

MONTHLY MONITORING REPORT

Transbay Downtown Rail Extension Project, Phase 2

Transbay Joint Powers Authority (TJPA)

San Francisco, CA

November 2023

FINAL

PMOC Contract Number: 69319519D000031

Task Order Numbers: 69319522F30068N; 69319520F300044

OPs Referenced: OP25



75 E. Santa Clara Street
San Jose, CA 95113
408.606.9515

Edwin J. Williamson, PE, 917-715-8651, ejwilliamson@urbanengineers.com

Length of time Assigned: 14 Months (October 2022 through November 2023)

Table of Contents

1.0 EXECUTIVE SUMMARY	iv
1.1 Project Description.....	iv
1.2 Project Status.....	iv
1.3 Major Issues and/or Concerns	v
2.0 OBSERVATIONS AND FINDINGS.....	1
2.1 Summary of Monitoring Activities	1
2.2 Oversight Triggers.....	1
2.3 Project Management Plan (PMP) and Sub-Plans.....	2
2.4 Management Capacity and Capability	3
2.5 NEPA Process and Environmental Mitigation.....	4
2.6 Project Delivery Method and Procurement.....	5
2.7 Design.....	5
2.8 Value Engineering and Constructability Reviews	7
2.9 Real Estate Acquisition and Relocation.....	7
2.10 Third-Party Agreements and Utilities	8
2.11 Construction	11
2.12 Vehicle Technology and Procurement	12
2.13 Project Cost	12
2.14 Project Schedule.....	13
2.15 Project Risk	14
2.16 Quality Assurance/Quality Control.....	15
2.17 Safety and Security.....	15
2.18 Americans with Disabilities Act (ADA)	15
2.19 Buy America	15
2.20 Start-Up, Commissioning, Testing.....	15
2.21 Before-and-After Study Reporting.....	15
2.22 Lessons Learned.....	16
2.23 Actions Items Table	16
3.0 PROJECT MONITORING REPORT ATTACHMENTS	17
Attachment A: List of Acronyms.....	19
Attachment B: Safety and Security Checklist.....	21

Attachment C: Top Project Risks..... 22
Attachment D: Awarded Contracts 23
Attachment E: Rolling Stock Vehicle Status Report 24
Attachment F: Project Milestones/Key Events 25
Attachment G: Roadmap to Revenue Operations 26
Attachment H: Project Map..... 27

1.0 EXECUTIVE SUMMARY

1.1 Project Description

The Transbay Joint Powers Authority (TJPA) proposes to extend the Caltrain commuter rail line 2.2 miles from the China Basin/South Park neighborhood near the current Caltrain terminus at Fourth and King Streets to the multi-modal Salesforce Transit Center in downtown San Francisco. The Project's proposed Fourth and Townsend Street station is near Oracle Park, the home of the San Francisco Giants baseball team. The TJPA believes that the project, known as the Transbay Downtown Rail Extension Project, Phase 2 (Transbay DTX), will improve public access to bus and rail service and accommodate projected growth in travel demand in the San Jose–San Francisco corridor. The proposed Project will connect Caltrain's regional rail system to the Salesforce Transit Center in downtown San Francisco, along with the future California High-Speed Rail Authority's statewide rail system.

1.2 Project Status

The Locally Preferred Alternative (LPA) was completed in March 2003, and the National Environmental Policy Act (NEPA) action was completed in February 2005 with a Record of Decision (ROD). FTA amended the ROD in July 2019, and the LPA was adopted into the region's fiscally constrained long range transportation plan in October 2021.

On February 17, 2023, the TJPA Executive Director formally submitted TJPA's requests to the FTA for approval to Enter Engineering and to conduct the New Starts Project Rating. On March 8, 2023, TJPA provided the FTA with much of the remaining documents required to conduct the Project Rating for the FTA New Starts Program. On August 14, 2023, TJPA submitted updated documentation and a revised rating package to the FTA in support of their request to enter New Starts Engineering and to rate the DTX Project for a New Starts grant. The Project expects to enter the Engineering phase in 4Q-2023, receive a Full Funding Grant Agreement in 2025 and initiate revenue service in 2032.

Based on the TJPA finalized project scope, SCC Workbook and project schedule provided during and following the FTA/PMOC risk workshop, the PMOC updated its scope, cost, and schedule analyses and re-performed the schedule and cost risk models. After review and concurrence by the FTA, the revised results, which indicated an estimated project cost of \$8,255 million and an FFGA Revenue Service Date of June 27, 2035 (including both cost and schedule contingency) were shared with TJPA, and the combined Scope, Cost, Schedule, Risk and Contingency Review Report was then finalized and issued on August 31, 2023.

The detailed results of the readiness review for Entry to Engineering were documented in the PMOC's OP51 Readiness Review Report (Programmatic) issued on October 17, 2023. Based upon PMOC review of the documentation prepared and submitted by TJPA, it is the PMOC's opinion that TJPA has adequately demonstrated substantial compliance with all of the OP51 technical requirements at Entry to Engineering.

Through November 30, 2023, TJPA continued work advancing progress in the areas of CIG process, risk management, value engineering, program funding and constructability reviews as well as work on the Right-of-Way property acquisitions, temporary and permanent easements, and critical third-party agreements. TJPA continued engagement with the other 5 project agency partners, including Caltrain and the California High Speed Rail Authority (CHSRA), to prepare the revised Stakeholder MOU, now scheduled to be approved during 1Q-2024. TJPA continued to advance design work on the three Early Action (Enabling) Work Program projects with a focus on the Utility Relocation package. TJPA continued working on the Railyard Agreement with Caltrain for the DTX work in the existing rail yard at 4th and King Streets and have reached an agreement to divide the work into two packages to reduce schedule risk. TJPA also continued its procurement of the Program Management/Construction Management (PM/CM) contract, now in the negotiation phase with the three proposers, for anticipated award in 1Q-2024 and preparation for procurement of the Progressive Design-Build (PDB) contract for anticipated award in 4Q-2024.

1.3 Major Issues and/or Concerns

No major issues or concerns have been identified by the PMOC at this time.

1.4 Status of Key Indicators Dashboard (Post Grant)

The Key Indicators Dashboard will be completed upon award of the Full Funding Grant Agreement and then updated monthly thereafter.

