San Francisco County Transportation Authority

1455 Market Street, 22nd Floor
San Francisco, California 94103
415.522.4800 FAX 415.522.4829
info@sfcta.org www.sfcta.org

Memorandum

Date: 5.21.19 RE: Board
May 21, 2019

To: Transportation Authority Board: Commissioners Peskin (Chair), Mandelman (Vice Chair), Brown, Fewer, Haney, Mar, Ronen, Safai, Stefani, Walton, and Yee

From: Tilly Chang – Executive Director

Subject: Executive Director's Report – **INFORMATION**

REGIONAL, STATE, AND FEDERAL ISSUES

High Speed Rail - Federal Railroad Administration pulls grant from California High Speed Rail Authority (CHSRA): The Federal Railroad Administration (FRA) announced last week that it terminated a 2010 agreement with the CHSRA and would pull a nearly $929 million federal grant, adding to the financial challenges of the project. Governor Newsom immediately responded that the administration's action is illegal, that the grant was appropriated by Congress, and that California will vigorously defend its grant in court. We anticipate that this issue will take some time to be resolved and will work to support the CHSRA with our regional, state, and federal partners as well as our federal delegation.

Regional Growth Framework - Metropolitan Transportation Commission (MTC) Proposes Changes for Next Regional Plan: MTC staff are proposing to update the Regional Growth Framework that has been the foundation for land use planning in the Regional Transportation Plan (now called Plan Bay Area) since 2013. The Regional Growth Framework is comprised of Priority Development Areas (PDAs), where local jurisdictions plan for concentrated population and employment growth in transit-rich areas, and Priority Conservation Areas (PCAs), which are open spaces identified to need protection due to development or other pressures. The new proposal would expand PDAs to include a larger geographic footprint to help accommodate the region's growing housing needs, and would include a new geography, Priority Production Areas (PPAs), which identifies manufacturing and warehousing-zoned areas where certain types of middle-wage jobs are concentrated. The growth framework has implications for how much growth is assigned to these areas in Plan Bay Area and can have funding implications (e.g. PDAs are prioritized for One Bay Area Grant funds). We are working with our MTC representatives, and SF agencies to provide feedback to this proposal. MTC staff has not yet provided a clear answer as to the pros and cons associated with a jurisdiction that self nominates areas to be a PDA, PCA or PPA. As the Board of Supervisors, you may nominate new PDAs, PCAs, and PPAs by the end of the year.

American Public Transit Association (APTA) Peer Review Panel Completes TJPA Assessment: Following the SFCTA's request for an organizational assessment of the TJPA, the TJPA Board requested that APTA conduct a similar institutional review. On May 9, I attended the TJPA Board meeting for Director Haney and heard the APTA peer review panel's findings and recommendations which focused on the need to bolster internal staffing of the TJPA, to understand lessons learned from the CM/GC delivery method for the Phase 1 Terminal building, and to strengthen oversight and communications going forward. The panel's presentation is attached to my report and will inform our own Downtown Rail Extension and TJPA peer review which we expect to complete in June.

Click here to view May 9, 2019 TJPA Board Meeting. [Item 12: APTA Peer Review Update]

LOCAL ISSUES

Appeals Court Upholds SF City Attorney Subpoena for Uber Data: A California appeals court has affirmed a lower court ruling supporting the City Attorney's subpoena of Uber trip data in eight areas ranging from illegal parking to dangerous driving to incentives and pay for Uber's drivers. The City Attorney's Office is empowered to issue subpoenas when it suspects a violation of city law. The City Attorney's Office told the court it was concerned Uber violated state nuisance law, underpaid its drivers, allowed its drivers to illegally park and to drive in a dangerous fashion. Uber must now turn over data on these topics to the City Attorney's office for analysis.

