STAFF REPORT FOR CALENDAR ITEM NO.: 13
FOR THE MEETING OF: December 10, 2020

TRANSBAY JOINT POWERS AUTHORITY

BRIEF DESCRIPTION:

Consider approving the Comprehensive Work Plan for the Downtown Rail Extension (DTX) as recommended by the Executive Steering Committee (ESC) under the terms of the San Francisco Peninsula Rail Program Memorandum of Understanding (MOU) with the Metropolitan Transportation Commission (MTC), the San Francisco County Transportation Authority (SFCTA), the Peninsula Corridor Joint Powers Board (Caltrain), the California High Speed Rail Authority (CHSRA), and the City and County of San Francisco (Mayor's Office).

EXPLANATION:

Background

The San Francisco Peninsula Rail Program MOU, effective June 5, 2020, described, in part, an organizational structure to support the efforts of the TJPA to develop the DTX project to ready for procurement status.

Among the elements of the MOU is a Summary Work Program (MOU Attachment 2) that describes various tasks to be conducted in the project development process. The Summary Work Program further identifies which partner agency would lead or co-lead, contribute to, concur with, or approve each task. For each task, the Summary Work Program indicates whether a report to or approval from the TJPA Board would be required.

Among the tasks to be completed was the creation of a detailed Comprehensive Work Plan (MOU Section 6 and Attachment 2 – Task 6) providing the appropriate level of detail so that each task and the activities to complete it are clearly defined, its relationship to other tasks described, and the resulting deliverable defined. A companion Master Schedule (attached to the Comprehensive Work Plan at Appendix B) is also required in order to place the tasks in a logical order, reflecting dependencies between the tasks. The Master Schedule indicates achieving a Full Funding Grant Agreement in Spring 2026, subject to availability of funding. It is important to note that the schedule of current tasks is constrained by available funding and scope as defined by the SFCTA Funding Resolution No. 20-49 approved April 28, 2020. The MOU indicates that preparation of the Comprehensive Work Plan would be led by the TJPA, require the concurrence of the partner agencies, and require the approval of the TJPA Board.

On November 20, 2020, the ESC unanimously approved recommendation of the Comprehensive Work Plan, including Master Schedule, enclosed herewith.

DISCUSSION:

Comprehensive Work Plan

The Comprehensive Work Plan is currently divided into seven (7) primary work areas:

Project Positioning – this section addresses rebranding, public outreach, and regional economic impact. Through analysis and communication, the purpose of this work is to demonstrate the importance of the project to the regional, statewide, and national economy, to substantively engage and inform the public and policy makers, and to build a consensus of support for the project. This task will draw from the planning tasks where project benefits such as transit use, support for regional equity and resilience goals, and others will be described and quantified, supporting outreach and engagement activities. (Note that Agenda Item 8.4, requests authorization for the Interim Executive Director to execute a professional services agreement with Davis & Associates Communications, Inc. for communications and outreach services related to Phase 2 of the Transbay Program).

Funding and Finance - this section addresses the work to update the funding and financing plan for the project. The full spectrum of funding options will be evaluated in the context of available local, regional, state and federal, and private sources for both capital and operating costs. The task includes designing and implementing the funding strategy, including supporting the project's Federal Transit Administration (FTA) New Start application and other grants. This task will be closely coordinated with procurement strategy tasks where nontraditional methods such as public private partnerships will be evaluated.

Facility Operations – this section establishes the demand scenarios for the project and quantifies the near- and long-term economic, environmental and social benefits for the project and addresses the development and refinement of operating plans for both Caltrain and California High Speed Rail in the context of both initial and long-term operations. Operating cost will be quantified. Demand studies will consider Plan Bay Area 2050, Caltrain and CA High Speed Rail Business Plans, as well as applicable FTA guidance, to determine ridership over time and inform needed service levels.

Additionally, long-term expanded use of the transit center will be evaluated and documented in support of the Business Case for the project. This task will include coordination with the related regional projects such as those in the Peninsula Corridor Rail Program, State Rail Plan and Transbay Rail Crossing studies.

Procurement Strategies – this section addresses the Phasing Study with the specific goal of identifying an initial operating project that is consistent with the operational requirements for travel demand, safety, and reliability, consistent with higher confidence funding sources. The phasing study will also address future fit out of any elements of the project that may be selected for deferral. The section also includes the includes the Business Case for the phased project, synthesizing the analyses evaluating the benefits, costs, and risks of the phased project, along with a rational of the project.

This section will also address the best contractual method to deliver the project, once an initial project is selected. Studies will be conducted to determine delivery and contracting strategies considering the range of delivery options, e.g., design/build, progressive design build, CM/GC and P3, etc., the solicitation of industry input, as well as pro-active risk and contingency management and mitigation strategies.

Design Development – this section addresses the development of design, and will be heavily influenced by the Phasing Study, Operating Plans, Procurement and Contracting Plan, among others. Contract package designs will be developed to a level consistent with the selected delivery approach, the cost estimate will be updated, and a project construction schedule established. While some work will advance during the phasing study leading to the identification of the initial project, most of the design task will be conducted subsequent to the TJPA Board of Directors approval of the Phasing Study.

Programmatic Documents and Federal New Starts Requirements – this section addresses the multiple plans and procedures that must be developed and implemented to assure implementation of sound project management principles, appropriate program management and controls, compliance with relevant local, state, and federal requirements, and eligibility for Federal Transit Administration New Starts funding requirements.

Governance and Oversight - the objective is to explore and select the best institutional arrangement and governance for the delivery of the DTX Rail Project through construction and make recommendations to the TJPA Board. A detailed study of the governance structure for the project during the design, construction, and operational phases will be conducted. Roles and responsibilities of various agencies that will benefit from the use of the transit center and the DTX facilities will be documented.

Relation of Work Plan Tasks: Key Dependencies

The work will be conducted in a coordinated fashion, with one or more tasks often specifically dependent upon the outcome of one or more of the other tasks. These predecessors and successors are carefully mapped in the "Shovel Ready" Project Master Schedule, attached to the Comprehensive Work Plan as Appendix B and summarized in the following diagram (Figure 1). (Shovel Ready defined as being prepared to advertise advance utility relocation contracts with civil and systems contracts to follow.) Once approved, the Master Schedule will be updated on a Quarterly basis, progress will be noted, new tasks may be added, and mitigation for any activities that are falling behind will be developed and implemented.

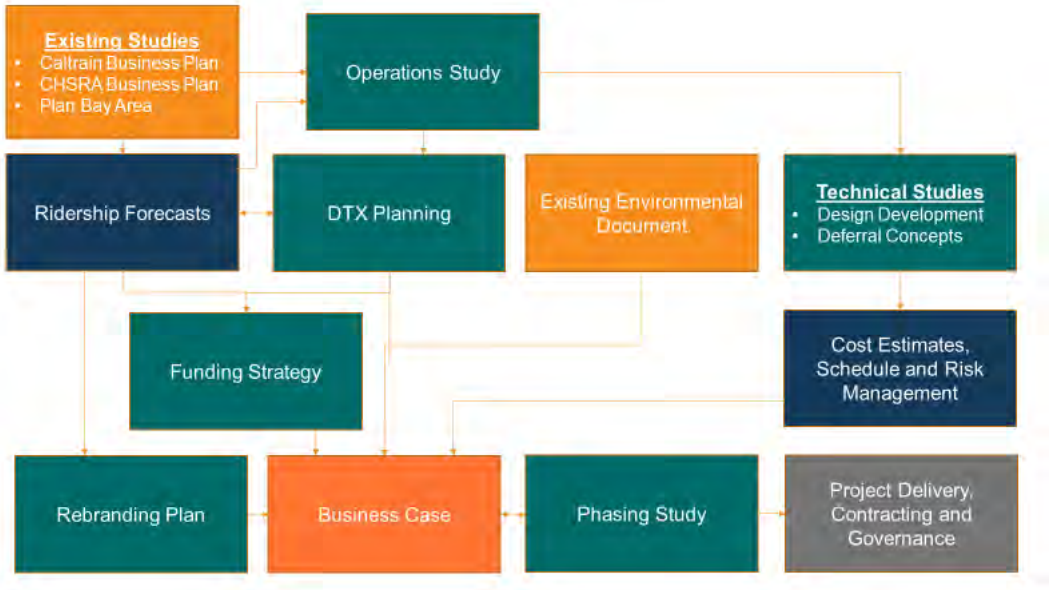


Figure 1: Task Relations

In addition to managing the relationship and sequencing of the various tasks within the Comprehensive Work Plan, mitigating project risk is a critical task of the Integrated Program Management Team (IPMT). Risk Workshops are conducted to identify and rank project risks, and quarterly updates are held to regularly monitor mitigation plans, responsibilities, and identify new risks. Among the major risks being tracked are those associated with funding availability, decisions regarding procurement approach, community support, in addition to a myriad of technical and coordination issues such as utility relocations and real estate acquisition. To date, the IPMT has identified and is tracking 139 discrete risks.

Major Deliverables:

In order to complete the analyses and develop recommendations, the technical work is being conducted in a logical order to support ESC recommendations and TJPA Board of Directors decision-making. Examples of major deliverables and analyses being conducted in support of decision making for operations, planning, funding, and project development are presented below:

Operations:

- Transit Operations Analysis
- Operating Plans

Planning:

- Demand forecasting scenarios and sensitivity analysis
- Coordination with/timing of related regional rail projects
- Phasing recommendations
- Confirmation of project definition

Funding:

- Funding Plan (Construction and Operating), needed in phases
- Input to Business Case
- FTA New Starts applications and coordination
- Support for pursing other grants and funding approvals

Initial project definition, decision and Business Case

- Analyze minimum feasible set of options and identify trade-offs among them
- Identify preferred initial project definition(s) and associated performance against evaluation criteria
- Create business case (considering FTA and other key funding and policy criteria) for preferred alternative

Project Development:

- Governance
- Stakeholder and community engagement
- Project Management Plans (numerous)
- Risk identification and management
- Real Estate acquisition and management planning
- Third Party Agreements
- Design development
- Federal Transit Administration engagement (Project Development, Engineering, FFGA)

As the various Consolidated Work Plan tasks are progressed, the IPMT will continue to assess progress, evaluate technical quality, and conduct risk assessment with the ultimate goal of achieving a fundable project meeting the service, safety, and reliability requirements of the region as soon as possible.