1.5 Core Accountability Items

Core Accountability Items				
		Original (Grant)	Current Forecast** (Million \$)	PMOC Assessment of Current Forecast
Cost	Capital Cost Estimate	(Note 1)	8,255	Acceptable
Contingency	Unallocated Contingency	(Note 1)	1,251	Acceptable
	Allocated Contingency	(Note 1)	875	Acceptable
	Total Contingency	(Note 1)	2,118	Acceptable
Schedule	Planned Revenue Service Date	(Note 1)	Sep. 30, 2032	Acceptable
	FFGA RSD w/contingency		Jun. 27, 2035	
Note 1: FFGA anticipated in 2025.				

Project Progress:		Amount (\$M)	Percent of Total	
Total Expenditures	Actual cost of all eligible expenditures completed to date	(Note 2)	(Note 2)	
Planned Value to Date	Estimated value of all work planned to date	(Note 2)	(Note 2)	
Actual Value to Date	Actual value of all work completed to date	(Note 2)	(Note 2)	
Note 2: Sponsor is compiling costs/value to date.				
Contract Status:		Amount (\$)	Percent	
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	(Note 2)	(Note 2)	
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	(Note 3)	(Note 3)	
Physical Construction Completed	Value of physical construction (infrastructure) completed; % of total construction value completed	(Note 3)	(Note 3)	
Note 3: Construction start anticipated in late 2Q-2024 for Early Action contracts. No contracts awarded to date.				
Rolling Stock Vehicle Status	Date Awarded	No. Ordered	No. Delivered	
(There are no direct vehicle procurements by TJPA included in the project scope of work)*	N/A	N/A	N/A	
Major Issues	Date Identified	Status	Project Sponsor Action	PMOC Recommendation
N/A	N/A	N/A	N/A	N/A
Date of Next Quarterly Meeting (if known):			<i>Next Monthly Meeting is on December 13, 2023.</i>	

*Project scope includes cost for Caltrain procurement of five non-revenue Maintenance of Way vehicles, the level-boarding door modifications to the 23 new EMU revenue vehicles from Caltrain under their current procurement and the existing Salesforce Transit Center train box completed under the Transbay DTX Phase 1 Program. Refer to report Section 2.12 for details.

***As of November 30, 2023.* Final cost estimates and contingency have been reconciled with the adjusted SCC Workbook based on the final adjustments from the revised FTA Risk Assessment. Current Cost Forecast includes financing costs.

2.0 OBSERVATIONS AND FINDINGS

2.1 Summary of Monitoring Activities

This report covers the period from November 1, 2023, through November 30, 2023.

PMOC monitoring included the following activities:

- *Worked on draft PMOC Monthly Monitoring Report for October 2023 and finalized report after FTA’s review and the TJPA “fact check” review.*
- *Continued review of updated Sponsor provided presentations on Transbay DTX Project, Phase 2, that included details of the program status, current initiatives, and schedule of major milestones for advancing the utility relocation design to 90%, the 20-year Financial Plan, Critical Third-Party Agreements and Property Acquisition along the planned project alignment, along with the current cost and schedule status.*
- *Prepared agenda for the FTA/PMOC Monthly Monitoring Meeting with Sponsor on November 15, 2023 and co-directed the meeting with the FTA.*
- *Attended FTA Monthly CIG check-in meeting on November 16, 2023.*
- *Attended Sponsor program management and technical meetings:*
 - *Integrated Project Management Team semimonthly meetings (November 7 and 28, 2023).*

With completion of the remaining individual PMOC OP Review Reports and issuance to the FTA, during September 2023, of the final draft PMOC OP51 Review Report for Readiness to Enter Engineering, the PMOC has completed their review in support of TJPA’s request to advance the project into the Engineering Phase. This review was conducted in accordance with FTA OP51, Readiness to Enter Engineering, dated September 2015 under the PMOC’s Project Programmatic Task Order. Many of the PMOC’s OP51 review activities in that effort overlapped with the OP40 Risk and Contingency Review as well as the periodic monitoring activities and were therefore also summarized in the applicable sections of the PMOC Monthly Monitoring Reports. The detailed results of the readiness review are documented in the PMOC’s final OP51 Readiness Review Report issued on October 17, 2023 under the PMOC’s Project Programmatic Task Order. Based upon PMOC review of the documentation prepared and submitted by TJPA, it is the PMOC’s opinion that TJPA has adequately demonstrated substantial compliance with all of the OP51 technical requirements at Entry to Engineering.

2.2 Oversight Triggers

The PMOC will perform monthly oversight of the project and continue through the Engineering Phase to award of the Full Funding Grant Agreement in accordance with direction from the FTA.

2.3 Project Management Plan (PMP) and Sub-Plans

Project Management Plan (PMP)

The PMOC completed the Final OP20 Review Report and submitted the report to the FTA, and the FTA subsequently transmitted the PMOC OP20 Review Report to TJPA on September 22, 2023. The PMOC determined that while the DTX PMP Revision 1 significantly meets the requirements for a project of the size and complexity of DTX at the Entry to Engineering stage of development, there are items that should be addressed in the near future. Accordingly, TJPA was requested to revise and resubmit the PMP within the next six months or prior to the start of construction, including construction under the pre-FFGA Advanced (Enabling) Works scope, whichever occurs first.

Safety and Security Management Plan (SSMP)

The PMOC submitted the Final OP22 Review Report to the FTA on September 8, 2023 and the FTA subsequently transmitted the PMOC OP22 Review Report to TJPA. The PMOC determined that the Final Draft SSMP meets the requirements of OP22 and FTA Circular 5800.1 at Entry to Engineering, except for several elements related to the later phases of project advancement. As a result, TJPA was requested to revise and resubmit the SSMP in the next update of the SSMP, prior to TJPA's request to execute the Full Funding Grant Agreement. The PMOC also expects that in the future as contractors are added to the project implementation team, their safety and security plans will be incorporated under TJPA's program, and their plans will also be reviewed by FTA/PMOC once they are approved by TJPA.

