Alameda-Contra Costa Transit District

STAFF REPORT

TO: AC Transit Board of Directors
FROM: Michael A. Hursh, General Manager
SUBJECT: Capital Project and Funds for Transbay On-ramp Design

ACTION ITEM

RECOMMENDED ACTION(S):

Consider amending the Capital Improvement Program to include a project for Design of Improvements to the Salesforce Transit Center On-Ramp with a budget of $200,000.

BACKGROUND/RATIONALE:

The opening of the new Salesforce Transit Center (STC) in 2018 will change the way that District buses travel in San Francisco, taking them off city streets and onto dedicated ramps from the Bay Bridge approach to the STC. With the construction of the new ramps, staff has discovered operational safety issues with the STC outbound bus ramp merge onto the eastbound I-80 Bay Bridge approach.

Currently, the Transbay Joint Powers Authority (TJPA) proposes to connect the STC outbound bus ramp onto the eastbound I-80 Bay Bridge at the point where Essex Street also merges. The new alignment with the STC project reduces visibility with the Essex Street merge causing District staff to deem the merge unreasonable to operate without mitigations.

Due to the grade differential, short alignment of the two on-ramps, the limited visibility and inadequate advance notice, this merge poses operational challenges. Various options were evaluated with Caltrans, the City of San Francisco, San Francisco Municipal Transportation Agency (SFMTA) and other transit agencies as well as TJPA, to determine a preferred and feasible alternative. Based on concerns over potential impacts to freeway capacity, city street congestion, advance visibility, and other design considerations, an option which includes a program of striping, signage and a flashing beacon assembly was identified most feasible and preferred.

Staff is discussing with TJPA, Caltrans and other transit agencies who is ultimately responsible for the costs of designing and implementing the selected improvements. In the interest of protecting the timeline for the District’s start of service at the new terminal, the District will contract with a design firm from the existing Architecture and Engineering On-Call contract. To best expedite the design process, staff has selected Parsons from the bench of firms available through the on-call contract based on their familiarity with the project and major stakeholders, similar experience, availability, and available contract budget for the year. The initial cost estimate received from Parsons is within the proposed budget.
Staff proposes to add the STC on-ramp design to the existing Capital Improvement Program. Due to the $260,000 cost reduction in the project to retrofit air conditioning units on Van Hool buses detailed in Staff Report 17-020b, the design project would not add spending above the projected amounts for the current fiscal year.

Attached is a letter sent from four transit agencies that will be using the ramps and bus deck, and a response letter from TJPA. Staff disagrees with some of TJPA’s conclusions, but a further response letter has not been sent. Due to the urgency of the issue, staff has been focused first on working with TJPA and stakeholders on how to solve the operational issues.

The tentative start of operations at the STC is with the March 2018 signup. This date depends on the District having access to the facility approximately four months in advance – December 2017 - to allow for proper training of operator and supervisory staff. TJPA is currently forecasting substantial completion by the end of the year, but are experiencing some delays so it’s possible that date may slip. Another major factor is TJPA’s expressed need for the Temporary Transit Center to be vacated by June 2018 due to its impending development. This puts a tight window on when the District could train and start service in the new facility, and when the improvements to the on-ramp must be completed by. Staff will continue to update the Board as the situation develops.

**BUDGETARY/FISCAL IMPACT:**

The new design project would be funded by $200,000 in District Capital funds. The reduction in planned District Capital spending due to a cost reduction in the Van Hool Air Conditioning Retrofit project allows for the design project to be added without increasing the projected spending for the year.

Staff has not identified any additional funding at this point that could be used towards construction of possible improvements. Staff continues to discuss construction funding with TJPA and the other project stakeholders.

**ADVANTAGES/DISADVANTAGES:**

The main disadvantage to adding this project is that the District may not be able to get any reimbursement from TJPA or other entities for the cost of the design and so may end up paying the full cost. The main advantages are that the District will be in control of the design team and will have the most say in the final designed solution and delivery, and that the design process will be started earlier than if the District waited for a different funding situation to be worked out.

**ALTERNATIVES ANALYSIS:**

An alternative to having the District move forward with the design is to wait and try and convince either TJPA or Caltrans to produce the designs, or to fund the designs upfront. Staff does not recommend this as that would likely end up preventing the District from starting service at the new STC while the responsibility for the design is figured out.