Currently, there is limited funding for select portions of the Work Plan under a grant from the San Francisco County Transportation Authority utilizing Proposition K Local Transportation Sales Tax funds. Grants for additional portions of the work are anticipated in fiscal 2020/2021 and 2021/2022. The Funding Plan task will discuss other potential sources of funds.

RECOMMENDATION:

Consider approving the Comprehensive Work Plan for the DTX as recommended by the ESC under the terms of the San Francisco Peninsula Rail Program MOU in the form enclosed herewith.

ATTACHMENTS:

1. Resolution
2. Comprehensive Work Plan

TRANSBAY JOINT POWERS AUTHORITY
BOARD OF DIRECTORS

Resolution No. _____

WHEREAS, The Transbay Joint Powers Authority (TJPA) is a joint powers agency organized and existing under the laws of the State of California; and

WHEREAS, Pursuant to state law and the Joint Powers Agreement creating the TJPA, dated April 4, 2001, the TJPA has primary jurisdiction over and will implement all aspects of the Downtown Rail Extension (DTX) project of the Transbay Program; and

WHEREAS, On April 9, 2020, the TJPA Board of Directors authorized the TJPA Board Chair to execute the San Francisco Peninsula Rail Program Memorandum of Understanding (MOU) with the Metropolitan Transportation Commission, the San Francisco County Transportation Authority, the Peninsula Corridor Joint Powers Board (Caltrain), the California High Speed Rail Authority, and the City and County of San Francisco (Mayor's Office); and

WHEREAS, The MOU described, in part, an organizational structure to support the efforts of the TJPA to develop the DTX project to ready for procurement status, including the formation of an Executive Steering Committee (ESC) to make recommendations to the TJPA Board; and

WHEREAS, The MOU contemplates the ESC would, among other things, recommend to the TJPA Board for approval a Comprehensive Work Plan; and

WHEREAS, On November 20, 2020, the ESC unanimously approved recommendation of a Comprehensive Work Plan, including Master Schedule, to the TJPA Board; and

WHEREAS, As confirmed in the MOU, the MOU commits the partners to consider providing funding or resources to implement the MOU but does not commit any partner to provide any resources other than those such partner has already funded and programmed to support DTX, or provide any funding; accordingly, the TJPA Board's approval of the Comprehensive Work Plan is not intended to and does not act as a new or independent commitment by the TJPA to provide any funding to implement such plan; now, therefore, be it

RESOLVED, That the TJPA Board of Directors hereby approve the Comprehensive Work Plan for the Downtown Rail Extension (DTX) as recommended by the Executive Steering Committee (ESC) under the terms of the San Francisco Peninsula Rail Program Memorandum of Understanding (MOU).

I hereby certify that the foregoing resolution was adopted by the Transbay Joint Powers Authority Board of Directors at its meeting of December 10, 2020.

_____
Interim Secretary, Transbay Joint Powers Authority

DTX Comprehensive Work Plan

November 2020

AECOM

MOTT MACDONALD

Revision Record

Revision	Description	Status	Date
A	Original Issue to IPMT	Draft	July 10, 2020
B	Complete reorganization; added tasks and text	Draft	July 18, 2020
C	Revised format and approach	Draft	August 17, 2020
D	Tasks tied to summary work plan and schedule	Draft	August 21, 2020
E	Response to comments, added additional text	Draft	September 1, 2020
F	Response to comments, added partner agency input	Draft	September 6, 2020
G	Update schedule reference nos.; issued for IPMT approval	Draft	September 15, 2020
H	IPMT comments incorporated	Draft Final	October 15, 2020
I	New section 4.2, Business Case added; draft final issued for ESC approval	Draft Final	November 17, 2020

Prepared by AECOM, in association with Mott MacDonald, program management consultant to the Transbay Joint Powers Authority.

Preparation of this report was made possible by the San Francisco County Transportation Authority through a grant of Proposition K Local Transportation Sales Tax funds.

Contents

Figures & Tables

Appendixes

Comprehensive Work Plan

The San Francisco Peninsula Rail Program Memorandum of Understanding (the MOU) executed by the Transbay Joint Powers Authority (TJPA), Metropolitan Transportation Commission (MTC), San Francisco County Transportation Authority (SFCTA), Peninsula Corridor Joint Powers Board-Caltrain (PCJPB), California High-Speed Rail Authority (CHSRA), and the City and County of San Francisco (the City) (the project partners) outlines the actions required by the project partners to advance the positioning, governance, funding and finance, and development and delivery of the rail program. The Federal Transit Administration's (FTA) New Starts policy guidance outlines the requirements for transit capital projects seeking Capital Investment Grants (CIG) Program funding.[1] This work plan is consistent with the requirements of the MOU, as well as guidance as required by FTA for eligibility to participate in the CIG Program. The work discussed herein would generally be required for any project of this scope and significance.

Each deliverable described in this work plan will be prepared by the responsible deliverable owner, seeking input as appropriate and as defined in the DTX Summary Work Program V7, attached to the MOU. Once completed in draft form, the deliverables will be transmitted through the Project Director to the Integrated Program Management Team (IPMT) for review and comment. Status and progress of the deliverables will be discussed at the bi-weekly IPMT meetings and/or special meetings if necessary. As determined by the IPMT in collaboration with the Executive Steering Committee (ESC), certain policy-related deliverables will be presented to the ESC for review, comment, and/or approval. Final approval, as appropriate, will rest with the Transbay Joint Powers Authority (TJPA) Board of Directors.

The Program Management/Program Controls team (PMPC) will provide document control and version control services to the IPMT and ESC. All final documents will be stored on the TJPA SharePoint site.

1 Project Positioning

1.1 Rebranding Study
(SCHEDULE ACTIVITY A2-1300) (MOU TASK 7)

OBJECTIVE: The DTX project will be rebranded to reflect its importance to the mega-region and the State of California. The Rebranding Plan will identify strategies and required resources to demonstrate the broad benefits of the DTX project from a transportation, economic impact, environmental, and community perspective. The implementation of the plan is intended to result in durable and long-term support of key stakeholders and the broader public.

[1] FTA Final Interim Policy Guidance, June 2016, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FAST_Updated_Interim_Policy_Guidance_June%20_2016.pdf

ACTIVITY: TJPA, with the assistance of a communication consultant, will conduct communications and outreach services for the Transbay Program including high-level messaging, branding, community outreach, website development, and maintenance and effective and innovative social media campaigns.

OWNER: TJPA

REQUIRED INPUTS: The Rebranding Study will require coordination with all project partners and local, regional, and state officials. Projects costs, benefits, and implementation schedules will be required, as well as detailed technical information translated into easily understood terms for the general public. The results of the Phasing Study will also be considered in order to reflect the initial operating service.

DELIVERABLES: Messaging through a detailed Rebranding Plan, communications support, community outreach services, and website services. This work will be contracted directly by the TJPA. A detailed scope of work and schedule will be available through that contract.

1.2 Public Outreach Plan
(SCHEDULE ACTIVITY A2-1350) (MOU TASK 8)

OBJECTIVE: Informed by and leveraging the Rebranding Plan, public outreach will be critical to building enduring support for the DTX project. Engaging external stakeholders including community groups, elected officials, relevant agencies, project-area development teams, and the public at-large is required in order to understand community goals and to properly share information regarding the benefits of the project. A robust Public Outreach Plan will provide the framework for two-way communication between the public and the project partners.

The plan will provide a multi-platform communications strategy to conduct public outreach and targeted outreach to advocacy groups, maintain clear records of stakeholder engagement and coordinate with adjacent developments, related and interconnected plans and projects by other agencies, and stakeholder business plans.

ACTIVITY: TJPA, with the assistance of a communications consultant, will conduct communications and outreach services for the Transbay Program including high-level messaging, branding, community outreach, website development and maintenance, and effective and innovative social media campaigns. The TJPA will conduct outreach and engagement with advocacy groups as well as other stakeholders including the development community and other agencies.

OWNER: TJPA

REQUIRED INPUTS: Public outreach will require coordination with all project partners, local, regional, and state officials, the TJPA Citizens Advisory Committee, the media, and local community groups. Projects costs, benefits, and implementation schedules will be required as

well as detailed technical information translated into easily understood terms for the general public. The results the Rebranding Study will be fully integrated into all communications.

DELIVERABLES: Messaging through a communications support, community outreach services, and website services. An innovative social media campaign will be created and implemented. This work will be contracted directed by the TJPA. A detailed scope of work and schedule will be available through that contract.

1.3 Economic Impact Study
(SCHEDULE ACTIVITY A2-3400) (MOU TASK A7)

OBJECTIVE: In 2013, the TJPA published an economic study entitled "Transbay Transit Center: Key Investment in San Francisco's Future as a World Class City." The report highlights the importance of the Transbay Program to the region's economic development by enhancing connections between the region's transit services and increasing mobility for Bay Area residents, visitors, and workers. This study resulted in an engaging public-facing report that served the TJPA well in communicating the benefits of the Transbay Program to stakeholders, potential funders, and the public.

To be successful in delivering the DTX, the TJPA and its partners will need strong political support and a strong external champion to keep all stakeholders aligned and focused on the project benefits: improving connectivity between the Bay Area's two economic engines, San Francisco and Silicon Valley and maintaining California's economic leadership in innovation.

ACTIVITY: Conduct an impact study that looks at the role of the DTX in the region's planned growth and the broader state and national economy consistent with the TJPA and stakeholders' redefinition of the DTX project as part of a regionwide transportation strategy. The study will evaluate demand versus capacity scenarios over time and make side-by-side comparisons of options in terms of benefits (e.g., economic, riders, housing), costs, schedules, and operations, among others.