Vision Zero - Mayor Calls for 20 miles of new protected bike lanes over the next two years: Mayor Breed's announcement on Bike to Work Day that San Francisco would double its pace of constructing protected bike lanes, resulting in 20 miles of new protected bike lanes in the next two years, is the kind of bold challenge that makes us excited to work on improving our public infrastructure. We anticipate working closely with our colleagues at the SFMTA to advance these bike lane projects. We've already shown the ability to move quickly to make high-quality bike lanes, including the near-term Valencia Street Bikeway Improvements project that was supported by District 8 NTIP planning funds. The evaluation results from this project are already helping inform the next generation of projects. We've also been planning ahead. The action the Board took last fall to approve the next five years of programming for the Prop K sales tax included over $11 million specifically for bicycle network expansion and upgrades. We're looking forward to getting these projects moving forward as we pursue Vision Zero and want to remind you that you can follow the progress of Transportation Authority projects at mystreetsf.sfcta.org.

Late Night - New L-Owl Service to Fisherman's Wharf Launching in June: I am pleased to announce that SFMTA plans to launch extended L-Owl service along the Embarcadero to Fisherman's Wharf on June 15, bringing new transit service to the neighborhood's late-night and early-morning workers and customers. This new service is funded with a Lifeline Transportation Program grant from the Transportation Authority and will run every 30 minutes from 1:00am 5:00am. In 2018, we completed a coordinated service planning study to refresh the region's all-night transit network in support of the Late Night Transportation Working Group. Both Working Group stakeholders and the study's analysis identified a concentration of nighttime workers along The Embarcadero corridor that lack access to transit. The study recommended extending the L-Owl to provide both local service and a connection to the regional All-Nighter network.

Transportation Pricing - Transportation Authority Participates in SPUR Panel: On May 1, SPUR hosted a transportation pricing panel discussion in which me and Senior Transportation Planner Colin Dentel-Post participated. I provided examples of different types of transportation pricing and highlighted where some of them are being planned or implemented in San Francisco, such as in the Treasure Island transportation program, SFPark, and the Transportation Sustainability Program. Colin Dentel-Post discussed the idea of congestion pricing in downtown San Francisco, including the benefits identified in the Transportation Authority's 2010 Mobility, Access, and Pricing Study and the plan for the current Downtown Congestion Pricing Study, including its focus robust community outreach and analyzing the equity effects of a new congestion pricing proposal. Panelist Sarah Jo Szambelan of SPUR discussed the negative impacts of unpriced roads and panelist Chris Lepe of TransForm presented the organization's report Pricing Roads, Advancing Equity.

PROJECT DELIVERY

Update - San Francisco Municipal Transportation Agency's (SFMTA) Siemens Light Rail Vehicles (LRVs): Following reports of passenger incidents with the rear single-panel doors on the new vehicles,

SFMTA has committed to improved communications regarding the ongoing Siemens LRV procurement and to provide regular progress reports on vehicle performance and on the steps taken to resolve the single-panel door and shear bolt/coupler issues. The rear single-panel doors are tested for sensitivity using the American Public Transportation Association (APTA) standards every 3,750 miles, when the vehicle undergoes regular preventative maintenance as well as daily as part of the pre-operation inspection. However, this most recent incident showed that these standard tests do not capture the type of obstruction experienced in this incident, especially small objects on or close to the outside of the door. SFMTA has moved forward to update both the design as well as the functional test of the door to account for this broader range of obstructions. Responding to the need for additional oversight, Transportation Authority staff is in the process of engaging TY Lin International, which by coincidence has staff at the Siemens factory providing oversight for an unrelated procurement, to provide factory oversight for the SFMTA vehicles. We hope to have them on-board within the next couple of weeks. We have included the most recent LRV update memo sent to the SFMTA Board as a reference for our Board, our Citizens Advisory Committee and the public.

San Francisco Safe Routes to Schools Program - Hiring for a new SFMTA Program Coordinator is Underway: In March 2019, the Board approved a Prop K allocation request for the administration of the SF Safe Routes to School program, which is transitioning from the Department of Public Health to the SFMTA in July 2019. Under the new structure, the SFMTA will oversee and coordinate the city's school transportation programs with an increased focus on safety and mode shift. SFMTA is in the process of hiring a Safe Routes to Schools Coordinator and has requested that we delay their update on the SRTS program to the Board and CAC to July rather than June as specified in the grant award. We are looking forward to working with the new coordinator once s/he is on board.