**PRIOR RELEVANT BOARD ACTION/POLICIES:**

Board Policy 314 – Capital Projects
ATTACHMENTS:

1: July 20, 2017 Letter to TJPA stating operator concerns with sketch
2: August 2, 2017 Reply letter from TJPA

Approved by: Claudia L. Allen, Chief Financial Officer
Reviewed by: Rama Pochiraju, Executive Director of Planning & Engineering
Robert Del Rosario, Director of Service Planning & Scheduling
Wil Buller, Traffic Engineer
Prepared by: Chris Andrichak, Director of Management and Budget
July 20, 2017

Mark Zabaneh  
Executive Director  
Transbay Joint Powers Authority  
201 Mission Street, Suite 2100  
San Francisco, California 94105

RE: Hazardous Bus On-Ramp to the Bay Bridge

Dear Mr. Zabaneh,

We appreciate the TJPA staff’s collaboration on the design and construction process for the new Transbay Transit Center (TTC). We are all excited about the prospect of moving into a world-class transit facility and all the service and passenger improvements it will bring. Unfortunately, we are writing to discuss an urgent issue that requires resolution before we operate service in the TTC.

During the process of testing the newly constructed ramps, it became clear the new alignment onto the Bay Bridge creates a hazardous condition, beyond the limits of the TTC project, at the merge point onto the Bay Bridge. Operations, Safety and Planning staff across all involved agencies are committed to mitigating the hazard to ensure the TTC operations start as planned in March 2018. To be clear, in order to have safe operations for our operators, passengers and other vehicles merging onto the Bay Bridge, the hazard requires mitigation before bus operations can begin.

The hazard is the point at which Essex Street merges onto the Bay Bridge, approximately 250 feet past the bus ramps project limits. The Essex Street on-ramp lane merges into the same lane that will be used by buses coming from the TTC, and there is severely restricted visibility between the two lanes due to concrete pillars and differing grades – see attached existing versus proposed conditions sketch. In addition, the short length of both lanes before the merge point leads to extremely short reaction times for the bus operators and drivers on Essex Street.

AC Transit tested the new on-ramp as part of the bus ramp test conducted on April 21, 2017. Due to the known hazardous conditions, California Highway Patrol closed the Essex Street on-ramp to vehicles, along with the adjacent lane on the Bay Bridge. The operators driving the test were very concerned at the prospect of another lane merging on their left and felt unsafe due to the lack of visibility and reaction time.

While the Essex Street/bus lane merge is a similar condition to the old operation prior to the new ramp construction, conditions have changed creating a more hazardous condition. The 2010 condition was already documented by the AC Transit Training Department as a hazard; staff created a training video to warn operators of this merge point and to use caution. It has been eight years since buses operated into this merge point. Safety remains paramount for our operations into the new TTC.

The main change leading to a more hazardous condition is the altered alignment of the bus lane. The old alignment was on the north side of the Caltrans substation, adjacent to the Essex Street on-
ramp, which provided better visibility between the two lanes. The new alignment takes the bus lane to the south of the substation and removes any visibility with the Essex Street lane until the actual merge point onto the bridge. While clear signage would help alert vehicles merging into the bus lane, the lack of visibility until the merge point creates a major hazard.

Staff from all agencies have developed two potential mitigations (in addition to the need for numerous striping/signage changes) to the hazardous condition, and agency staff will be happy to work with the TJPA and Caltrans to design and implement them:

1. Use existing signal infrastructure to meter the Essex Street lane in coordination with the signal on the bus ramp.
2. Install new, dedicated, metering system to coordinate the bus ramp lane and the Essex Street lane merge.
3. Merge the Essex Street and First Street lanes, which have more, and clearer, visibility due to a lack of pillar obstructions (see attached sketch).

Implementation of one of either of these suggestions, or other alternatives, can proceed after a safety and traffic analysis is done, which will include any impacts to San Francisco city streets of the possible mitigations. All agencies look forward to continuing working with the TJPA and Caltrans to develop and implement the mitigations for this hazard, which will need to meet all our operational safety requirements. Given the existing schedule, we anticipate an expedited project in order to prevent any operational delay for the TTC beyond March 2018. More importantly, we hope that we can work together to provide the best, and safest, facility for the riding public for years to come.