REQUIRED INPUTS: The study will need to consider the results of the Rebranding Study, operations plans, ridership forecasts and travel time, feedback from stakeholders, and environmental benefits as well as regional forecasts for population, jobs and housing. The degree to which project phasing impacts the project's economic impact will need to be analyzed and described.

DELIVERABLES: A comprehensive study describing methodology, data inputs, participant stakeholders, and high/low confidence forecasts of the economic impact of short construction and long-term operations impacts on the local, regional, statewide, and national economy.

2 Funding and Finance

2.1 Funding Plan

(SCHEDULE ACTIVITY NOS. A2-4100 / A8-1000, 1010, 1020,1030, DESIGN AND CONSTRUCTION AND A8-1050, OPERATIONS) (MOU TASK 13)

OBJECTIVE: Development of a committed project development, construction, and operations funding plan that is consistent with available local, regional, and state sources and meets the requirements for eligibility for the FTA's CIG Program, including the milestones at the Entry into Engineering, Request for Funding, and Full Funding Grant Agreement submissions.

In addition to a capital funding plan, FTA requires project sponsors to include the first 20 years of operations in the financial plan. This will require coordination with the various transit providers to identify changes to the services they provide and address potential shifts in transit operating revenue as a result of the project, as well as the operation and maintenance cost of the facility and a distribution formula.

ACTIVITIES: Since 2001, MTC Resolution 3434 has maintained the region's commitment to the Downtown Rail Extension/ Phase 2 project with the 2009 regional transportation plan (RTP) affirming DTX as a regional FTA New Starts priority. Recently, MTC has re-affirmed this commitment with placement of the project within the first period of Plan Bay Area 2050.

The planned capital funding commitments include elements used for Phase 1 such as net tax increment and Mello-Roos special tax assessment bond proceeds, in addition to more substantial commitments of FTA New Starts grants, local sales taxes, Regional Measure 3 funds, and CHSRA contributions, as well as potential innovative funding mechanisms, such as passenger facility charges.

Non-traditional funding sources will also be considered in the Funding Plan. These may include joint development or private financing of project capital requirements, possibly blended with public sector dollars. Operating and maintenance cost and funding will need to be estimated for the first time. A key activity will be matching up sources and uses of funding over time to support decision-making, including the identification of an initial operating phase.

OWNER: SFCTA

REQUIRED INPUTS**:** As input to the Phasing decision, the Funding Sources Document will describe updated estimates for existing funding sources and new committed or potential funding sources, including expected timeline and degree of certainty for each source. The Funding Plan will draw from economic forecasts from the City and region, and include scenarios that correspond with operational and phasing options under consideration, to help inform the business case supporting the DTX initial operating phase.

Once the Phasing decision is made, the Draft Funding Strategy will provide development of an FTA-compliant project financial model capturing detailed capital cost estimates with associated

project delivery methods and financing plans, if any; TJPA and transit operating plans; and maintenance/rehabilitation cost estimates. Models should reflect appropriate contingencies and sensitivity tests for key assumptions and inputs. Risk management, project delivery method, public funding sources, and relevant private finance sources will be described in support of the application to the FTA for New Starts funding.

DELIVERABLES:

Deliverable #1: Funding Sources Document (for Phasing/Business Case)

Working with the TJPA and MTC, the SFCTA will prepare a document outlining the current funding sources for capital and operating expenses. The outline will include an update of all known and possible new or innovative funding sources with expected timelines and arrayed against project phase (planning, implementation, operations). The TJPA's current funding plan (which reflects the recent re-financing of its TIFIA loan and other recent and expected land sale transactions), the SFCTA's San Francisco Transportation Plan, the CHSRA and Caltrain business plans, and Plan Bay Area 2050 will be used as sources of information for this deliverable. The deliverable is expected to serve as an iterative resource for the phasing analysis, providing alternative revenue estimate scenarios to correspond with specific phasing options under review and reflecting other policy assumptions. This work will support the request to enter FTA Project Development in 2021, as the initial operating phase definition and key sources like RM3 are confirmed.

Deliverable #2: Draft Funding Strategy Report

Following the Phasing decision, as the project is further developed and more detailed information becomes available, cost estimates and funding sources for the initial operating phase and subsequent phases will be refined.

- Update the committed and planned capital and operating sources for each phase of the project's lifecycle
- Coordinate with project delivery study findings and recommendations as appropriate (e.g., for any innovative project financing arrangements)
- Coordinate with joint development or private value capture opportunities (e.g., at Fourth and King Railyard)
- Identify and establish MOUs for future funding commitments by relevant parties to secure above sources

Deliverable #3: Final Funding Plan and Support for FTA Submittal

The Draft Funding Strategy Report will be revised and improved through feedback from the FTA and other project funding partners. The TJPA, MTC, and SFCTA will work with federal, state, regional, and local public and private partners to secure funding agreements and commitments for capital and operating expenses for at least the initial operating segment. Entry into FTA Engineering is anticipated in 2023. The application for an FTA Full Funding Grant Agreement is expected in August 2024.

3 Facility Operations

3.1 Transit Operating Plans
(SCHEDULE ACTIVITY NO. A2-2550) (MOU TASK 9)

OBJECTIVE: The rail transit service providers will develop a consolidated set of service plans, for both the initial operating segment (to be defined by the Phasing Study described in 4.1 and long-term operations at the Salesforce Transit Center.

ACTIVITY: Develop analysis of infrastructure requirements for a recommended service concept including:

- A consolidated set of service assumptions including objectives and timetables
- Track layout, usage, and signal system performance
- Modeling, including perturbation analysis, to assure reliable, smooth operations at the Salesforce Transit Center and on the Peninsula
- Configuration of the Fourth and Townsend Street Station
- The number and configuration of platforms required to serve both California High-Speed Rail and Caltrain at the Salesforce Transit Center
- Contingency operation plan scenarios for illustrative potential service interruptions. Perform all necessary modeling, including perturbation analysis, to assure reliable, smooth operations at the Salesforce Transit Center and on the Peninsula.

OWNER: CHSRA and Caltrain

REQUIRED INPUTS: Basis of Design, Phasing Study Workshop 1 Report, Caltrain and CHSRA Business Plans

DELIVERABLES: The operating plan(s) will inform number, layout and use of track, platforms, crossovers, etc., and include perturbation analysis to assure reliable operations at the Salesforce Transit Center and along the Peninsula. Incremental operating costs and savings for each transit service will need to be quantified.

3.2 DTX Planning and Benefit Assessment
(SCHEDULE Activity No. A2-1810, A2-3050, A2-1820) (MOU TASK 10A)

OBJECTIVE: The FTA New Starts application requires a clear description of the project's benefits (e.g. mobility improvements, cost-effectiveness, congestion relief, land use, economic development, greenhouse gas reduction and equity).

ACTIVITY: An evaluation to identify the full extent of users and beneficiaries, current and future, is required. This evaluation will be broad in scope and benefit from the Public Outreach Plan

and inform the Rebranding Plan. The results will be used to bolster the business case for the project and support the case for local and regional significance. This task includes ongoing coordination with the other major rail development efforts depicted in the San Francisco Peninsula Rail Program MOU organization chart (Attachment 1).

OWNER: SFCTA

REQUIRED INPUTS: The Public Outreach Plan and activities, modeling results of the DTX initial operating phase and full project as well as its connection with the future New Transbay Rail Crossing and blended Caltrain/CHSRA service on the Peninsula, as identified in the MTC regional rail synthesis (2020), California State Rail Plan, Plan Bay Area, MTC Crossing Study, CCJPA Vision Plan, City of San Francisco zoning and planning studies, and the Bay Area Core Capacity Transit Study.

Inputs also include City development-related benefits for the South of Market area, Fourth and King Railyard site, and potentially other sites in San Francisco and on the Peninsula.

DELIVERABLES:
Deliverable #1: Planning analyses to estimate the benefits as documented for the DTX initial operating phase, full project, and future connections with other major rail improvement projects (standard-gauge New Transbay Rail Crossing and blended Caltrain/CHSRA service). Metrics to be assessed include but are not limited to mobility improvements, cost-effectiveness, congestion relief, land use, economic development, greenhouse gas reduction, and equity.

Deliverable #2 DTX slide presentation, fact sheet, and collateral to be used for ongoing outreach, advocacy, and funding applications.

3.3 Planning and Demand Forecast (Ridership Study) (SCHEDULE ACTIVITY A2-3050) (MOU TASK 10B)

OBJECTIVE: A comprehensive ridership study was completed in 2008. In 2018, the TJPA commissioned a limited ridership study for planning purposes. The study used existing ridership forecasts to update ridership numbers for both Caltrain and CHSRA at the transit center and the Fourth and Townsend rail stations but did not include new model runs. Follow-on decision-making and the FTA New Starts evaluation and rating will require forecasted ridership numbers that are based on study area-validated model runs of one of the region's major travel demand model systems or the FTA STOPS model.

ACTIVITY: The primary purpose of the forecasting effort will be to prepare preliminary demand forecasts to support the Phasing Study, the design, and identification of the initial operating phase. These forecasts will help to "size" the infrastructure and operating plans needed to serve projected demand. The resulting Phasing decision will inform the revision of the project's financial analyses, including but not limited to passenger facility charges and other development-based project revenues. In addition, these forecasts will employ a methodology and provide the information required by the FTA's New Starts program for the project to apply

for CIG funding. Finally, this effort will produce a set of long-range planning forecasts in which the DTX will serve as the western segment of a standard-gauge New Transbay Rail Crossing.

Deliverable #1 - Assemble / Develop Initial Operating Segment Assumptions

This task involves identifying, assembling, and documenting the assumptions required to develop an initial set of initial operating phase forecasts, including the project configuration and other regional transportation network policies and investments. It is anticipated that these assumptions will be derived primarily from the Caltrain and CHSRA business plans and MTC's Plan Bay Area 2050 RTP and include information about baseline and future employment and population growth patterns. Travel demand that originates or is destined to areas outside of the Bay Area will also be assembled from prior project efforts and adjusted as necessary to align with the latest network, employment, and population projections.