SFMTA Traffic Calming Update - Residential Traffic Calming – Applications Due June 28th: Prop K annually funds SFMTA's Residential Traffic Calming Program to evaluate requests for locations that can benefit from slower speeds and to implement cost-effective traffic calming devices, such as speed humps. Interested residents should submit an application for traffic calming on residential streets, along with a petition signed by at least 20 residents on their street, to the SFMTA by June 28th. For more information, please visit: https://www.sfmta.com/getting-around/walk/residential-traffic-calming-program Or contact TrafficCalming@sfmta.com. SFMTA will notify residents of their application status between January and March 2020.

MANAGEMENT AND ADMINISTRATION

Construction Management Association of America (CMAA) Norcal Chapter and Women's Transportation Seminar SF Chapter (WTS) – Public Agency Night: The CMAA NorCal Chapter and WTS SF Bay Area Chapter are holding a joint "Public Agency Night" on May 22nd, 2019 from 5:30 PM-8:30 PM at the San Francisco War Memorial - Green Room with the goal of educating members about the state of infrastructure, buildings and transportation industries in the Bay Area. The Transportation Authority will be one of 20+ public agencies staffing tables at the event with procurement information. Special guest, California State Assemblymember David Chiu, will present on infrastructure and transportation industries as well as buildings industries from the State and local level.

Attachment:

1. SFMTA LRV Update Memo
2. APTA Peer Review Presentation

SFMTA

MEMORANDUM

DATE: May 17, 2019

TO: SFMTA Board of Directors
Malcolm A. Heinicke, Chair
Gwyneth Borden, Vice Chair
Cheryl Brinkman, Director
Amanda Eaken, Director
Cristina Rubke, Director
Art Torres, Director

THROUGH: Edward D. Reiskin, Director of Transportation

FROM: Julie Kirschbaum, Director of Transit

SUBJECT: LRV4 Technical Issues Update

In the May 9, 2019 Memorandum to this Board, we committed to improved communications regarding the ongoing Siemens light rail vehicles procurement project, commonly referred to as the LRV4 Project. We also committed to providing regular progress reports on the vehicles generally, as well as the steps we are taking to resolve the highly visible and disruptive single panel door and shear bolt/coupler issues.

We committed to the following review process to vet each of these issues. The process incorporates additional independent, external oversight for the existing process and also provides for regular communications with the SFMTA Board regarding critical changes being made to these two systems.

We will:

- Review all primary and contributing factors to incidents
- Conduct a collaborative engineering review of proposed solutions
- Staff review and approval of Siemens' solution proposal
- Independent review of Siemens' solution proposal
- Perform vehicle testing according to an established test plan
- Obtain Safety Certification Committee review and concurrence by CPUC staff
- Present findings to SFMTA Board of Directors
- Implement solution fleetwide

SINGLE PANEL DOOR

Issue

Between November 2017 and April 2019, there were eight reported incidents involving contact with or obstructions in rear single panel doors. Three of these incidents resulted in a passenger injury, the most recent was on April 12, 2019 when a passenger fell into the trackway at Embarcadero station.

Status

The rear single panel door is tested for sensitivity using the American Public Transportation Association (APTA) standards every 3,750 miles when the vehicle undergoes regular preventative maintenance. It is also tested daily as part of a functional test during the operator pre-operation inspection.

However, this most recent incident showed that these standard tests do not capture the type of obstruction experienced in this incident, especially small objects on or close to the outside of the door. We have moved forward to update both the design as well as the functional test of the door to account for this broader range of obstructions.

Path to Resolution

Siemens developed an updated door design that provides three sensitive edges, one affixed to the door itself and two affixed to the door frame. This provides enhanced sensitivity that is expected to account for a broader range of obstructions. Siemens has taken full responsibility for the design issues and will bear financial responsibility for the cost of the repairs and retrofits.

Beginning May 10, 2019, Car No. 2036 was equipped with the updated door design. The vehicle was run through the system (not in revenue service) to test the design. There were no issues identified during the system testing. The configuration was also reviewed by an independent rail engineering expert, Lewis Scott, of Jacobs Engineering.