If you have any questions or comments, please feel free to contact Wil Buller- District Traffic Engineer (510) 891.5414.

Sincerely,

Michael A. Hursh
General Manager
AC Transit

Rey Nunez
Senior Director
Greyhound

Charles Anderson
General Manager
Western Contra Costa Transit Authority

David B. Kutrosky
Managing Director
Capitol Corridor Joint Powers Authority

CC: Mr. Steve Heminger, Executive Director, Metropolitan Transportation Commission
Mr. Bijan Sartipi, District 4 Director, Caltrans
Sketch for planning purposes only. Not to scale. Approximate in nature.

EXHIBIT
August 2, 2017

Mr. Michael A. Hursh  
General Manager  
AC Transit  
1600 Franklin Street  
Oakland, CA 94612

Mr. Charles Anderson  
General Manager  
Western Contra Costa Transit Authority  
601 Walter Avenue  
Pinole, CA 94564

Mr. Rey Nunez  
Senior Director of Real Estate  
Greyhound  
350 N. St. Paul Street  
Dallas, TX 75201

Mr. David B. Kutrosky  
Managing Director  
Capitol Corridor Joint Powers Authority  
300 Lakeside Drive, 14th Floor East  
Oakland, CA 94612

Subject: Transbay Transit Center Program  
Letter re. Hazardous Bus On-Ramp to the Bay Bridge

Dear Sirs:

I have received your July 20, 2017, letter regarding your agencies’ concerns about an existing merge condition on the eastbound lanes on the lower deck of the Bay Bridge.

While the TJPA certainly takes your operational safety concerns seriously, it is important to emphasize your statement that the merge location identified in your letter is in fact an existing condition that lies outside of our project limits and pre-dates the Transbay Transit Center Program. Your letter refers to this existing condition as “hazardous”; however, this is the same merge used by transit operators for many years prior to our work (see attached 2009 photo), and you have not provided any statistical accident data that support the characterization of this merge as hazardous.

Video footage from the old Transbay Terminal in 2009 indicates that the new Bus Ramp routing to the south of the Caltrans substation has no bearing on the existing merge condition or sightlines, as the old and new alignments come together well before the merge onto the eastbound Bay Bridge.

Your letter suggests that AC Transit was aware of this condition and even documented it in internal staff training material as far back as 2010, which was well before construction of the Bus Ramp began. This issue was never raised with the TJPA, despite AC Transit staff’s participation in reviewing the 35%, 65%, 90%, and 100% design submittals, as well as several live simulations.

As you know, the TJPA is striving to achieve Substantial Completion of the Transit Center by the end of this year, and the Bus Ramp Substantial Completion is expected this month. Late design change requests such as this as well as other recent requests such as reconfiguration of the bus deck sawtooth berths and extensive revisions to the Bus Ramp striping are extremely disruptive to that effort. These requests not only divert key staff resources in order to evaluate the request and make recommendations, but also are
extremely difficult to implement at this stage of construction without incurring significant additional
design and construction costs and creating the potential for substantial delay claims.

As your letter states, this an existing condition that is beyond the limits of the Transit Center project and
is within the state right of way; as such, this is an issue AC Transit needs to address directly with
Caltrans. This process was initiated in a June 28, 2017, meeting that included staff from AC Transit and
Caltrans, and based on minutes from that meeting (see attached) we understand that AC Transit is in the
process of procuring engineering services to study this issue and develop mitigation options. The minutes
also indicate that the Caltrans traffic engineer supports a solution that utilizes existing infrastructure to
add a loop detector and flashing lights (Option D), which could be implemented relatively easily.

In the spirit of cooperation, if your team can arrive at a successful design solution and obtain the Caltrans
encroachment permit to construct it, the TJPA would consider implementing the changes, provided that
the TJPA Board approves. While we are hopeful that a solution can be developed and implemented in an
expedited fashion, this effort is on a separate track and its resolution should not have any bearing on the
start date of revenue service from the Transit Center in late March 2018.