Real Estate Acquisition and Management Plan (RAMP)

The PMOC completed its review of the Transbay DTX Draft RAMP Revision D, dated October 2022 and the TJPA's Relocation Assistance Program Summary in accordance with OP23, Real Estate Acquisition and Management Plan Review, dated September 2015, for a project requesting Entry to Engineering. The review found the RAMP to be in partial compliance with OP23, with comments in the areas of acquisition and relocation processes, real estate team organization, document control, property management, and property disposition. Since the project was already engaged in real estate acquisition and relocation activities, the FTA notified TJPA, on August 2, 2023, to revise and resubmit the RAMP based on the PMOC Review Report as soon as possible, but no later than 45 calendar days. TJPA completed the PMOC recommended revisions for both the RAMP and the Relocation Assistance Program Summary and resubmitted them on September 1, 2023. The PMOC reviewed the revised documents and determined that both meet the OP23 requirements for a project at Entry to Engineering.

Quality Assurance Plan (QAP)

The PMOC completed its review of the TJPA Quality Assurance Program documents in accordance with OP24, Quality Assurance – Quality Control Review, dated September 2015, and completed the final OP24 report in August 2023. The PMOC found the information provided in the TJPA documents for its Quality Assurance/Quality Control Program meets the requirements of OP24 for a project of the size and complexity of the Transbay DTX Project at its current stage of development at Entry to Engineering. However, there are several areas noted in the PMOC

OP24 report that require further development as the project advances into later phases. The FTA transmitted the PMOC OP24 Review Report to TJPA on August 17, 2023, and requested that TJPA revise and resubmit the QA/QC Program documents prior to application for the project FFGA. The PMOC also expects that in the future as contractors are added to the project implementation team, their quality plans will be incorporated under TJPA’s program, and their plans will also be reviewed by FTA/PMOC once they are approved by TJPA.

Rail Fleet Management Plan (RFMP)

The PMOC analysis found that the combination of documents submitted by Caltrain and TJPA [Caltrain Fleet Management Plan, Revision 3, dated December 7, 2021; TJPA supplemental memo, “Fleet Management Plan Tech Memo to Validate 4 TPH Service” by DB E.C.O North America, Inc., dated April 2023] meets the technical requirements of OP37 at this stage of project advancement and are acceptable for Entry to Engineering. The PMOC’s review noted several areas within the documents where revisions are highly recommended and requested resubmittal prior to application for the FFGA. Results have been shared with the Sponsor and have been formally documented in the separate OP51 report.

Risk and Contingency Management Plan (RCMP)

The PMOC reviewed the RCMP, Revision 0, dated October 27, 2021 in accordance with FTA OP40, “Risk and Contingency Review,” dated March 2022, and results were provided to TJPA within the draft combined Scope, Cost, Schedule, Risk and Contingency Review report. TJPA and the PMOC collaborated on the comments and recommendations, especially to define the project’s “contingency drawdown curves,” and TJPA commenced a revision to the RCMP for resubmittal. TJPA submitted the RCMP on August 1, 2023, incorporating the comments from the draft combined Scope, Cost, Schedule, Risk and Contingency Review report. PMOC confirmed that the resubmittal satisfied all comments with the exception of the contingency draw down curves. TJPA subsequently revised the RCMP and submitted Revision 2, dated September 2023, on September 1, 2023. The PMOC completed a review of the RCMP Revision 2, and found that it meets the requirements of OP40, including addressing the one remaining draw down curve comment.

2.4 Management Capacity and Capability

As part of the FTA/PMOC review of the project’s readiness for Entry to Engineering phase, in March 2023 TJPA provided the PMP and supporting documentation to demonstrate that the project team has the management capacity and capability successfully advance implementation of the Transbay DTX project. The PMOC commenced a review of the TJPA applicable documentation in accordance with OP21, Management Capacity and Capability Review, dated September 2015. The results of this review will be summarized in this Monthly Monitoring Report, with the details documented in the separate OP21 report. During April 2023, the PMOC submitted a Request for Information (RFI) for documents and items such as organization charts, position descriptions and other similar documents related to the staffing plan so that the review can be completed. The PMOC met with TJPA on May 5, 2023, to review the RFI in detail and to provide the PMOC with clarification on selected requested items. The PMOC completed the interviews with 10 key staff on the Transbay DTX project team including TJPA, the PMPC and GEC consultants as well as Caltrain. The PMOC OP32B Review Report has been completed and submitted to the FTA, finding that TJPA is a well-developed organization for the current stage of the DTX Project. Based

upon PMOC review of the documentation prepared and submitted by TJPA, it is the PMOC's opinion that TJPA has demonstrated technical compliance with all Management Capacity and Capability requirements for this stage of the project to advance into the Engineering Phase. The FTA forwarded the report to TJPA on October 5, 2023 and requested that TJPA revise and resubmit the associated MCC documents, including the PMP, prior to the start of construction, including construction under the pre-FFGA Advanced (Enabling) Works scope, but no later than the start of the FFGA application process.

2.5 NEPA / CEQA Process and Environmental Mitigation

National Environmental Policy Act

The project received a Record of Decision (ROD) from the FTA for the Transbay Terminal / Caltrain Downtown Extension / Redevelopment in 2005, a ROD from the Federal Railroad Administration (FRA) for the Transbay Transit Center Train Box in 2010, and an amended ROD from FTA for the Transbay Terminal / Caltrain Downtown Extension / Redevelopment in 2019. Prior to the completion of the current Project Development (PD) phase, the project is seeking FTA NEPA clearance related to several subsequent modifications of the project's footprint. Final FTA approval of the NEPA re-evaluation was received on June 9, 2023. *There are currently no open NEPA action items.*

The PMOC OP32B Review Report has been completed and submitted to the FTA. The report found that TJPA's documentation is in general conformance with the FTA requirements for a project of this size and complexity and at its current state of development moving from Planning to the start of Engineering, with several noted exceptions. The FTA forwarded the report to TJPA on September 1, 2023, and requested that TJPA revise and resubmit the preliminary engineering documentation as recommended in the PMOC Report on the NEPA and Design Document Comparison Review within 60 calendar days. *TJPA provided their responses to the PMOC review comments on November 28, 2023 and the responses are under review by the PMOC.*

TJPA has provided the FTA and PMOC with the annual (July 2022 – June 2023) Mitigation Monitoring Report (MMR) for cultural resource compliance. Going forward, TJPA will continue to provide the Quarterly Mitigation Monitoring Reports (MMRQ) as well. *TJPA has provided the MMRQs for the first two quarters of 2023 and the MMRQ for 2023 Quarter 3 (July-September) was provided on November 3, 2023.*

California Environmental Quality Act

Caltrain has started its environmental review process in advance of the 4th and King Yard Preparation Package that is part of the Advance (Enabling) Work Program. The first part of the review involves the CEQA Notice of Determination process that will fulfill Caltrain's CEQA requirement regarding the future DTX construction work planned within Caltrain's Right-of-Way (ROW) and constitutes a "Discretionary Action." *The second part of the review is for the Caltrain Peninsula Corridor Electrification Project (PCEP) NEPA compliance, focused primarily on potential impacts to the PCEP infrastructure due to the TJPA DTX work within Caltrain's ROW and, more specifically, for the 4th and King Yard Preparation work scope in Package 4KYB.*

2.6 Project Delivery Method and Procurement

The Sponsor plans to construct the project using three project delivery methods.