On May 14, 2019, the updated design was presented to the LRV4 Safety Certification Committee. The Committee approved the updated design for use in revenue service. This will begin Friday, May 17th. Out of an abundance of caution, Car No. 2036 will operate in revenue service staffed by two expert operators. One operator will drive the train, while the other observes the rear single panel door.

On May 20, 2019, the California Public Utilities Commission will conduct an on-site review of the door design. While this car is undergoing testing, we have procured the necessary parts to perform a fleetwide retrofit. If the testing is ultimately deemed successful and the design is approved by the CPUC,

we will initiate a retrofit that will begin as early as the week of May 20, 2019. We aim to complete the retrofits by the end of June.

SHEAR BOLT/COUPLER

Issue

On April 11, 2019, a two-car train with no passengers onboard experienced a coupler failure. On inspection of the couplers, the Siemens and the SFMTA found broken shear bolts on each of the couplers. This issue has been commonly referred to as the "shear bolt" issue, however, following a detailed inspection and technical analysis, the engineering team, including Mr. Scott of Jacobs, confirmed that the broken shear bolts are a symptom of a coupler design flaw.

Status

The coupler is designed to meet the specific system demands here in San Francisco. Our light rail system puts unique demands on our fleet due to its extreme grades (up to nine percent) and dynamic curves (simultaneous horizontal and lateral movement.) Following the incident, the LRV4 project team conducted a test of the entire rail network to confirm that there were no unexpected changes to the system as a result of construction. The Project Team confirmed that the system specifications provided to Siemens and its subcontractor Voith for the coupler design were accurate and adequate. A formal lab test was performed to confirm that the shear bolt metallurgy meets the manufacturer's specifications. Preliminary findings do not raise any concerns, but formal results are still pending. The analysis was reviewed by Mr. Scott of Jacobs, who concurred with the preliminary findings.

On further examination, the engineers determined that coupler design did not provide sufficient vertical clearance (only 2mm) for a dynamic element called the "lateral stop" to swing clear of a stationary component called a "mounting plate". The resulting interference caused scraping and/or application of undue forces on the shear bolts. These forces caused the shear bolts to fail and also resulted in damage to components within the coupler. Fleetwide, three couplers, including the incident cars, were found to contain broken shear bolts, and 29 of 106 couplers have damaged coupler housings that will require repair. This amounts to a fleet defect under the Contract, which requires Siemens to correct the problem on all LRV4s.

Path to Resolution

With the fleetwide inspection of the couplers complete, Siemens and the SFMTA will perform the following actions:

- Remove the rubber lateral stops from all LRV4 couplers to increase clearance and prevent undesired contact
- Replace coupler housings that have evidence of damage
- Replace all shear bolts on all LRV4 couplers to establish a healthy baseline for the fleet

These actions will begin May 18, 2019 and are expected to be completed by the end of June. Siemens and their manufacturer Voith have taken full responsibility will bear financial responsibility for the cost of the repairs and retrofits, including reimbursement of the SFMTA for time spent in repair activity.

NEXT STEPS

The door and coupler changes to each LRV4 will be completed at the same time. Until all modifications are complete, LRV4s will not operate in multi-car consists and the rear doors will remain locked. The only exception to this is the evaluation of Car No. 2036, mentioned above. Once all modifications are complete, the vehicles will once again be permitted to operate as two-car consists with all doors in service.

On Tuesday, May 21, 2019, the Director of Transit will present these findings as part of her report at the SFMTA Board Meeting. It is our aim to better communicate the hard work going on behind the scenes to resolve these critical issues. We encourage you to reach out with any questions or concerns that are not addressed by this memorandum. We are eager to bring these vehicles back to revenue service in full operation, and to move ahead with the Vehicle Reliability program.

Transbay Joint Powers Authority Peer Review

Project Management and Oversight

Conducted March 11 - 13, 2019

AMERICAN PUBLIC TRANSPORTATION ASSOCIATION

Peer Review Methodology

The APTA Peer Review process is well established as a valuable resource to the public transit industry.