Deliverable #2 - Develop Initial Forecasts

Using the information gathered as part of Deliverable #1, updated projections for the project, employment and population, and exogenous demand will be coded into the SF-CHAMP model. It is expected that a number of combinations of transportation network, employment, and population assumptions representing different horizon years and different investment strategies will be tested, although the precise number of scenarios to be evaluated is not yet known. For each scenario, a broad set of performance metrics will be produced that will include the following: all core New Starts program metrics, including estimates of ridership for all regional transit operators, ridership by demographic segments for equity analysis, new transit trips, vehicle miles traveled, roadway congestion on key regional facilities, greenhouse gas emissions, and cost-effectiveness.

Deliverable #3 - Develop Revised Forecasts

Working with agency staff and informed by the findings from Deliverable # 2, the SFCTA will refine the transportation network, employment, and population assumptions and code these revised inputs into the SF-CHAMP model. The scenarios will include not only revised and refined forecasts for the initial operating phase but also long-range forecasts in which the DTX will serve as the western segment of a standard-gauge New Transbay Rail Crossing. The model will be rerun and produce a revised set of performance metrics for each scenario, including all New Starts program metrics as well as other required project metrics.

Deliverable #4 - Prepare Modeling for New Starts Application

After an initial operating phase has been identified from the revised forecasts, all relevant New Starts templates will be prepared. This will involve travel-related forecasts (travel forecasts template, forecast results report, supporting tabulations), Build Annualized Worksheet (capital and O&M costs for the New Starts proposal, specifically). SFCTA will further support TJPA's preparation of documentation required by the FTA New Starts program.

OWNER: SFCTA

REQUIRED INPUTS: Caltrain Business and Service Plan, CHSRA preferred alternative (including Business Plan), New Transbay Rail Crossing, MTC regional rail synthesis (2020), California State Rail Plan, MTC's Plan Bay Area, MTC Crossing Study, CCJPA Vision Plan, City of San Francisco

zoning and planning studies, and Bay Area Core Capacity Transit Study, Plan Bay Area 2050 financial assumptions and funding plans for related projects (Caltrain/CHSRA blended service) and economic studies and forecasts from the City and MTC to support sensitivity testing and scenario planning.

DELIVERABLES

- DTX Demand Forecast for Phasing Study/Business Case for multiple scenarios and for New Starts program initial operating phase
- Ridership forecasts for multiple horizon years
- Transportation system performance assessments, including expected travel conditions on US-101, I-280, and I-80 Bay Bridge
- Long-range planning forecasts that capture future benefits and full lifecycle business case, demand forecasts for eventual connection with the standard-gauge New Transbay Rail Crossing.

4 Procurement Strategy Activities

4.1 Project Phasing Plan
(SCHEDULE ACTIVITIES A2-1550, A2-1650, A2-1700, a2-1800, A2-1900,A2-2000, A2-2100, etc.) (MOU TASK 12)

OBJECTIVE: Prior to advancing design work, prepare a Phasing Plan for the preferred phasing option(s) that conforms with technical studies and policy direction, is consistent with realistic amounts/timing of funding and stakeholder delivery date expectations, and has an explicit goal to deliver rail service to the Salesforce Transit Center as soon as possible.

The output of the Phasing Study will be a set of recommendations to define an initial operating project that meets the requirements for safe and efficient rail operations and is within higher confidence revenue sources. The Phasing Plan must consider planning, funding, operational, and engineering studies to identify an initial operating phase and contract packaging.

ACTIVITY: The Phasing Study will be conducted through a series of workshops, supported by technical studies. Three workshops will be held to (a) set a baseline of project knowledge among the partner agencies' participants, (b) confirm assumptions and constraints and develop evaluation criteria and specific phasing concepts, and (c) present findings and receive stakeholder feedback. As the technical studies proceed, regular discussions will be conducted with the stakeholders to share information, test assumptions, and provide feedback and correction.

Rail program phasing options will be prepared in response to rail service scenarios, funding sources and availability, and stakeholder requirements. Additionally, detailed risk management and assurance plans will be prepared, including ownership, staffing, independent strategic

advisor/independent engineer, and management processes along with a phasing plan for the project. The DTX Comprehensive Workplan will be reviewed to assure compatibility with the Phasing Plan.

A demand vs capacity analysis considering demand growth over time will be prepared with input from the operations and maintenance plans developed under 6.1.0. A side-by-side comparison of service options in terms of benefits (e.g., economic, transportation, development), costs, schedules, operations, and other relevant factors will also be prepared.

Based on the output of the Phasing Study, cost estimating, and the analysis within the approved environmental documents, the TJPA will present a comprehensive business case with quantifiable metrics for transportation system benefits, including travel time improvements, environmental benefits, new transit riders, development opportunities, and other project benefits as measured against regional goals.

OWNER: TJPA

REQUIRED INPUTS: Inputs to the Phasing Study will include operations planning, transportation planning, engineering studies, estimating and scheduling, funding, risk management, consideration of FTA's New Starts evaluation criteria, and stakeholder engagement.

DELIVERABLES: A report detailing the study process, evaluation, and recommendations will be prepared and shared with stakeholders and the TJPA Board of Directors for action. The report will detail analysis and recommendations for phasing and present a comprehensive business case addressing funding, operational adequacy, and operations and maintenance of the initial and future phases of the project. The Risk Management Plan will specifically consider the risk associated with implementation of the Phasing Plan in addition to the full-build out of the project.

4.2 Business Case
(SCHEDULE ACTIVITIES A2-1860, A8-1025; MOU TASK 12C)

OBJECTIVE: Develop a document that recommends a DTX initial operating phase for investment after assessing the costs, benefits, available funding, and risks. The Business Case helps the TJPA Board of Directors understand and evaluate the potential implications, trade-offs, and overall impact of the options.

ACTIVITY: The Business Case will primarily synthesize information developed or contained within various other tasks that are either already completed, e.g., the approved environmental document record of work, or undertaken as part of this work plan. Using the output of the prior work and new work conducted as part of the work plan, the TJPA will write a Business Case that addresses the following topics:

1. Establish project context and history
   a. What is the situation?
   b. Why this project?
   c. Brief project history

2. Document how the project development process was managed (governance and assurance)
   a. Who owns the project?
   b. What is the business case approach?
   c. What are the governance bodies?
   d. What are the roles and responsibilities?
   e. What is the approach to assurance?

3. Establish the rationale for the project, associated objectives, and expected outcomes
   a. How is the service need determined?
   b. Who are the stakeholders and how are they being engaged?
   c. What is the current state?
   d. What are the benefits being sought?

4. Document the project's strategic alignment
   a. What are the policy issues associated with the project?
   b. How will the policy issues be addressed?
   c. Legal issues
   d. Regulatory issues

5. Document the approach to risk
   a. Approach
   b. Framework
   c. Outcomes

6. Present the Base Case for the approved Phase 2 DTX project as described in the FTA Record of Decision
   a. How was the base case determined?
   b. How does the base case perform?

7. Using FTA guidance and the Phasing Study evaluation criteria, define measurements/ variables of costs and benefits of the project (these will be inputs to a cost/benefit analysis)
   a. Goals (i.e., increase public transportation ridership)
   b. Objectives (i.e., increase accessibility, improve passenger experience)
   c. Evaluation criteria (drawing from other work plan tasks)
   d. Evaluation criteria metrics (qualitative and quantitative)

   i. Strive for quantitative performance metrics and monetized values
   ii. Support qualitative metrics with research or other data

8. Identify the phasing concepts and complete analyses
   a. What are the concepts?
   b. How is the analysis performed?
   c. How do the concepts perform against the Phasing Study evaluation criteria, both individually and in any logical combinations?
   d. Complete operations analyses

9. Regional context, e.g., relationship to statewide and regional networks and related sectors, jobs access for the Central Valley, and economic impact
   a. Economically (including regional and national economic impact and distribution of benefits/impacts socio-economically, relationship to development plans/potential value capture, ability to fund the project within reasonably available funding sources)
   b. Financially (total cost of both capital/operating and available revenue)
   c. Managerially and commercially (project delivery capabilities, value for money/delivery options)

10. Document public interest considerations
   a. Our approach
   b. Community and stakeholder engagement
   c. Equity
   d. Safety and security
   e. Evaluate the impacts of the project on society

11. Perform cost/benefit analysis
   a. Align cost/benefit approach with FTA requirements
   b. Analyze through a triple bottom line method (financial, social, and environmental)
   c. Costs and benefits should be calculated over the asset's life and include O&M scope
   d. Using the final Phasing Plan as a basis, distribute cost/benefits over time
   e. Review costs and benefits holistically (businesses by economic sector, households, and individuals by income, fiscal impacts)
   f. Costs: total direct public costs (fixed and variable), total indirect public costs, total risk costs
   g. Benefits: direct public sector benefits, indirect public sector benefits, wider benefits to the region
   h. Sensitivity and scenario analysis

12. Financial and commercial analysis

13. Industry Sounding process and outcomes
    a. What was the process?
    b. What was the feedback?
    c. How was the feedback integrated into project development?

14. Analysis or discussion of delivery options
    a. What delivery options are being investigated?
    b. Which one(s) make the most sense for the project?
    c. How do they perform against each other?
    d. How do they compare with standard government-led traditional design-bid-build delivery?
    e. Is there a recommended option?

15. Implementation plan for the next step in development
    a. Path forward
    b. Approvals needed
    c. Schedule
    d. Budget
    e. Governance
    f. Procurement strategy
    g. Benefits realization

16. Conclusions
    a. Recommendations and next steps

OWNER: TJPA

REQUIRED INPUTS: 2018 SEIS/EIR, Caltrain and CHSRA business plans, Phasing Study, Public Outreach and Rebranding Plans, transit operating plans, financial plan, technical studies, ridership forecast, and project risk register.

