from the public. The public understands a private company has costs for implementation, risks, operation/maintenance, financing and profit. Further, the legal binding of funds to the project will be necessary to demonstrate the project is fully funded along, with the legal requirement to have bonds or actual funds set aside in the case of a financial demise of the entity will be required.

Toll Rates:
Staff asked questions around this topic to be sure we fully understand what the future rates would be should a LOI be pursued. The Bay Area have two tolling authorities, BATA and Golden Gate. Both entities only toll in one direction. Staff understands the matching to this potential tolling facility to be matched to the BATA model. UPB will need to make this distinction.

Overall Process:

While it is understood that many of the details we are seeking will be done during the environmental and design phases, it is knowledge of these details that would allow staff the ability to see if the general statements of "improved travel times, enhanced operations and safety, promotion of clean air, and increased capacity for travel demands along with benefits such as environmental enhancements, protection for sea level rise, new pedestrian access facilities" are ultimately achieved. Frankly, what happens if these general metrics are not met? What is the recourse of the JPA and the public? The public will turn to the JPA if these metrics are not met, and what mechanism would allow the JPA to insure UPB is response to these outcomes? The process and involvement of the JPA and staff must be laid out, including how disputes are resolved. It wouldn't be acceptable to have UPB be the "judge and jury". The Sea Level Rise metrics are clearly complicated. UPB must engage both BCDC and Caltrans in the determination of this metric. Again, a thorough process must be laid out for how disputes in this arena are resolved.

September 1, 2016 SR 37 Policy Committee Meeting Financial Policy Recommendations

Policy Questions: Roles and Responsibilities

1. What role should the SR 37 MOU Group have in soliciting, responding and negotiating financial proposals?
2. What role should the SR 37 MOU Group have in sponsoring tolling legislation for the corridor?
3. What role should the SR 37 MOU Group have in the corridor design and environmental process?
4. What role should the SR 37 MOU Group have to provide oversite and implement projects on the corridor?
5. When should the JPA be formed? Consideration should be given to the feasibility and possible membership, roles and responsibilities to establish a JPA. If established after an "agreement" has been negotiated with the Proposer, how would this impact the long term success of the project and relationship? Should a JPA be responsible for the full SR 37 corridor or the segment in the proposal?
6. What role will the public agencies play in setting toll levels?

Recommendations:

I. SR 37 Corridor Policy Committee Role and Responsibilities

1. **SR 37 MOU Group** will serve as a public forum for:
    i. Monitoring progress updates on SR 37 such as sea level rise and other relevant studies
    ii. Developing the SR 37 Corridor Plan
    iii. Developing the implementation phases for the SR 37 Corridor
    iv. Communication with local agencies, Caltrans, MTC, BCDC and other agencies
2. **SR 37 MOU Group** will consider and advocate for legislation supporting the implementation of the SR 37 Corridor Plan, including tolling options.
3. **SR 37 MOU Group** will review a public outreach process; serve as a public forum and review public information before it's distributed.
4. **SR 37 MOU Group** will act in an advisory role to the Lead Agency of the Environmental Document.

II. The Four North Bay County Transportation Authorities Role and Responsibilities

In coordination with Caltrans, the Transportation Authorities will provide staff support for evaluating technical studies and implementing project phases related environmental, design, right of way acquisition, and construction of projects on SR 37 within their county.

III. Joint Powers Authority (JPA) Role and Responsibilities

1. **A JPA and/or Joint Powers Agreement** should be considered in Counties where SR 37 improvement projects are identified and ready to move forward, in coordination with Caltrans, Bay Area Toll Authority (BATA) and/or private financing for toll financed projects.
2. **The JPA** establishment is decided by the Board of Supervisors for each County based on recommendations from the County Transportation Authority.
3. **Implementing JPA** sets maximum toll levels or negotiates with BATA or private venture group, MOU role is advisory since the MOU Group has a limited role in financial decisions on the corridor.

Policy Question: Public Process

1. How will the proposer ensure an open transparent process in setting toll rates, project expenditures and profit?

Recommendation:

1. Public agencies will have a role in setting minimum and maximum toll rates. A financial toll option should not exceed a predetermined toll rate limit or cap with specific reporting parameters related to quarterly and annual reports.