Sincerely,

Mark Zabaneh
Executive Director

cc: Steve Heminger, Executive Director, Metropolitan Transportation Commission
    Bijan Sartipi, Caltrans District 4 Director
    Ron Alameida, Director of Design & Construction for the Transit Center, SFPW

Attachments: 2009 photo of Bay Bridge merge condition and 6.28.17 meeting minutes
Meeting Minutes
Caltrans HQ
Wednesday, June 28, 2017
3:00pm

Attendees:
AC Transit - Wil Buller (WB), Robert del Rosario (RdR), Linda Morris (LM)
SFMTA – John Katz (JK), Cynthia Hui (CH), Ricardo Olea (RO), Matthew Lee (ML)
Caltrans – Wingate Lew (WL), Al B. Lee (AL), Charles Price (CP), Roland Au-Yeung (RAY)
TJPA – Dennis Turchon (DT), Ron Alameida (RA)

Overview
LM and WB provided an overview of the problem with the planned bus on-ramp from
the TTC merging onto the Bay Bridge with the Essex St on-ramp. The new alignment
with the TTC project reduces visibility with the Essex St merge and transit agencies
have deemed the merge unsafe to operate without mitigations.
A formal letter from all affected transit agencies to the TJPA and Caltrans is
forthcoming.

Ground Rules
LM established some ground rules for the meeting:
1. Proceed from a safety perspective
2. Focus on solutions not history
3. Punt funding discussion to another meeting
4. Hear out all options

Goals for the meeting
LM went through the meeting goals:
1. Establish the full complement of mitigation options
2. Evaluate the most feasible alternative
3. Establish process to proceed

Mitigation Strategies (please refer to materials provided at meeting & attached)
WB presented the following four mitigation strategies to the group.

A. Merge Essex St and First St on-ramps prior to entry onto I-80
B. Merge bus traffic into the #1 eastbound lane on the freeway
C. Install new, dedicated, metering system to control Essex Street merge into Bus Lane, and/or First St. merge onto freeway.
D. Use existing signal infrastructure to control Essex Street traffic into Bus Lane along with a program of striping, signage and a flashing beacon assembly

- Caltrans and SFMTA staff had serious concerns regarding option A and the length of a proposed merge, given the current traffic volumes. This would potentially significantly reduce the effectiveness of Freeway to empty out commuting traffic out of the City. There was consensus to exclude option A as a viable option.
- There was consensus to exclude option B due to the speed differential between prevailing Freeway speeds and merging buses and the unexpected merge of buses from the left.
- There was consensus that a final design could be a mixture of options C and D.
- Both Caltrans and the City had serious concerns with traditional metering of Essex St on ramp. There was consensus to exclude metering of First St. as a viable option. CT requested ACT/Muni provide operational parameters necessary for buses to merge safely (in terms of speed, gaps of time & space). i.e. Max. speeds of merging traffic ~ 35mph, 350 feet of gap, 7 seconds of gap time. CT can evaluate for the best type of control methodology to implement. Not necessarily a metering system as much as an added signal control system.
- All discussed & agreed to the need for an active warning system involving the bus on-ramp and beacon systems on the Essex Street on-ramp. There was discussion on the intricacies of the type of bus ramp detection (loops) & signal coordination between the bus ramp signal and any on-ramp signal and/or coordination of the Harrison and Essex St existing lights.
- CT stated that option D would only require a PEER process. Option C would be a much longer process involving much more analysis and could require a full PSR/PR process given the nature of the work. AL will check on what will be required.
- CP stated his department would be responsible for the coordination and timing of any signaling system and all they required was a concept of operations to start work.
- RO was clear any new light installation on the on-ramp would not be City responsibility.
- RAY/CP stated to overdesign any type of installation system as it will be easier to dial back than upgrade, and provide redundancy.
SFMTA staff noted their concern to avoid any back up traffic onto San Francisco streets.

RO questioned a pure signal mitigation option. What would the fail-safe be if the signals failed?

Next Steps

- WB and LM will lead the process to establish a consultant designer and follow up with Caltrans staff on the permit process. WB and LM will follow up with AL regarding processes necessary.
- AL will investigate the type of permit approval required for this type of work and mentioned working with David Salladay.
- RAY will see about fasttracking any approvals process for the final design.
- ACT, Muni, and the City will follow up with a designer and CT staff to work out final details of option D before submission of a PEER and beginning design. CT Encroachment permit to follow upon design submittal to CT. Design to include provisions for Option C.
- Option C to follow separate process and analysis as determined by CT.