DELIVERABLES: Consolidate information into a Business Case summary document with all analyses as appendices.

4.3 Project Delivery Strategy

4.3.1 Industry Outreach (Schedule Activity Nos. A2-2150, A2-2450, A2-4200, A2-4500, A10-1100, etc.) (MOU Task 15)

OBJECTIVE: The objective of the industry outreach is to inform strategy and future decision-making on Phase 2 of the Transbay Program relative to the following:

- Construction concept feasibility
- Project delivery, including contract packaging and procurement methods
- Procurement process, including pre-qualification experience requirements, expected technical proposal duration, stipend expectations, selection criteria, and alternative technical concepts
- Optimum degree of design completion for various project elements—tunnels, systems, station architectural and fit out, for "alternative" delivery methods
- Contractual terms and conditions that unfairly apportion risk and increase bid contingency

ACTIVITY: Input will be solicited from qualified construction contractors experienced in alternative delivery methods, transit and underground construction, and public private partnerships through structured industry review. This work will comprise developing an RFI and project presentation and holding individual interviews with interested contractors to discuss construction method feasibility, contract packaging, procurement methods, and contractual risk sharing mechanisms that can result in lower bid contingencies. Contractor feedback will again be used to inform qualitative project delivery studies and support the project delivery method recommendations.

OWNER: TJPA

REQUIRED INPUTS: Outreach will be conducted in at least two phases, during the Phasing Study and approximately midway through preliminary design. Inputs for the initial outreach session will include a general project description, alternative tunnel construction methodologies under consideration, construction packaging options, and delivery methods options. The second round of meetings will require additional discussion on those topics as well as risk sharing, selection process concepts, performance incentives, and terms and conditions. Considering information developed from Task 4.2.2 regarding the potential for public-private partnership (P3), commercial/transaction advisor participation may also be solicited for the second round of industry outreach.

DELIVERABLES: Draft and final reports detailing the discussions, contractor input, and recommendations for project delivery methodology including delivery method, contract packaging, risk sharing, procurement approaches and scheduling.

4.3.2 Project Delivery and Contracting Strategy (Schedule Activity Nos. A2-2600, A2-3450, A2-3500) (MOU Task 16)

OBJECTIVE: Develop a project delivery and contracting strategy that meets the requirements of the MOU and reflects the results of the deliverables produced across Task 1 through Task 15. In order to provide overall best value, the optimal project delivery strategy will reflect the needs of cost, schedule, quality, safety, and community values. Project delivery options will be evaluated considering risk-adjusted financial analysis, input from industry outreach, and other factors as described below.

OWNER: TJPA and SFCTA

ACTIVITY: Design and incorporate a gated process into the plan to support a structured and transparent methodology for selecting the best project delivery and contracting strategy.

Prepare a presentation and training material of available project delivery strategies and their associated benefits and risks. Inclusive of possible failure points.

Support market sounding activities with possible private sector partners (as part of Task 15: Industry Outreach (Market Sounding)). As a Task 16 co-lead, SFCTA will contribute heavily to Task 15. Gain direct external input on technical, financial, and operational interfaces and risk drivers.

Evaluate expertise and capacity of partner agencies and associated stakeholders across the different project delivery strategies. Perform a competencies gap analysis and assess possible impact to risk register and project delivery strategy selection.

Evaluate strategies across multiple qualitative and quantitative criteria related to costs and funding, risk and project controls, and project delivery and long-term maintenance with a focus on an optimized “value for money.” The strategies will consider design-bid-build, design-build, design-build-maintain, and design-build- finance-maintain, among others

Update the Risk and Contingency Management Plan, in accordance with FTA guidelines, assist the TJPA in establishing a risk management committee, manage the risk process, and update the risk-based integrated cost and schedule model. Risk analysis workshops will be organized and facilitated by a risk manager and a follow-up mitigations workshop will be held in conjunction with FTA and stakeholders. A risk register will be updated and maintained in conjunction with stakeholders. Risk simulation modeling will be undertaken in enough detail to sufficiently develop project risk-based contingency. All work will be summarized in a risk assessment report. The plan will describe the quantitative risk management process, including:

- Periodic risk management workshops and follow-up mitigations developed in conjunction with FTA and other stakeholders
- Risk simulation modeling

- Risk register
- Risk mitigation plans and monitoring
- Quarterly reporting

Develop a strategic implementation road map across the below workstreams:

- Commercial structure tailored to:
  - Existing policies and predefined goals
  - Project specifics such as technical characteristics
  - Market's ability and capacity to manage the risk allocated to the private sector
  - Goal of tapping into a broad cross-section of market investors and developers thus creating competition and value creation
- Technical requirements
  - Program, performance specifications, payment mechanisms (if required) and design guidelines that align with the project's goals and policies
- Legal requirements
  - Review P3 execution authority
- Financial structure
  - Reinforces risk allocation and commercial structure
  - Reflects an efficient risk transfer and pricing
  - Contracts and Project Management
  - Focuses on transparency and proactive stakeholder communication
  - Leverage the capacities of the participating agencies

Scope pre-procurement engineering and early works contracts tailored to the delivery options: (as an input to Task 20)

- Request for Qualifications plans
- Request for Proposals plans
- Proposal evaluation and selection plans
- Procurement schedule
- Staffing requirements
- Budget requirements

DELIVERABLES:

Contract Packaging Strategy: A contract packaging strategy including project phasing will be prepared in consultation with the design teams and contractors, taking into consideration the output from the Industry Outreach task (4.2.1). The contract packaging strategy will be used to inform recommendations for project delivery. The legal framework and issues for delivery options, procurement, and development of contracts will be developed.

Project Delivery Method: A 2016 preliminary study examined alternative delivery options for the DTX, including whether public-private options were viable, given current funding, maintenance, and operations requirements. Delivery options included construction manager at-risk, design-build-finance, design-build-finance-maintain, and other forms of public-private-partnerships. The study was presented to the TJPA Board in 2016 with the intention that further study would be necessary. An updated report will specifically address the DTX subprojects and facilities.

Procurement and Contracting Plan: A procurement and contracting plan will present analysis and recommendations for

- Request for Qualifications
- Request for Proposals
- Proposal evaluation and selection plans
- Procurement schedule
- Staffing requirements
- Budget requirements

5 Design Development

5.1 Design Development and Technical Studies
(SCHEDULE ACTIVITY TBD - GEC TO PREPARE DETAILED SCHEDULE) (MOU TASK 11)

OBJECTIVE: The DTX project was environmentally cleared in 2004, and 30 percent engineering design on the alignment was completed in 2010. The scope and configuration of the project have since been modified to address new requirements and inputs from stakeholders, including the rail operators Caltrain and CHSRA, the City, and MTC. These new requirements and inputs were evaluated in a supplemental environmental analysis of Phase 2 completed in 2018 (SEIS/EIR) and approved by the FTA in July 2019.

The objective of the technical studies is to update the prior design work in concert with the Phasing Plan as approved by the TJPA Board and other project definition changes since 2010. A detailed scope of work will be developed with the general engineering consultant (GEC) upon

their selection and Notice to Proceed, anticipated in November 2020. The scope will be developed such that the results of the Phasing Study, when approved by the TJPA Board, will be reflected.

OWNER: TJPA

REQUIRED INPUTS: Described within the body of each subsection.

Figure 1 shows the environmentally cleared Phase 2 subprojects and facilities. The results of the Phasing Plan, as approved by the TJPA Board, will further define the specific scope of design services.

Further engineering development will be required to support reasonable cost estimating, budgeting, scheduling, and development of recommendations for project sequencing and delivery methods.

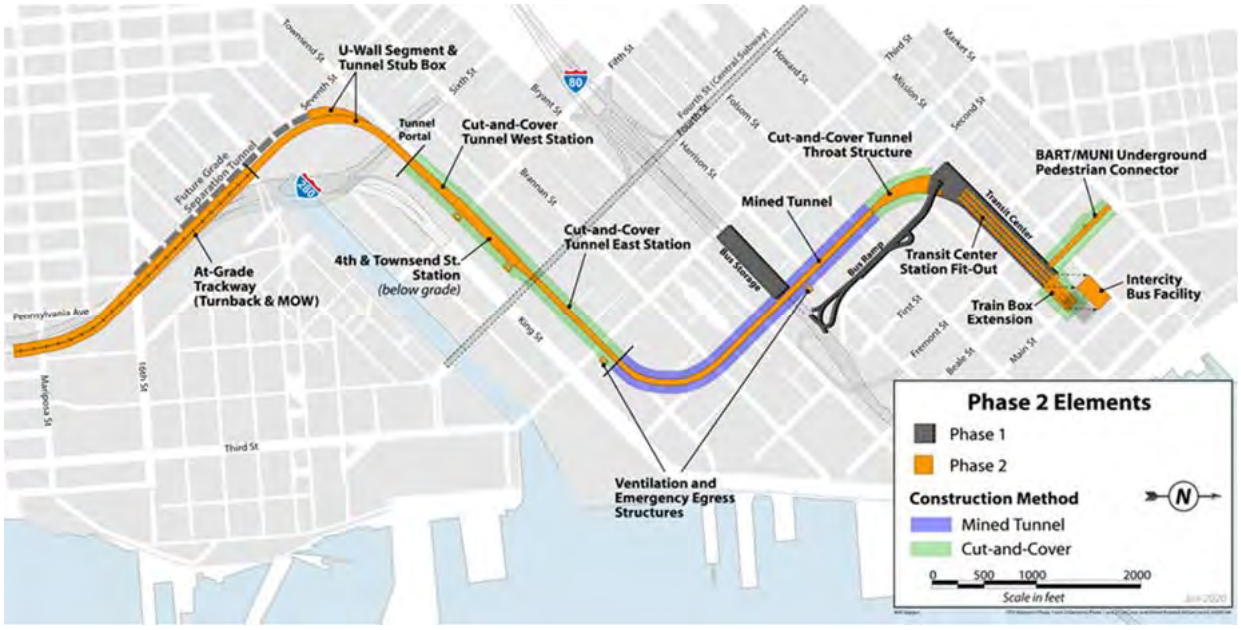


Figure 1. Environmentally Cleared Phase 2

Table 1 summarizes the level of engineering previously completed. The table is followed by a discussion of each Phase 2 element and related technical studies, and specific recommendations.