TJPA Board-approved delivery approach consists of:

- Design-Bid-Build (DBB) for Advanced Packages Program (Early Action contracts) for Utilities and Railyard Infrastructure Relocation, and Site demolition.
- Progressive Design-Build (PDB) for main civil and tunnel
- Construction Manager-General Contractor (CMGC) for track and rail systems, and for station fit-out.

The PMOC previously noted that the proposed approach using three different project delivery methods will require a high level of both design and construction interface coordination and management. *To reduce delay risk, TJPA will divide the Railyard Infrastructure Relocation Work scope into two packages: 4KYA will remain Design/Bid/Build for site clearing; 4KYB will change to CMGC for the actual rail infrastructure relocation. Caltrain has agreed to the creation of the two packages.*

Because the Enabling Works Program had previously been forecast to start during Q2-2024, prior to award of the FFGA that is targeted for 2025, TJPA had earlier acknowledged the possible need for development of the basis for a Letter of No Prejudice (LONP) to qualify the costs of the Enabling Works Program for those elements not otherwise covered under pre-award authority in accordance with the FFGA. At this time, however, there is no apparent need for a LONP based on the current project plan and schedule.

2.7 Design

As part of the FTA/PMOC-led OP40 Risk Assessment and to support the PMOC's OP51 review of the project's readiness to enter the Engineering phase, the PMOC completed its review of the project scope in accordance with OP32C, Project Scope Review, dated September 2015. The draft of the combined OP40 Scope, Cost, Schedule, Risk and Contingency Review report was distributed to both FTA and to the Sponsor in May 2023. Comments were received and reconciled; however, the final issue of the report was pending TJPA's decision on whether the one 7-EMU trainset will remain within the scope of the project. TJPA announced on July 24, 2023, that it would not procure the trainset through the existing vehicle procurement option but would instead procure it through a planned future Caltrain procurement. Subsequently on July 31, TJPA informed FTA and the PMOC that it will not include the 7-EMU trainset in the Transbay DTX scope of work at all, but that the project scope was being expanded to include five non-revenue maintenance-of-way service vehicles, as well as the Salesforce Transit Center train box that had been completed previously under the Transbay DTX Phase 1 Program, and for which inclusion had been approved by FTA after a Headquarters Office of Planning and Environment review. Based on TJPA's finalization of the project scope in July 2023, the PMOC updated and finalized its OP32C Scope Review during August 2023. The scope review results are detailed in the Final OP32C, 33, 34, 40 Scope, Cost, Schedule, Risk and Contingency Review Report that was submitted to the FTA on August 31, 2023.

Based on the Caltrain Peninsula Corridor Electrification Project (PCEP) presentation to the FTA/PMOC on March 21, 2023, the PMOC observes that a significant scope change will now be required regarding Transbay DTX work involving or affecting the Caltrain rail yard and rail system infrastructure from the project limits to the existing Caltrain terminal at 4th and King Streets. TJPA has agreed that Transbay DTX work within Caltrain's property cannot start until after the PCEP work has been completed and is in revenue service that is currently forecast for September 2024. The as-built PCEP facilities will present conflicts with the planned Transbay DTX work and will require TJPA to relocate some Overhead Contact System (OCS) support structures as well as some wayside signal/train control equipment and associated cabling. This additional work scope will need to be performed during overnight track outages and on weekends and will require close coordination with Caltrain operations and force account resources. As such, this development has created a significant new risk with potentially high cost and schedule impacts. The scope of work for relocation of selected PCEP facilities required to resolve conflicts with planned DTX work scope is included in the 4th and King Yard Preparation Package B, part the Early (Enabling) Work packages, and is currently progressing through the 30% Design phase. At the August 2023 Monthly Project Progress Meeting with the FTA and PMOC, TJPA did identify a DTX Project conflict with existing Caltrain wayside equipment at Mission Bay Drive. *The GEC continues working to resolve the conflict but is facing a number of design challenges.*

November 2023 Sponsor updates included:

- Advance (Enabling) Works Program Status
 - Utility Relocation
 - 90 % Design work continues; Dec. 31, 2023 is forecast completion date.
 - TJPA working with GEC on schedule update.
 - DTX 4th and King Yard Preparation Packages (4KY)
 - Three standing TJPA weekly meetings with Caltrain, PMPC and GEC.
 - Project Delivery Analysis – *Final Report in comment resolution phase.*
 - *Two additional site walks are planned for systems on December 7, 2023 and for utilities/civil on a date TBD; based on site inspections, asset inventories are updated in the Basis of Design.*
 - *To reduce delay risk, TJPA is dividing the Yard Preparation Package into Package A (4KYA) for site clearing along the 4th and King Yard north and west project limits and Package B (4KYB) for at grade track and systems work along the 4th and King Yard south and east project limits; Caltrain is in agreement with TJPA's proposed plan; TJPA and Caltrain are working with the GEC on the updated schedule; project schedule/constructability workshop planned for December 2023.*
 - In accordance with TJPA's agreement with Caltrain, the 4KY construction will not start until after award of the FFGA.

- *Draft 30% Design Plans, Basis of Design and Cost Estimate have been submitted; TJPA review comments sent to GEC in October 2023; GEC responses returned to TJPA.*
- *Interim Agreement with Caltrain allows for continuing the 4KYA Package design with GEC.*
- *Building Demolition Package*
 - *Draft 30% Design package was submitted on October 13, 2023 and TJPA comments were sent to the GEC on November 8, 2023.*

2.8 Value Engineering and Constructability Reviews

The Sponsor has conducted several Value Engineering and Constructability Reviews. The corresponding reports provided to the PMOC were used for the PMOC's OP32C Project Scope Review.