Highly experienced and respected transit professionals voluntarily provide their time and expertise, offering advice, guidance, benchmarking and best practices.

The panel conducted this peer review through documentation review, a series of briefings and interviews with TJPA staff and field observations.

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Peer Review Panel Members

Henry J. Stopplecamp, P.E.
Assistant General Manager, Capital Programs
Regional Transportation District
1560 Broadway, Suite 700
Denver, CO 80202

Richard Clarke
Chief Program Management Officer
Los Angeles County Metropolitan Transportation Authority
1 Gateway Plaza
Los Angeles, CA 90012-2952

Erik Stoothoff, PE
Chief Engineer
Massachusetts Bay Transportation Authority
10 Park Plaza, Room 3910
Boston, MA 02116

Connie Crawford, P.E.
Senior Vice President, Rail/Transit Global Practice Leader
Louis Berger
412 Mt. Kemble Avenue
P.O. Box 1946
Morristown, NJ 07962-1960

Jeff Hiott
APTA Peer Review Facilitator
Assistant Vice President – Technical Services & Innovation
American Public Transportation Association
Washington, DC 20005

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AGENDA

- Scope of Review
- Peer Review Objectives
- Observations and Recommendations
  - Organizational Structure
  - Project Delivery
  - Oversight and Communication Plan

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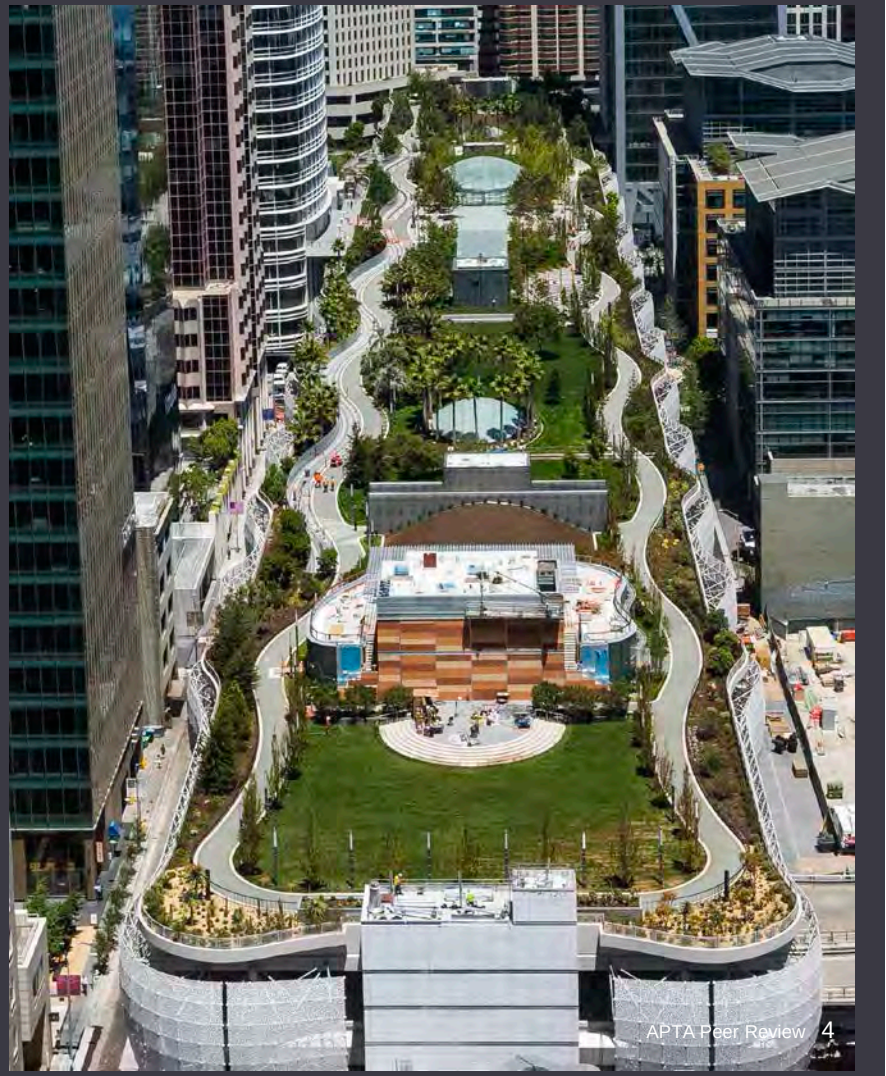