Table 1. Current Level of Design and Engineering for Phase 2

Project Element	Current level of design completion
Tunnels/Structures	
U-Wall/Tunnel Stub	10%
Cut-and-cover on Townsend Street – west of Fourth & Townsend Street Station	10%
Cut-and-cover on Townsend Street – east of Fourth & Townsend Street Station	10%
Mined Tunnel	
SEM concept	30%
TBM+SEM concept	5%
Throat structure	
Mining under Howard concept	5%
cut-and-cover concept	15%
Spaceproofing for tunnels and station layout	
Ventilation and emergency egress structures	10%
Track	
At-grade (turnback track and maintenance-of-way track)	15%
Direct fixation	15%
Special (switches, turnouts)	15%
Vibration and noise dampening	15%
Alignment (horizontal and vertical)	15%
Systems	
Tunnel and station ventilation and fire-life safety	5%
Tunnel MEP	5%
Train control & signals	0%
Central train operations control	0%
Communications	0%
Traction power distribution – overhead catenary system	0%
Power supply	0%
Train operation	15%
SCADA	0%

Project Element	Current level of design completion
Sitework & Utilities	
Surface restoration, pavement, sidewalk, etc., 2nd Street and Townsend Street	10%
Fourth and King Surface Station	0%
Utility relocation/support	0%
Utility survey	10%
Survey	5%
Adjoining buildings condition survey	5%
Fourth & Townsend Street Station	
Structural system	5%
MEP	0%
Finishes and headhouses	0%
Landscaping	0%
Transit Center	
Transit center station fit-out *	65%
Transit center train box extension *	65%
Intercity Bus Facility *	15%
BART/Muni Pedestrian Connector	10%
Right-of-Way	
Real estate acquisition	15%
Real estate survey	5%
Professional Services	
Geotechnical investigation	75%
Geotechnical Baseline Report	0%
Basis of Design	50%
Specifications/performance specs	0%
Support of excavation	0%
Construction staging and planning	5%
Maintenance of traffic	10%
Approvals and permits	0%
Stakeholders coordination	10%
O&M	5%

* Assumes design-bid-build procurement for these facilities. While design will begin during Project Development, it will extend into the Engineering phase.

ACTIVITY: Project Elements for Design Development

U-Wall, Tunnel Stub Box, and Cut-and-Cover on Townsend Street

The U-wall was brought to a 30 percent design level in 2010; however, the design must be integrated with the new tunnel stub box, which will extend beneath and adjacent to the U-wall. The tunnel stub will facilitate a connection to a future grade separation tunnel with reduced disruption to rail operations. Likewise, the cut-and-cover structures on Townsend Street were brought to a 30 percent design level in 2010; however, due to the shifted location of the Fourth and Townsend Street Station, the design must be updated to adjust the alignment and accommodate the new trackwork design. Cut-and-cover work west of the station will remain the same regardless of the construction method selected for the mined tunnel; however, the length of cut-and-cover construction east of the station varies based on construction method for the mined tunnel. As the costs will not vary greatly between the adjusted alignment and the 2010 design for the baseline mined tunnel design, the design will be updated based upon the Tunnel Options Study design.

The design effort will include structural analysis, some additional geotechnical investigation and laboratory work, a review of adjacent structures within the zone of influence of the excavation, and an assessment of how the tracks could shift from use of the U-wall to a future grade separation tunnel through the tunnel stub box. This work will require in-depth coordination with the Operators, SFCTA and their consultants hired to develop the environmental work and conceptual engineering design of the future Pennsylvania Avenue Extension tunnel.

Fourth and Townsend Street Station

The design of the Fourth and Townsend station was at 30 percent in 2010 but has been modified to be fully in the public right-of-way on Townsend Street, in response to requests from the City and Caltrain. Therefore, further additional engineering is required.

The train platform level currently includes a center-island platform with one additional passing track on the south side. A rail operations study to validate the current three-track alignment was completed in 2017, peer reviewed by the SFCTA, and accepted by SFCTA, CHSRA, and Caltrain (refer to Appendix C.vi). Following their review, the SFCTA recommended reviewing the opportunity to add a third platform face for the passing track. This design work will include structural analyses—including an assessment of impacts on adjacent structures, architectural, passenger movement, ventilation, landscaping, and rail operations analyses. The work will require coordination with the rail operators and City regarding fire-life safety issues, surface impacts and the reinstatement of the road and sidewalks, as well as coordination with all City permitting agencies. This design work will establish the footprint of the station, allowing for the identification of any new impacts to existing facilities, properties, and utilities, which will in turn allow for the development of mitigations and a sounder cost estimate.

The Phasing Plan may recommend an alternative solution to the three-track alignment, which could modify the scope above.

Mined Tunnel

The baseline design of the mined tunnel using soft ground tunneling sequential excavation method (SEM) techniques was brought to a 30 percent design level in 2010. A tunnel options study completed in 2018 included an alternate design concept using twin tunnel boring machines with SEM between the bores; this concept is at a feasibility level of design. Should the three-track alignment be retained, the mined tunnel design will be brought to a design level consistent to the recommendations of the project delivery strategy activities. This effort will focus on the Tunnel Options Study design, as the baseline SEM design remains largely unchanged from the 30 percent design completed in 2010. This design work will include confirmation of the vehicle clearance envelope and other space requirements for MEP systems, ventilation modeling, settlement analyses, and an analysis of potential impacts to surface structures. Coordination will be necessary with the rail operators on the clearance envelopes and with the agencies within the City on fire-life safety issues.

Ventilation and Emergency Egress Structures

In 2010, the ventilation structure design was at the 30 percent design level. Additional design work will be needed to address the height of the ventilation structure discharges, which was highlighted by a comprehensive risk and vulnerability assessment completed in 2012. The design will include structural, architectural, exiting, and ventilation analyses. Additionally, right-of-way/real estate needs will be finalized. Coordination will be necessary with permitting agencies within the City and the authority having jurisdiction for ventilation and fire-life safety aspects. Additional coordinate will be required with the Parcel F development and design team in consideration of proposed changes to the Transit Center's west vent structures.

Throat Structure

The design of the throat structure was at the 30 percent design level in 2010. Subsequently, the CHSRA provided updated design criteria that required a widened structure; the baseline design of the widened throat structure is currently at the 10 percent design level with recommended cut-and-cover construction.

The Tunnel Options Study examined multiple tunneling options for the throat, and recommended examining tunneling under Howard Street, with the balance of the throat being constructed using cut-and-cover construction, due to cost and schedule impacts. The mined tunnel design is currently at a feasibility level of design. While both recommendations may increase the cost of the construction, other considerations may drive acceptance of the recommendations, including fewer impacts on adjoining structures, utilities and traffic. For both construction methods (cut-and-cover or mined tunnel), additional structural, geotechnical, and tunneling design work should be performed to minimize the risk profile for this aspect of the project. Additional track layout analysis will be performed to determine if right-of-way takes or easements can be reduced or eliminated.

Transit Center Train Box Extension

The train box extension was intended to extend the existing below-grade structural box of the transit center east to Main Street using cut-and-cover construction such that the station could accommodate a full double high-speed trainset, a CHSRA requirement at the time. The design

was brought beyond 65 percent; however, subsequent to the Phase 2 SEIS/EIR in 2018, the CHSRA has advised the TJPA that they no longer need the extension and will accept a design solution that allows a portion of a double high-speed trainset to remain in the throat so long as no crossovers are affected This will allow the train box extension to be reduced in length, but may not be able to be fully eliminated, due to ventilation and exiting needs. The ventilation and exiting needs will be evaluated as part of the Phasing Study to determine whether an alternate location can be found or, failing that, minimize the extension as much as possible. The TJPA has determined that reducing the train box extension is feasible.

The redesign of the train box extension will be progressed during Project Development. This design work will include structural, geotechnical, architectural, and ventilation analyses work as well as an assessment of potential impacts to adjacent structures. Coordination will be needed with adjacent property owners, the rail operators, and permitting agencies within the City as well as the authority having jurisdiction.

Transit Center Station Fit-out

In 2011, the transit center fit-out design was brought beyond 65 percent. The design requires an update to incorporate changes to the below-grade transit center from a reduced train box extension and updated programmatic and operational requirements by CHSRA and Caltrain, once they are available. The design will include architectural, structural, and MEP work, including an updated ventilation analysis. Coordination will be needed with the rail operators as well as all permitting agencies within the City and the authority having jurisdiction. The TJPA's, Caltrain's and CHSRA's detailed programmatic and operational requirements will need to be fully accommodated.

Intercity Bus Facility

The IBF is a new subproject, currently at a 30 percent level of design. It needs to be coordinated with the transit center train box extension, and so will need some redesign. The design will include architectural, structural, geotechnical, MEP, landscaping, surface civil work, and bus operations analyses. Coordination will be necessary with the bus operators, and many permitting agencies within the City. During the Phasing Study the need for this subproject will be re-evaluated.

Fourth and King Surface Station

At the outset of the Program, it was anticipated that the TJPA would provide an allowance to Caltrain to modify and reconfigure platform areas of the existing Caltrain Fourth and King Street Station and yard area affected by the DTX construction. Caltrain is developing its business plan, which will define infrastructure improvements at the station to support future operations planning. It is anticipated that Caltrain will perform the design work for these surface station and railyard modifications.