2.9 Real Estate Acquisition and Relocation

The Sponsor has completed the Draft Real Estate Acquisition and Management Plan (RAMP). Refer to the Project Management Plan and Subplans section of this report for the status of the RAMP.

November 2023 Sponsor updates included:

- Status of property acquisitions and easements
 - *8 total acquisitions, funded through RM 3 allocation, for FY2023-2024 (reduction of 3 from September 2023 figure), forecast to start in January 2024 (delay of 2 months from September 2023 forecast date); TJPA notes schedule revised due to earlier pause in advancing Relocation Plan; TJPA to provide to the FTA by late February 2024 the 8 appraisals and reviews for FTA review and approval.*
 - *Subsequent RM 3 allocation will be used for partial acquisitions and two additional full acquisitions.*
 - *3 properties in early stages: Phase 1 Environmental Site Assessments (ESA) completed.*
 - *Acquisition of 14 subsurface easements, the temporary construction easements and the seven rock-dowel easements is forecast to commence in the first half of FY2024-2025.*
 - *Approximately 28 potential displacements have been identified.*
 - *Work on the Relocation Impact Study (Plan) had been temporarily paused to align with the anticipated schedule for availability for the associated regional funding flow for the acquisitions and easements; work resumed during October 2023.*
 - *The revised real estate Relocation Plan schedule milestones include:*
 - *Public comment period started November 3, 2023.*
 - *TJPA Board consideration of Plan and public hearing in December 2023.*
 - *TJPA had previously advised that the revised schedule does not delay the original acquisition end date.*
 - *TJPA previously noted that schedule revisions reported are based on updated anticipated regional funding flow for acquisitions and relocations.*

- Pre-acquisition work for Caltrans-owned property at 2nd and Harrison Streets (SE corner) required for DTX tunnel ventilation building.
 - Multi-agency agreement required
 - Total acquisition process.
 - Phase I Environmental Site Assessment completed.
 - ALTA survey completed.
 - *Cooperative Agreement signed earlier; transactional documents in development; closing anticipated in January 2024.*
- DTX Underpinning Work on Three Existing Structures
 - Detailed review of noise and vibration impacts is required prior to work on the critical property at 235 2nd Street.
 - The TJPA Executive is in contact with the property owner.
 - TJPA was granted access to the property.
 - Background noise and vibration readings were collected.
 - Remote noise and vibration simulation of the EMU vehicle was completed.
 - *Remote simulation results validated by noise and vibration measurements taken under actual operating conditions using EMU vehicles at operating speed on the completed southern part (Mountain View area) of the Peninsula Corridor Electrification Project.*
 - GEC is managing the site investigations/studies and has completed modeling noise and vibration propagation in the building; consultant is working on mitigations and preparing report; *final report is anticipated by late January 2024, a one-month delay.*

2.10 Third-Party Agreements and Utilities

The project requires multiple third-party agreements and the temporary and permanent relocation of a large number of existing utilities. The PMOC continues to review the updated presentation material provided by the Sponsor and will continue in-depth reviews of specific project documents as they are made available.

November 2023 Sponsor updates included:

- City and County of San Francisco (CCSF) Agencies (10) – Interagency Cooperative Agreement (ICA).
 - The ICA will provide a single agreement between CCSF and TJPA for Phase 2 of the Transbay Program, with a common set of terms negotiated with TJPA counsel and one team from City Attorney’s Office (CAO). The ICA is supplemented by two sets of appendices: Appendix A – Real Estate; Appendix B – Technical Scopes by Agency.
 - ICA Drafting and Approval Timeline:
 - Approved by full Board of Supervisors on June 27, 2023.
 - Resolution signed by Mayor; *ICA being finalized for execution by year’s end.*
 - *The fifth Technical Advisory Committee Meeting was held in November 2023; TJPA hosts and manages the meeting; currently meetings provide a clearing*

house for actions on shared DTX issues, primarily with SFPW, SFPUC, and SFMTA at this time.

- *May be a need to include SF Department of Health due to potentially hazardous materials encountered excavating test pits.*

- Joint Trench Agreements
 - TJPA continues to work on a single agreement for 9 parties (Astound, Comcast, CVIN, Cogent, Extenet, Lumen, Verizon, Zayo, and the San Francisco Department of Technology) and will share the cost estimate. TJPA is responsible for the costs associated with relocating San Francisco Department of Technology facilities while the private parties are responsible for their share of the costs.
 - The invitation to participate (Form A) was distributed in July 2023; all participating entities had responded in September 2023.
 - Cost Estimate (Form B) will be distributed upon 100% Design completion.
 - Coordination with the 11 telecom companies, including those who will not relocate in the joint trench, continues in support of the utility relocation design progression and development.
 - TJPA legal rights have been established under CCSF franchise agreements.
 - Temporary relocations include water and sewer lines.
 - AT&T advised TJPA that it plans to abandon or relocate some of its existing facilities.
 - FTA advised that TJPA needs to check with their procurement process regarding technical and legal requirements for executed agreements. *FTA requested copies of Forms A and B for their review.*
 - *PG&E has made the decision not to participate in the agreement based on the proposed physical location of the joint trench facility.*
 - TJPA is making provisions for spare capacity in the trench structure for future use.

- Peninsula Corridor Joint Powers Board (PCJPB)
 - The Master Collaborative Agreement with Caltrain (MCA) will provide the respective roles and responsibilities of TJPA and Caltrain and detail the procedures for both to work cooperatively together for the design, construction, commissioning, operation, maintenance, funding, risk allocation and asset disposition of the Transbay DTX Project. Tjpa continues working on the new MCA.
 - Workplan timeline and status:
 - The TJPS/Caltrain Interim Agreement has been completed and was approved by the PCJPB on August 3, 2023 and by the TJPA Board on August 10, 2023. Completion of the Final MCA is targeted for September 2024.
 - TJPA/Caltrain to resume discussion and work on MCA in January 2024.
 - Interim Agreement features:
 - Separate, stand-alone Agreement – August 2023 to September 2024.
 - Defers work in Rail Yard to another separate TJPA/Caltrain agreement.
 - Focus on Reimbursement Mechanics: Work Scope; Caltrain investments; Resource Scheduling.