Scope of Review

The APTA Peer Review Panel was convened at the request of Mark Zabaneh, Executive Director, Transbay Joint Powers Authority (TJPA) to assist the organization in reviewing the management and oversight of Phase 1 of the Transbay Program and its applicability to future Phases 2 and 3.

The observations and recommendations provided through this peer review are offered as an industry resource to be considered by TJPA in support of strengthening the organization's management and oversight of the Program.

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Peer Review Objectives

In its request letter, TJPA indicated a particular interest in the following areas.

These served as a guide to the review, but additional and related areas were covered.

- **Phase 1:** Organizational structure in place for the planning, design, construction and facility management of the Salesforce Transit Center
- **Phases 2 and 3:** Organizational and best practices needs and opportunities for the continued planning, funding opportunities and design of the tunnel extension linking Caltrain's current San Francisco station to the transit center and bringing future high-speed rail into the transit center

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Opening Comments

- The panel observed that the Program has overcome significant challenges to deliver a state of the art transit center that is functionally and aesthetically pleasing and has spurred economic development in an underdeveloped area of the city
- The stakeholder coordination needed for Phase 1 was extraordinary
- The financing plan was innovative and forward thinking regarding ROW value capture
- The facility seems well managed from an operational perspective

Organizational structure and staffing

OBSERVATIONS:

- TJPA has a shallow owner organization with key positions filled by consultants, which contrasts with other similar transit projects with this kind of scope
- The predominance of consultant staffing leaves TJPA vulnerable to loss of institutional knowledge, especially in the transition from phase 1 to phases 2 and 3
- The completed facility seems well-managed from an operational perspective, with capable staff in place

Organizational structure and staffing

RECOMMENDATIONS

- A 10-year multibillion-dollar program needs a robust in-house management organization. It is recommended TJPA increase staff
- When Phase 1 is closed out and a new team of consultants is engaged to restart and continue Phase 2, the small TJPA staff needs to retain and transfer previous project knowledge and associated documentation to phases 2 and 3.

Organizational structure and staffing

RECOMMENDATIONS

- TJPA should build a robust management structure, with key positions filled by TJPA and/or stakeholder staff.
- Key in-house positions at a minimum should include:
  - Phase 2 project director
  - chief engineer/tunneling engineer
  - design manager
  - planning/environmental manager
  - program controls manager and team
  - quality, health and safety managers
  - operations and municipal liaisons

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Organizational structure and staffing

RECOMMENDATIONS

- Each TJPA manager should be supported by one or more professionals to provide depth, continuity and succession planning, as some staff turnover is likely in a 10-year project
- Phases 2 and 3: Since TJPA is procuring a new consultant support and faces the risk of a large amount of institutional knowledge leaving the project, TJPA should prepare for this by having procedures in place for proper knowledge transfer

Project Delivery

OBSERVATIONS:

- The project delivery method chosen for phase 1 was Construction Manager/General Contractor (CM/GC)
- The collaborative benefits of the CM/GC delivery method were not fully realized as evidenced by:
    - Inaccurate estimates
    - Significant and untimely scope changes
    - Schedule delays and cost overruns
    - Lack of interest from bidders (low bidder pool) which resulted in high subcontractor bids

Project Delivery

OBSERVATIONS:

- Phase 2 - Downtown Rail Extension (DTX)
  - Development of Phase 2 has suffered many starts and stops, which typically has major consequences to a project's cost and schedule.
  - The current program management and design consultants have been actively working on Phase 2 since 2004, bringing the DTX to 30 percent design
  - Phase 2 was put on hold in 2010 due to funding constraints

Project Delivery

RECOMMENDATIONS:

- TJPA should perform a thorough evaluation of market conditions and procurement options to determine the project delivery methods for phase 2 and 3 work
- Contract packaging decisions should consider the capacity and experience of TJPA staff to manage the work, as well as the potential for future scope and schedule changes
- Delivery methods should be based upon the anticipated risks of the project, the project objectives, and the ability and experience of the staff to manage
  - The sooner the delivery method is selected, the sooner the project team can direct subsequent activities consistent with that delivery method.