BART/Muni Pedestrian Connector

The design of the BART/Muni pedestrian connector is currently at the conceptual level. The schedule for its construction must be coordinated with planned enhancements to the BART/Muni Embarcadero Station. An agreement must also be reached between BART, San

Francisco Municipal Transportation Agency (SFMTA), and the TJPA regarding operation and maintenance responsibilities for the connector under normal and incident conditions. Design will include structural, geotechnical, architectural, pedestrian modeling, MEP, and ventilation modeling. Ongoing coordination with the City, including SFMTA and the San Francisco Fire Department, is required.

Systems

Fire-life safety systems will be brought to a design level with sufficient detail to achieve concept acceptance from key stakeholders including the San Francisco Fire Department, the authority having jurisdiction. Other systems, including traction power and overhead catenary systems, signaling and train control, and communications will require additional design. Requirements for rail systems (traction power and overhead catenary systems, signaling, and train control) communications should be consistent with those for the ongoing Caltrain Electrification Project. Coordination is required with the rail operators for all rail systems and trackwork design. Other systems will require coordination with City permitting agencies and authorities having jurisdiction.

Trackwork

The designs for trackwork, overhead catenary systems, and ventilation systems were prepared to a 30 percent design level in 2010. The trackwork configuration was most recently updated in 2018. However, the Tunnel Options Study examined an opportunity to lower the tunnel profile to mitigate construction risk, which will require an update to the trackwork design in coordination with the rail operators. We recommend bringing the trackwork to a minimum 30 percent design level to ensure critical operations, life-safety, and right-of-way needs are properly accounted for. Coordination and approval is required with the rail operators for the trackwork design.

Utility Relocation

The utility relocation design was at the 30 percent design level in 2010. In 2018, notices of intent were issued to public and private utility operators. Updated utility plans received from the utility operators will be incorporated into a 30 percent design level submittal, which can then be advanced to a 100 percent design level and bid documents for one or more advance contract packages should design-bid-build be selected as the delivery model for utilities. This work will include a review of existing utilities and proposed utility relocations. Coordination will be needed with all affected public and private utilities as well as the City.

Building Demolition

The Department of Building Inspection has provided over 140 as-built plans for existing buildings along the alignment in support of engineering studies and evaluations. Select building demolition will be required at the locations of ventilation structures and within the throat area, as identified within the SEIS/EIR. Advance utility relocation and building demolition, should, if possible, be timed with real estate acquisition. A haz-mat investigation of buildings to be demolished will be required, and mitigation plans developed.

Cost Estimate & Schedule

The DTX cost estimate was updated in 2016. DTX project components are organized under four main projects, each with at least one subproject and multiple facilities. The updated estimate included all components and incorporated MTC's recommendations. For components that were not at the 30 percent design level, either their 2010 engineering estimates or rough-order-of-magnitude costs were used to update the labor/materials to current market rates. Additionally, MTC recommended increasing the escalation rate to 5 percent.

During the Phasing Study, cost impacts of the phasing concepts will be developed based on the 2016 cost estimate, escalated to an agreed-upon midpoint of construction, as proposed by the IPMT and approved by the ESC and TJPA.

Once engineering on the project components are advanced, the comprehensive project cost estimate will be prepared, consistent with FTA New Starts guidance, and a revised baseline budget with an appropriate level of contingency, based upon the level of design, the output of the risk assessment, and prudent contingency management planning, will be brought to the board for approval.

The construction schedule will be updated after a construction methodology and procurement method for the mined tunnel and throat structure is selected.

The design schedule will be updated as soon as work resumes, with additional updates to include required project meetings and an updated schedule for third-party agreements based on the updated meeting schedule.

6 Programmatic Documents and Federal New Starts Requirements

6.1 New Starts Project Development Phase Requirements (TJPA) (MOU TASK 14)

OBJECTIVE: Entry into Project Development initiates an 18- to 24-month period during which the project will be advanced to meet the FTA's requirements for entry into the subsequent phase, Engineering. By the end of the Project Development phase, a cost estimate that addresses key items within the project's work breakdown structure must be developed and at least 30 percent of the non-CIG funding must be committed.

The TJPA will engage with the FTA to develop a road map to the Full Funding Grant Agreement. With respect to Project Development, FTA's June 2016 Interim Policy Guidance contains a bulleted list of required activities that must be completed during Project Development; the guidance states, in part:

> FTA requires that, at a minimum, the design and engineering work described in the bulleted list (equivalent to a 30 percent design level) be completed during PD. However, FTA encourages project sponsors to complete as much engineering and design work on the locally preferred alternative as needed to feel comfortable with the reliability of the project cost, scope, and schedule because FTA intends to lock in the CIG amount at the level requested with entry into Engineering.

Subsequent to the 18–24-month maximum Project Development phase, the FTA New Starts process contemplates a Request to Enter Engineering. The Request to Enter Engineering comprises a request letter and the following support documents, developed during the Project Development phase:

- New Starts templates used for developing the evaluation criteria and ratings
- 20-year financial plan, including supporting documentation demonstrating at least 30 percent of the non-CIG funding is committed
- Cost estimate provided using the Standard Cost Category worksheets
- Project Management Plan and subplans
- Integrated project schedule
- Documentation of project definition and scope
- Contracting plans and documents
- Project delivery method identified and reflected throughout the other required products
- Identification of third-party agreements with schedule for completion
- A preliminary geotechnical report
- A draft value engineering report
- Preliminary safety hazard analysis a preliminary threat and vulnerability analysis as well as initial safety and security design criteria
- The draft constructability review report
- Draft “before and after” study data collection plan

FTA will evaluate and rate the project, which must achieve at least a Medium rating to be approved to enter the Engineering phase. As also noted, with this approval, FTA will lock in the dollar amount of CIG funding.

During the Engineering phase, the project design is advanced in accordance with the procurement method determined by the project sponsor, e.g., design-build or design-bid-build. FTA requires that at least 50 percent of the non-CIG funding be committed within three years of advancement into Engineering and prior to submittal of the Full Funding Grant Agreement (FFGA) request.

To complete the Engineering phase, project sponsors must complete sufficient engineering and design to develop a firm and reliable cost, scope, and schedule for the project, obtain all non-CIG funding commitments, complete all critical third-party agreements, and meet other FTA readiness requirements related to technical capacity, staffing, and oversight to be eligible for a construction grant agreement.

The TJPA will work with the FTA and the other project partners through a multistep, multiyear process to deliver the project. The FTA's review checklist for readiness to execute the FFGA requires the submittal of specific management plans. After appropriate approval by the project delivery team, all required plans must be shared and approved by the FTA as the project finalizes the FFGA and initiates construction.

6.1.1 Real Estate Acquisition Plan and Real Estate Acquisition (SCHEDULE ACTIVITY A2-1250, etc.) (MOU TASK 11e)

OBJECTIVE: A Real Estate Acquisition Plan was completed in 2005. Between 2008 and 2014, fifteen parcels were acquired to preserve right-of-way for the DTX. Since then, the real estate estimate has been updated (2017), and during the supplemental environmental process, the designers determined that underpinning could be used to support three historic buildings along the alignment that previously had been slated for partial demolition and rebuilding. The plan will be reviewed, validated, and updated to current project requirements.

OWNER: TJPA

ACTIVITY: Work associated with an updated plan includes:

- Re-assessing right-of-way acquisition needs to validate prior assumptions, considering both the Phasing Plan and full build-out scenarios
- Evaluating all affected properties to determine what engineering solutions are available to preserve as much of the buildings as possible
- Updating the 2017 real estate estimate by estimating the right-of-way costs based on market rates of the buildings/portions of the buildings, potential for occupancy during construction, and the cost of construction of the engineering solutions

REQUIRED INPUTS: Based upon the Phasing Plan, design progress, construction scheduling, and laydown requirements, property will be identified for acquisition, right of entry, and temporary or permanent easement.

DELIVERABLES: Subsequent to approval of the Phasing Plan, real estate acquisition will resume with a focus on the following activities:

- Appraisals: Three appraisers (two appraisers and a reviewer) will be engaged concurrently with the TJPA's issuance of notices-of-intent to property owners. Once properties have been appraised and the appraisals reviewed, the TJPA will select an appraisal to send to FTA for concurrence.

- Acquisitions: The TJPA will make offers to property owners and negotiate the purchases. Cost justifications will be submitted to the FTA, if necessary. Condemnations/orders of possession will then be issued.
- Relocations: The TJPA will engage a relocation consultant to undertake a relocation impact study and draft a relocation assistance program. The public will be provided the opportunity to comment on the relocation impact study and relocation assistance program, which will be administered by the consultant and TJPA.

6.1.2 Configuration Management Plan (SCHEDULE ACTIVITY A2-1505 - A2-1530) (MOU TASK 14)

OBJECTIVE: The supplemental environmental document for the DTX completed in late 2018 established its baseline configuration. A Configuration Management Plan will be developed during Project Development to document the baseline configuration in accordance with the Phasing Plan and the processes for ensuring that the baseline configuration is not changed without a systematic review of the changes to the design and the impact that design changes may have on all other aspects of the project.

ACTIVITY: The Configuration Management Plan will address how changes are handled during the design and construction phases, interface management, O&M interfaces, and procurement and bid documents. Lessons learned from the Phase 1 process will be incorporated into a refined design change process for Phase 2. A Configuration Management Board will be established to review and authorize all proposed project changes during both the engineering and construction phases.

OWNER: TJPA

REQUIRED INPUTS: Design documents, O&M plans, contract documents, change control procedures

DELIVERABLES: A management plan that defines roles and responsibilities, procedures, actions, and oversight required to control and document any changes to the approved baseline.

6.1.3 Third Party Agreements Plan and Agreements and Stakeholder Management (SCHEDULE ACTIVITY A2-2900) (MOU TASK 14)

OBJECTIVE: The third-party agreement plan will address:

- New agreements with the operators Caltrain and CHSRA regarding design oversight, project funding, implementation, and operations and maintenance
- Agreements with utility companies and government agencies for utility relocation, traffic management, construction permitting (including the street vacation process and easements), environmental permits (including completion of archeological resources

design/treatment plans and reports, mitigation monitoring, and building surveys, fire-life-safety approvals, among others)

- Whether the existing agreements with the State and various City agencies and departments for various services executed for Phase 1 of the Program can be amended or whether new agreements are required

For impacted third-party facilities, these agreements will establish the framework for the implementation of work during construction including which entity will perform the required third-party facility work, how the work will be paid for, and how the design and construction work will be phased, in accordance with the approved project plan.