SR 37 Policy Committee Overall Private and Public Financial Policy Questions Discussion and Staff Recommendation Dates

Introduced at September 1, 2016 SR 37 Policy Committee Meeting
Staff recommendation at November 3, 2016 SR 37 Policy Committee Meeting

I. SR 37 Corridor Policy Committee Role and Responsibilities

1. What role should the SR 37 MOU Group have in soliciting, responding and negotiating financial proposals?
2. What role should the SR 37 MOU Group have in sponsoring tolling legislation for the corridor?
3. What role should the SR 37 MOU Group have in the corridor design and environmental process?
4. What role should the SR 37 MOU Group have to provide oversite and implement projects on the corridor?
5. When should the JPA be formed? Consideration should be given to the feasibility and possible membership, roles and responsibilities to establish a JPA. If established after an "agreement" has been negotiated with the Proposer, how would this impact the long term success of the project and relationship? Should a JPA be responsible for the full SR 37 corridor or the segment in the proposal?
6. What role will the public agencies play in setting toll levels?

II. Public Process

1. How will the proposer ensure an open transparent process in setting toll rates, project expenditures and profit?

Introduce at November 3, 2016 SR 37 Policy Committee Meeting
Staff recommendation at January 5, 2016 SR 37 Policy Committee Meeting

I. Project Delivery/Corridor Plan

1. Which entity will be responsible for various phases of the project (i.e. PID, Environmental, Design and Construction? How will the proposer address Right of Way and property condemnation? What role does the SR 37 MOU Group have in the process, if any?
2. What provisions does the proposer provide to ensure qualified employees and contractors throughout the life of the project?
3. Who will be the CEQA/NEPA lead?

4. What level of control should the local agency or JPA maintain? For example, should toll collection for the entire alignment and possibly revenues from other sources (development fees, etc.) be the responsibility of the local agency or JPA?
5. Will the flyover at SR121/SR 37 intersection and the Mare Island Interchange enhancements be considered for Phase 2 staging?
6. How does a proposal address SR 121 and Mare Island intersections?
7. What are the metrics used to assess sea level rise in regards to when Phase 2 will be initiated for construction? How will the existing facility be replaced if sea-level rise occurs quicker than the anticipated 2040 date?
8. Aside from the bike lanes proposed, what other modes of transportation are being conceived as part of this proposal, such as rail, bus transit, and pedestrian?
9. What is the traffic revenue being assumed by this proposal?

II. Proposal Evaluation Criteria

1. How does the SR 37 Policy Committee intend to evaluate and approve the unsolicited proposal to determine if this proposal is acceptable or not?
2. Which requirements (i.e. statutory, regulatory and goals) and evaluation factors (i.e. environmental, technical and financial) will the merits of a proposal be evaluated?

Introduce at January 5, 2017 SR 37 Policy Committee Meeting
Staff recommendation at March 2, 2017 SR 37 Policy Committee Meeting

I. Legal/Legislation

1. Can a local agency sign a Letter of Intent (LOI) if they do not own the facility? What are the legal and financial risks if local agencies sign an LOI but legislation fails to pass in order to transfer the facility? What obligation does a LOI bind the JPA should legislation not be successful?
2. What legislative actions are necessary for charging a toll without a free alternative given the current facility is free? Which agency will be responsible to sponsor any required legislation for the corridor?

II. Finance Plan

1. What provisions are included for toll revenue sharing? For example, if there is a revenue threshold that is exceeded, how will the revenue be split with the proposer and local/state agencies?

Introduce at March 2, 2017 SR 37 Policy Committee Meeting
Staff recommendation at the May 4, 2017 SR 37 Policy Committee Meeting

I. Contract/Agreement

1. What provisions will the proposer have in time of extreme events such as earth quakes or flooding? How does the proposer demonstrate their ability to reestablish corridor operations after a force majeure event?
2. Are there special provisions provided in the event of special circumstantial corridor closures which may limit toll revenue collection (e.g. enforcement and construction/maintenance activities)?
3. What financial provisions are included to address financial risk sharing between the proposer and local agencies?
4. What provisions does the proposer have in place if SR 37 is relinquished to them and they default resulting in the need to the corridor back to Caltrans or the MOU Group? What happens if the facility is transferred to a private venture and the challenges are too great resulting in bankruptcy or insolvency during any phase of the project? Does the facility get transferred back? And to whom the local agency, JPA or Caltrans? What provisions should a private venture provide if the project happens to be relinquished back to the local agency after all phases of the project is constructed?