Project Delivery

RECOMMENDATIONS:

- Consider having a project delivery workshop with the TJPA staff, stakeholders, and AEC community
- TJPA should adopt lessons learned from other major transit infrastructure projects and programs (i.e. the Central Subway project and LACMTA)

Project Delivery

RECOMMENDATIONS:

- The initial focus for the phase 2 team is to develop a new baseline for phases 2 and 3. This work should include:
  - independent cost estimate
  - project risk analysis
  - program and project-specific schedules
  - cost- and resource-loaded scheduling for the various projects of phase 2 and 3
  - construction market conditions analysis
  - regional analysis of alternative delivery efficacy
  - operational needs and opportunity analysis for each mode.

Project Delivery

RECOMMENDATIONS:

- Considerations for Phase 2 include the following:
  - Reassess what scope is built into Phase 2 in light of the current status of high-speed rail
  - Assess value-engineering opportunities throughout the project
  - Explore potential funding opportunities from redevelopment of King Street Yard as part of phase 2, while considering operational impacts
  - Scoping the project, with “build to budget” phasing according to funding availability

Oversight and Communication Plan

OBSERVATIONS:

- The Transbay Program was designed with the intention to transform downtown San Francisco and its regional transportation network into a vibrant, attractive city center
- Phase 1 consisted of replacing the outdated Transbay Terminal with a modern terminal and creating a transit-friendly neighborhood of residential and mixed-use development
- Stakeholder coordination needed this project is extraordinary

Oversight and Communication Plan

RECOMMENDATIONS:

- Create a unified governance vision and strategy for Phases 2 and 3 to:
  - Be decisive on program scope
  - Reduce costs
  - Improve quality
  - Give project clarity to the purpose and benefit
- Define the roles and responsibilities of each stakeholder for the future operations and maintenance of the facility and infrastructure
- Establish a clearly defined path of responsibilities among project team members
- Identify a strong external stakeholder champion to promote and support phases 2 and 3 (Caltrain, CAHSR, city official, etc.)

Oversight and Communication Plan

RECOMMENDATIONS:

- Engage an independent engineer (IE) to observe and monitor the project and report directly to the board.
  - IE provides third-party oversight for projects, including independent oversight of cost and schedule, technical peer reviews, value engineering processes, and cost recovery
  - IE should be registered as a professional engineer and have significant experience in the construction and supervision of projects with similar scope and complexity
  - IE should enjoy unfettered access to project worksites, documents and correspondence
  - IE should report directly to the TJPA Board and provide regular reports

Oversight and Communication Plan

RECOMMENDATIONS:

- Liaisons should be assigned to the project team from key operating stakeholders, including the following:
  - Caltrain
  - CAHSR
  - SFPW
  - BART
  - AC Transit
  - SFMTA

Oversight and Communication Plan

RECOMMENDATIONS:

- Document the overall success of Phase 1 as the catalyst to redevelop downtown San Francisco, and share with political, community and business leaders to obtain continued financial and community support.
- Explore options for scope reallocation of phase 2 and 3 work execution, allowing each party to undertake work aligned with its capability and experience.
  - Example: TJPA could manage the civil works for the tunnel and 4th Street Station shell, while Caltrain takes responsibility for the design and construction of track, systems and station buildout

Concluding Remarks

- The findings provided through this review are intended to assist TJPA in its strategies for continually strengthening its management and oversight as the Program moves to Phases 2 & 3
- The panel sincerely appreciates the support and assistance extended throughout the entire peer review process by the TJPA staff. The panel stands available to assist with any clarification or subsequent support that may be needed

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