- Other separate agreements:
 - Sitework MOA for Caltrain reimbursement to oversee yard work.
 - Railyard Agreement draft in review; final anticipated in March 2024.
 - *Facilitated Partnering Process kick-off meeting held on September 8, 2023; next Partnering Session re-scheduled from November 17, 2023 to December 15, 2023.*
- , Pacific Gas and Electric (PG&E)
 - TJPA continues negotiating an agreement with PG&E for providing power to the Transbay DTX project for the new underground rail station located at Fourth and Townsend Streets, the new rail terminal at the Salesforce Transit Center and the tunnel ventilation facilities.
 - Agreement targeted completion date – August 2023; not achieved.
 - Includes both temporary and permanent relocation of multiple gas, electric and telecom lines located along the project ROW.
 - TJPA has opened a Phase 2 account under gas utilities to engage PG&E review of project submittals.
 - *Additional DTX power requirements have been identified; corresponding revised load flow analysis is in progress; Caltrain engaged in review of early draft analysis.*
- TJPA/Caltrain Railyard Agreement for Transbay DTX 4th and King Railyard Site Work
 - Caltrain (permanent easement holder)
 - *November 9: TJPA Board formally adopted division of 4KY contract: Package A Site Clearing (20-4KYA) and Package B At-grade Track and Systems (21-4KYB).*
 - *November 9: TJPA Board formally adopted design-bid-build for 20-4KYA and construction manager/general contractor (CMGC) for 21-4KYB.*
 - *December 7: Caltrain Board to consider CMGC for 21-4KYB.*
 - *December 14: TJPA Board anticipated to consider Caltrain as the delivery agency for 21-4KYB.*
 - *Parties anticipate that TJPA will be the delivery agency for 20-4KYA.*
 - *Kick-off meeting for Railyard agreement held in late November 2023.*
 - *Parties identifying negotiating process, teams, and leads for issues relating to 4KY agreement.*
 - *Parties developing CMGC procurement plan for 21-4KYB and anticipate release of RFQ in Q1-2024.*
 - *Following completion of 30% Design (Final) for both 20-4KYA and 21-4KYB, anticipated in March 2024), the draft 4KY agreement to be completed.*
 - Prologis (property fee owner)
 - TJPA previously advised that the agreement timeline development continues to make progress but remains dependent on outcomes of TJPA’s work with Caltrain.
 - The PMOC remains concerned about the apparent lack of reported progress advancing the Caltrain/Prologis agreement. TJPA noted that there has been real

progress in several areas and will arrange for a stand-alone briefing for FTA/PMOC.

- *Prologis has been engaged regarding the Relocation Plan during the public comment period.*
- Prologis has been briefed on the 6th Street Sewer re-alignment plans. SFPUC has provided additional information:
 - The sewer outfall to Mission Creek has been changed; SFPUC will need to check the hydraulic analysis for any impacts.
 - SFPUC advised that an access road to the re-aligned sewer will be needed for inspection, maintenance and repair.

Regarding the Transbay DTX work at 4th and King Streets, the PMOC previously expressed concerns about the challenges presented in negotiating agreements involving three diverse entities: an operating rail transit agency; local city government; private sector property fee owner. Under these circumstances, the negotiation process can require additional time and may require revisions to the project design, including acquisition of additional project Right-of-Way (ROW) property.

The PMOC had previously expressed the opinion is that, in general, the critical third-party agreements present a significant risk to the project based on the following observations:

- There are five critical third-party agreements identified by the Project Sponsor for the project. The PMOC notes that as of August 31, 2023, one of the agreements, with the City and County of San Francisco has been completed, a significant achievement given the several City departments involved.
- Three of the agreements involve multiple parties with diverse interests in both the private and public sectors. The PMOC also notes that during August 2023, the TJPA/Caltrain Interim Agreement was completed and approved by the PCJPB and the TJPA Board. This will serve as a “bridge” agreement until the Final TJPA MCA with Caltrain is completed.
- The scope of the agreements is wide and includes various combinations of the following key project elements:
 - Project design coordination
 - Modifications to existing infrastructure not owned by TJPA.
 - Cost sharing
 - Construction coordination and support
 - Operation and maintenance of the new rail system extension, station and terminal

2.11 Construction

Construction had earlier been forecast to commence during 4Q-2023 with the Early Action Advance Package contracts. The forecast changed during March 2023 with the utility relocation work forecast to start late in 2Q-2024, a delay of approximately 5-6 months. The utility relocation is now forecast to start at the end of 4Q-2024, a total delay of 11-12 months.

2.12 Vehicle Technology and Procurement

There are no direct revenue service vehicle procurements by TJPA included in the final DTX Project scope of work.

At the January 2023 Monthly Meeting with the FTA and PMOC, the Sponsor indicated that the current acquisition of electric rail vehicles as described in the 2018 Caltrain Rail Fleet Management Plan (RFMP) does not include a sufficient number of trains to support a 6 trains per peak hour per direction service to the Salesforce Transit Center terminal in 2032. The Sponsor's current plan is to provide 4 electrified trains per peak hour per direction to the new underground Fourth and Townsend Station and the new underground Salesforce Transit Center Terminal, and 2 diesel peak hour per direction trains to the existing surface Fourth and King Station, for a total of 6 peak hour trains to and from San Francisco. It was agreed that an RFMP addendum should be considered to address the required fleet and operational changes that would be needed to support the new service, and the addendum was submitted in April 2023. Refer to the Rail Fleet Management Plan discussion in Section 2.3 of this report for further details.

During April 2023, TJPA notified the FTA that TJPA was considering a modification to the DTX Project definition to take advantage of a contract option available under Caltrain's current EMU rail car procurement and add one additional 7-car trainset under the Transbay DTX Project, Phase 2. However, at the end of July 2023, TJPA decided not to include the one trainset in the Transbay DTX Phase 2 Program, but Caltrain will continue with its plan to procure four (4) trainsets under the existing option (three diesel replacements and one spare) under a separately funded Caltrain project. During August 2023, TJPA included in the DTX Project the acquisition of five non-revenue Maintenance of Way vehicles and the level-boarding door modifications to the 23 new EMU revenue vehicles from Caltrain under their current procurement.

2.13 Project Cost

The Sponsor has completed preparing/finalizing the components of the Program Cost Estimate. The Final Capital Cost Estimate, prior to the FTA/PMOC Risk and Contingency Assessment, was approved at the TJPA Board meeting on February 9, 2023. Based on finalization of the Program scope of work and the results of the FTA/PMOC Risk and Contingency Assessment, the Total Project Cost is \$8,255 million YOE, including financing cost and contingency, as presented in TJPA's revised SCC workbook dated August 25, 2023.