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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.

Preliminary SR 37 Design Alternative Assessment Public Outreach Scope of Work

Grant Category Submittal: Planning Public Engagement Contract
Project: SR37 Design Alternative Assessment (DAA) Public Outreach
Project Scope Area: SR 37 Corridor from I-80 (Solano County) to Hwy 101 (Sonoma County)
Grant Request: $75,000
Local Match Requirement: None
Applicant: Caltrans District 4 and Solano Transportation Authority (STA)
Co Sponsors: 1) Napa County Transportation Planning Agency (NCTPA)
2) Sonoma County Transportation Authority (SCTA)
3) Transportation Authority of Marin (TAM)

OVERALL PROJECT OBJECTIVES:

- Engage public and stakeholders in the preliminary design and vision (which includes a purpose and need statement) for the SR 37 corridor.
- Engage the public on multimodal options, such as transit, rail, ferry and commute alternatives.
- Engage public and stakeholders in design alternatives, concepts and cost estimates, including a no-build alternative.
- Engage the public on potential financing options for corridor design alternatives.

Scope of Work

Task 1.1 Develop Community Outreach Database

- Through the Napa, Sonoma, Marin, Solano CMA partnership, obtain names and address of interested public members and stakeholders for future public input meeting advertisements, mail outs and e-mails.
- Database to include disadvantaged and community based organization participants from each agency's Paratransit Coordinating Council (PCC) and Senior and Disabled Advisory Committees or their equivalent. These committees or their equivalent include citizen participants as well as staff that focus on transit and mobility needs for seniors as well as disadvantaged and community based organizations. These committees advise each CMA on transportation policy and funding decisions.

Responsible Party: SR 37 Project Leadership Team (PLT) and selected Consultant

Task 1.2 Develop Social Media Presence for Community Participation

- Develop an internet web based profile that each agency can link to for up-to-date current project development information and opportunities for community input meetings.
- Potentially includes, but not limited, to a public assessable web site, enhance Facebook page CA Route 37, and a new twitter profile. Selected consultant and CMA partnership will jointly negotiate on best practices for social media outreach.
- Maintain website and actively provide up-to-date information on social media with contact information for questions and comments from the community.

Responsible Party: STA and selected Consultant

Task 1.3. Press Release/Newspaper advertisements

- Ensure all press releases of community input workshops are distributed to all local newspaper publications in Sonoma, Napa, Marin and Solano counties. Include contact information for questions and comments from the community.

Responsible Party: STA and selected Consultant

Task 1.4 Public Meeting Round 1: Plan Development Kickoff Community Workshops

- Schedule and advertise a community workshop/kickoff event to provide an initial opportunity for public comments at four locations: one community workshop in Solano County, one community workshop in Sonoma County, one community workshop in Napa County and one community workshop in Marin County.
- Focus for the meeting is to present a draft SR 37 Existing Conditions Report and obtain community input on the report.
- Present SR 37 Corridor Vision for community input.
- Discuss scope of the planning document and potential outcomes.
- Selected consultant and CMA partners will request new names to be included in the SR 37 Community Outreach Database for subsequent community outreach events.
- Meetings outreach process and input received will be documented. In addition, photos of the event will be obtained.

Responsible Party: SR 37 PLT and selected Consultant

Task 1.5 Public Meeting Round 2: Draft Plan Public Input Meeting

- Schedule and advertise a public meeting as part of the SR 37 Policy Committee to provide an opportunity for public comment focusing on draft Plan before it is finalized.

Responsible Party: SR 37 PLT and selected Consultant

Task	Deliverable
1.1	*Community Outreach Database*
1.2	*Community access to social media links such as internet web sites, Facebook and twitter*
1.3	*Press releases for local newspaper publications*
1.4	*Meeting agenda, presentation materials and community input minutes of the Plan Development Kickoff Community Workshops*
1.5	*Meeting agenda, presentation materials and community input minutes of the Draft Plan Community Workshops*

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