November 2023 Sponsor updates included:

- **Program Funding Status**
 - Final Joint TJPA/Caltrain 20-Year Financial Plan has been completed.
 - TJPA is awaiting a response to the application it submitted for a \$194 million Federal/State Partnership Grant ; *announcements anticipated in Q4-2023 or Q1-2024.*
 - *In September 2023, FRA announced CRISI awards. DTX was not selected for an award.*
 - TJPA submitted its application for a \$227 million National Infrastructure Project Assistance (MEGA) Grant on August 21, 2023. The grant program is focused on intercity rail service and would be applied to the DTX Advance (Enabling) Work Program for utility relocations, building demolitions and the 4th and King Yard Preparation work. *Announcement is anticipated in 1Q-2024.*

- For the Community Facilities District Bond Capital Funding Source (CCSF), the updated CCSF forecast has been included in the 20-Year Financial Plan.
 - CTC action on budgeted \$60 million from TIRCP:
 - In October 2023, CTC programmed \$60 million and allocated \$15.5 million.
 - Allocation of \$44.5 million balance expected in early FY24-25.
 - This funding source is for professional services and will be used for engineering/design work.
 - *Regional Measure 3 funding: MTC allocated \$100.7 million in November 2023 for ROW acquisition, relocation, and professional services.*
- **Program Cost Status**
 - Reflecting the results of the FTA/PMOC Risk Assessment, TJPA submitted an updated SCC workbook dated August 25, 2023, inclusive of the train box constructed under DTX Phase 1, the acquisition of five non-revenue Maintenance of Way vehicles and the level-boarding door modifications to the 23 new EMU revenue vehicles from Caltrain under their current procurement, including contingency and finance costs, which reflected a total project cost of \$8,255 million. TJPA completed its bottom-up cost estimate for the SCC80 elements based on its recently developed staffing plan and on the TJPA/Caltrain Interim Agreement and confirmed its current estimate as reflected in the updated SCC workbook dated August 25, 2023.
 - Current forecast of cost estimate updates for Early Action (Enabling) Works Program:
 - 90% Utilities Relocation Design – November 2023 (*not achieved*)
 - 30% 4th and King Railyard Site Work Design – *Delayed from January to March 2024*
 - 30% Building Demolition Design – October 2023 (*not achieved*)
 - TJPA continues to work on detailing the \$25 million Rail Yard Allowance cost item.
 - Detailed cost breakdown will be based on 30% Design for 4th and King Railyard sitework; *30% Design completion delayed until March 2024.*
 - Ongoing coordination with Caltrain on approach and schedule to develop the cost update.
 - Bottom-Up Cost Estimate for SCC 80 Elements
 - TJPA updating Staffing Plan with additional 3rd-party staffing from Caltrain and the five agency project partners.

2.14 Project Schedule

The Sponsor has completed preparing/finalizing the Project Master Schedule. The Master Schedule, prior to the FTA/PMOC Risk and Contingency Assessment, was approved at the TJPA February 9, 2023, Board meeting.

November 2023 Sponsor updates included:

- *The October 2023 Master Schedule update was provided in early November 2023 and has a data date of September 30, 2023.*
- *Critical Path Update*

- *Activities now on critical path include:*
 - *4KYA Final Design; Stage 1 Construction*
 - *4KYB Final Design; Stage 1 Construction*
 - *4th and Townsend St. Station*
- *Activities now on near-critical path include:*
 - *Civil/Tunnel PDB procurement and pre-construction phase activities*
- *Activities previously on near-critical path are now off near-critical path include:*
 - *Advanced Utility Relocation Final Design*
 - *2nd and Townsend St. Utility Relocations*
- *Key Activities Updates*
 - *Progressive Design-Build RFQ released October 27, 2023.*
 - *Preparation of Progressive Design-Build RFP continues; RFP workshop completed on October 31 – November 1, 2023.*
 - *TJPA approval to move fit-out scope for 4th and Townsend St. Station and the 2 ventilation buildings to the Progressive Design-Build RFP contract.*
- *Late/Delayed Activities*
 - *No schedule variance for either critical or near critical activities.*
- *CP Activities in Q4 2023*
 - *Review PDB Contract (A10-1905); now near-critical.*
- *November 2023 Master Schedule Update Look-Ahead*
 - *Civil/Tunnel PDB RFP release delayed one month to March 2024.*
 - *Civil/Tunnel PDB award delayed one month to late November/early December 2024.*

2.15 Project Risk

The Sponsor updates the Project Risk Register and provides a summary report to management on a quarterly basis. The top project risks as recorded on TJPA’s post-PMOC Risk Assessment Risk Register are presented in Attachment C of this report.

During October 2023, TJPA held its scheduled 4Q-2023 internal risk workshop. The resulting Risk Update Memo providing the workshop details and outcomes is expected in December 2023. The next scheduled quarterly risk workshop is planned for January 2024.

Based on TJPA’s finalization of the DTX Project scope of work during July 2023, the PMOC updated its initial scope, cost estimate, schedule, and risk analyses developed in the May 2023 Risk Workshop and provided the results to FTA on August 10, 2023, for review and concurrence. The results, which indicated an estimated project cost of \$8,255 million including finance cost and contingency, and a forecasted FFGA Revenue Service Date of June 27, 2035, including contingency, were then provided to and reviewed by TJPA. TJPA accepted the results and completed updates of any affected project documents required for project rating and/or acceptance to advance the project into the Engineering phase. The PMOC completed the Final OP32C, 33, 34, 40 Scope, Cost, Schedule, Risk and Contingency Review Report and submitted the report to the FTA on August 31, 2023.

The PMOC attended the TJPA 4Q-2023 Risk Workshop on October 5, 2023 and will review the Quarterly Risk Memo when released in December 2023.

2.16 Quality Assurance/Quality Control

The Sponsor has completed preparing the Project Quality Assurance Plan, and the PMOC has completed its OP24 review. Refer to the Project Management Plan and Subplans section of this report for the status of the QAP.

2.17 Safety and Security

The Sponsor has completed the Project Safety and Security Management Plan (SSMP) and provided the SSMP to the PMOC on April 17, 2023, and the PMOC completed its review. Refer to the Project Management Plan and Subplans section of this report for the status of the SSMP.

2.18 Americans with Disabilities Act (ADA)

The PMOC has reviewed ADA compliance during the following reviews:

- OP20 – Project Management Plan
- OP22 – Project Safety and Security Management Plan
- OP32C – Project Scope Review

2.19 Buy America

The PMOC has reviewed Buy America compliance during the following reviews:

- OP20 – Project Management Plan
- OP32C – Project Scope Review

2.20 Start-Up, Commissioning, Testing

Project is currently at the Preliminary Engineering/Design Stage, approximately 30%. The PMOC evaluated the adequacy of the system start-up, testing and commissioning provisions in the Design Basis and Design Criteria documents, as well as in the SSMP, that will be reviewed for the OP32C Project Scope Review.

2.21 Before-and-After Study Reporting

The PMOC will confirm that the Sponsor has addressed the requirements for the Before-and-After Study Reporting during the following reviews:

- OP21 – Management Capacity and Capability
- OP33 – Capital Cost Estimate
- OP51 – Readiness to Enter Engineering

2.22 Lessons Learned

OP26 – Lessons Learned is currently not included in the PMOC scope of work for either the Regional or Programmatic Task Orders for oversight services on the Transbay Downtown Rail Extension Project, Phase 2.

2.23 Actions Items Table

Item No.	Item	Responsible Party	Date Identified	Date Due	Date Completed	Status / Action Required
1.	Confirm inclusion of one 7-vehicle trainset in project scope of work.	TJPA	April 2023	Jun 30, 2023	July 31, 2023	Awaiting final TJPA, Caltrain decision [RESOLVED]
2.	Updated scope descriptions, SCC Workbook, and project schedule reflecting the final agreed scope	TJPA	July 24, 2023	Aug. 1, 2023	Aug. 1, 2023	[RESOLVED]
3.	Real Estate Acquisition and Management Plan: Revise RAMP and associated documents based on findings in PMOC OP23 Review Report.	TJPA	Aug. 2, 2023	Sept. 16, 2023	Sept. 1, 2023	[RESOLVED]
4.	Revise and Resubmit preliminary engineering documentation per PMOC OP32C NEPA	TJPA	Sept. 1, 2023	Nov. 1, 2023	Nov. 28, 2023	[RESOLVED]

Item No.	Item	Responsible Party	Date Identified	Date Due	Date Completed	Status / Action Required
	and Design Document Comparison Review Report.					
5.	Provide summary and status of required permits, agreements and approvals for Early Action (Enabling) Work Packages: Utility Relocations; 4KY Preparation; Building Demolition.	TJPA	Oct. 18, 2023 @ Monthly Meeting with FTA/PMOC.	For start of OP39 Review Dec. 2023		Open [In Progress; OP39 Review to start in Jan. 2024]
5.	<i>Provide Utility Relocation Forms A and B for FTA review.</i>	<i>TJPA</i>	<i>Nov. 15, 2023 @ Monthly Meeting with FTA/PMOC.</i>	<i>Dec. 2023</i>		<i>Open</i>

3.0 PROJECT MONITORING REPORT ATTACHMENTS

- A. List of Acronyms
- B. Safety and Security Checklist – In preparation by the Sponsor.
- C. Top Project Risks
- D. Awarded Contracts – Working with Sponsor to include all current contracts for professional services.
- E. Rolling Stock Vehicle Status Report – N/A.
- F. Project Milestones/Key Events – Will be included in a subsequent Monthly Report based on the risk-informed Final Draft Master Schedule and current schedule updates.
- G. Roadmap to Revenue Operations – Will provide Roadmaps for Entry to Engineering and FFGA based on FTA development details.
- H. Project Map

Attachment A: List of Acronyms

ACOR	-	Alternate Contracting Officer Representative
ADA	-	Americans with Disabilities Act
CAO	-	City Attorney’s Office
CCSF	-	City and County of San Francisco
CIG	-	Capital Investment Grant
CMGC	-	Construction Manager / General Contractor
DTX	-	Downtown Rail Extension (as in “Transbay DTX Project”)
DBB	-	Design/Bid/Build
EMU	-	Electric Multiple-Unit (rail car vehicle)
FEIS	-	Final Environmental Impact Study
FFGA	-	Full Funding Grant Agreement
FMOC	-	Financial Management Oversight Contractor
FTA	-	Federal Transit Administration
GEC	-	General Engineering Consultant
ICA	-	Interagency Cooperative Agreement
IPMT	-	Integrated Program Management Team
LONP	-	Letter of No Prejudice
LPA	-	Locally Preferred Alternative
MCA	-	Mater Collaborative Agreement
NEPA	-	National Environmental Policy Act
OCS	-	Overhead Contact System
PCEP	-	Peninsula Corridor Electrification Project (Caltrain)
PCJPB	-	Peninsula Corridor Joint Powers Board
PDB	-	Progressive Design-Build
PG&E	-	Pacific Gas & Electric
RAMP	-	Real Estate Acquisition and Management Plan
RCMP	-	Risk and Contingency Management Plan
RFMP	-	Rail Fleet Management Plan
ROD	-	Record of Decision
SEQA	-	State Environmental Quality Act (California)
TJPA	-	Transbay Joint Powers Authority

- PMOC - Project Management Oversight Contractor
- SSMP - Safety and Security Management Plan
- YOE - Year of Expenditure

Attachment B: Safety and Security Checklist

Attachment C: Top Project Risks

The following are the top Transbay DTX Project risks, and their associated unmitigated risk scores as recorded in the DTX Risk Register (Post PMOC Risk Assessment):

Risk ID	Description	Score
138	Delay due to scope adjustment to advance work package for Caltrain 4th & King site work	25
CR13	Failure to secure cut and cover off-street muck-out staging area and having to muck out through ports in decking	20
CR3	Delay in acquisition of funding – risk that 100% committed funding plan is not identified by time of FFGA approval (2025).	20
148	Relocating locker room may have union issue if distance is increased. There is uncertainty as to what facilities need to be moved and where	20
45	Addition of floating slab to minimize operating train noise and vibration	16
3	Premium for work adjacent to operating tracks	16

Risk Score/Rank

		Probability/Likelihood				
		1	2	3	4	5
Consequence / Severity	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

Attachment D: Awarded Contracts

Attachment E: Rolling Stock Vehicle Status Report

Attachment F: Project Milestones/Key Events

Attachment G: Roadmap to Revenue Operations

Attachment H: Project Map