OWNER: TJPA

REQUIRED INPUTS: Coordination and in some cases agreements with the following entities will be required to progress the DTX:

Bicycle Advisory Committee
California Department of Transportation
California Public Utilities Commission
Caltrain/PCJPB
CHSRA
Federal Railroad Administration
FTA
MTC
Port of San Francisco
Private Utility Companies (AT&T, Sprint, etc.)
SF Arts Commission
SF City Attorney
SFCTA
SF Department of Building Inspection
SF Department of Emergency Management
SF Department of Technology
SF Fire Department
SF Flood Plain Management Program
SF Mayor's Office on Disability
SFMTA
SF Office of Community Investment and Infrastructure
SF Office of Resilience and Recovery
SF Planning Department
SF Public Utilities Commission
SF Public Works
SF Real Estate Division
SF Relocations Appeals Board
State Historic Preservation Office

DELIVERABLE: The plan will include a matrix showing the status of all existing third-party agreements as well as all stakeholders in the Program, both direct and indirect. The plan will include a matrix of required permits and the timeline necessary for each to be in place.

The FTA will require some agreements to be in place prior to the TJPA's requesting the FFGA; for others, a clear strategy leading to a signed agreement will be needed to ensure that issues are identified and resolved, to avoid delays to implementation of the project.

The plan will summarize existing stakeholder plans and studies that require coordination (including but not limited to the Caltrain and CHSRA business plans and the California State Rail Plan).

Additional stakeholder management will include coordination with ongoing oversight and management, maintaining clear records of stakeholder engagement, managing key initiatives to address issues, and tracking accountability for all stakeholder engagement processes. Coordination with adjacent developments and projects will also be necessary including the Pennsylvania Avenue Extension, the 22nd Street Station Study, the Fourth and King Railyard, and the New Transbay Rail Crossing studies.

This work will have to be closely coordinated with the public and stakeholder outreach and communications activities discussed in 1.2, Public Outreach Plan.

6.1.4 Archaeological and Environmental Reports (SCHEDULE ACTIVITY A6-1050, etc.) (MOU TASK 11)

OBJECTIVE: Compliance with Section 106 requirements and state/local ordinances. Section 106 of the National Historic Preservation Act requires federal agencies to seek out consulting parties to request their views and participate in consultation regarding a project's effect on historic properties. The goal of the consultation is to identify historic properties potentially affected by the project, assess its effects, and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. Historic properties include any prehistoric or historic district, site, building, structure, or object considered eligible for listing on the National Register of Historic Places. Section 106 requires that the Advisory Council on Historic Preservation have an opportunity to comment on the project. The TJPA, as the project sponsor, would conduct this work on behalf of FTA.

OWNER: TJPA

ACTIVITY: A detailed scope of work will be developed with the historic preservation and archeological resources consultant. In addition to regularly updated mitigation monitoring reports, treatment plans must be prepared for Howard Square and for Second and Townsend streets prior to archaeological excavations and investigations in these areas and followed by technical reports documenting the results of the investigations. A Historic American Buildings Survey/Historic American Engineering Record report will need to be prepared for 191 Second Street and 580 Howard Street. These efforts will require extensive coordination with the FTA and the State Historic Preservation Office as well as local authorities having jurisdiction and, when warranted, with property owners.

REQUIRED INPUTS: Design plans, construction laydown plans, historic and archeological records and research.

DELIVERABLES: To be developed by the historic preservation and archeological resources consultant.

6.1.5 Program Management Plan (SCHEDULE ACTIVITY A2-2850) (MOU TASK B14)

OBJECTIVE: Compliance with FTA requirement for New Starts and approval by the FTA's project management oversight consultant (PMOC).

ACTIVITY: Management practices and procedures for the Transbay Program are documented in the Transbay Program Management Plan (PMP). The PMP was most recently updated in January 2017, reviewed and accepted by the FTA, and implemented with oversight by the FTA's PMOC. The PMP will be reviewed and updated to focus on the delivery of the DTX rail program.

OWNER: TJPA

REQUIRED INPUTS: Approved policies, practices, and procedures related to the staffing, management, design, and construction of the project.

DELIVERABLES: An FTA-approved PMP suitable for controlling the project's cost, schedule, and quality.

6.1.6 Quality Management Plan (SCHEDULE ACTIVITY A2-2650) MOU TASK 11)

OBJECTIVE: The TJPA has an established quality policy and Quality Management System (QMS) that are based on the FTA's Quality Management System Guidelines.

ACTIVITY: Under the Program QMS, each organization providing management, design, construction, consulting, or other services to the Program was required to develop, adopt, and implement a quality plan appropriate to the service being provided that defined the administrative and control measures to achieve the quality requirements of the QMS. The Program QMS will be reviewed for compliance with the FTA's most current guidelines and updated accordingly for the DTX.
OWNER: TJPA

REQUIRED INPUTS: FTA Quality Management System Guidelines, PMPC Quality Plan, GEC Quality Plan

DELIVERABLES: An FTA-approved Program QMS covering all elements of the project, updated and amended regularly, consistent with project development.

6.1.7 Safety and Security Management Plan (SCHEDULE ACTIVITY NO. A2-3250) (MOU TASK 14)

OBJECTIVE: Following FTA guidelines, this work will analyze known hazards and vulnerabilities, categorize them as to their potential severity and probability of occurrence, and develop an approach to address them.

ACTIVITY: The SSMP will focus on the rail program, the safety management organization, and how safety and security activities will be managed. Subplans to the SSMP will include a Preliminary Hazard Analysis and a Threat and Vulnerability Assessment.

OWNER: TJPA

DELIVERABLE: An approved SSMP

6.1.8 Operations and Maintenance Plan (SCHEDULE ACTIVITY A2-2550, A2-3150, A2-3550) (MOU TASK 17)

OBJECTIVE: The Operations and Maintenance (O&M) Plan must address the institutional responsibilities for and among the various users and stakeholders throughout the Region. As required by the MOU and the FTA New Starts program, a 20-year financial plan must be developed and agreement secured with stakeholders through the execution of O&M agreements. Agreements for operations and maintenance must be developed and executed.

ACTIVITY: The O&M Plan will identify the ownership and governance of all project elements during construction and operations and maintenance. A comprehensive maintenance plan identifying users' responsibilities is required in order to provide and safe and clean environment and to assure a constant state of good repair.

Agreements between, at a minimum, the TJPA, Caltrain, and CHSRA governing the parties' responsibilities and authorities will be drafted, negotiated, and approved by the parties' respective governing boards.

OWNER: TJPA

REQUIRED INPUTS: Operator business plans; identification of all facility users; federal, state, and local funding sources; and design plans. Coordination with the tasks discussed in 7.1, Governance Structure, and 2.1, Funding Plan, will be required.

DELIVERABLES: A multi-agency approved O&M plan that clearly defines roles and responsibilities, project elements, ownership during construction and operations, decision-making, dispute resolution, funding responsibilities in support of a 20-year financial plan, and multi-user governance. Agreements between the stakeholders to implement the various elements of the Plan will be drafted, negotiated, and executed.

6.1.9 Threat and Vulnerability Assessment (SCHEDULE ACTIVITY A2-2750) (MOU TASK 11)

OBJECTIVE: Conduct a rigorous assessment of security threats and develop mitigation strategies considering avoidance in the design process and elimination or mitigation during operations.

ACTIVITY: The Threat and Vulnerability Assessment will update the DTX portions of the Program's comprehensive risk and vulnerability assessment and design guidance criteria, which were completed in 2012. The criteria will be used as an input to the Basis of Design Report. The assessment will be updated early in the design development process in order to provide clear guidance to the design team, thus avoiding design approaches that are incompatible with security requirements.

OWNER: TJPA

REQUIRED INPUTS: 2012 Risk and Vulnerability Assessment, Project Phasing Plan and ultimate build-out design assumptions, rail operators' business plans, and FTA technical guidance.
DELIVERABLES: Update the 2021 approved TVA to current standards and project description

6.1.10 Basis of Design Report (SCHEDULE ACTIVITY A2-3300) (MOU TASK 11)

OBJECTIVE: This report will summarize and describe the objectives, status, key decisions made, and outstanding key issues of design to date and provide the designer with a basis to advance the design to the required level of completion for the selected method of construction.

ACTIVITY: The report is a living document and will be revised at each major step of the design to reflect the intended function and configuration of the project, as well the criteria, codes, and standards to be used in its design.

OWNER: TJPA

REQUIRED INPUTS: The Basis of Design Report will be derived from the DTX Design Criteria, which was last updated and issued in 2009, with inputs from the Preliminary Hazard Analysis, Threat and Vulnerability Assessment, and the ridership study.

DELIVERABLES: An updated Basis of Design Report, updated at each design milestone.

6.1.11 Geotechnical Baseline Report (SCHEDULE ACTIVITY A7-0950) (MOU TASK 14)

OBJECTIVE: A Geotechnical Baseline Report will be needed not only to satisfy the FTA's Project Development requirements but also later for contract bidding, regardless of procurement type during the Engineering phase.

ACTIVITY: A geotechnical data report and a geotechnical interpretive report were prepared in 2010. Additional targeted borings and supplemental laboratory testing will be required to update the geotechnical data and interpretive reports.

OWNER: TJPA

REQUIRED INPUTS: 2010 Geotechnical Baseline Report, Updated geotechnical data and geotechnical interpretive reports

DELIVERABLES: An updated report with new data as generated by required additional targeting borings near the west end of the project.

6.1.12 Value Engineering Report (SCHEDULE ACTIVITY NOS A2-3000, A2-3850, A2-3900) (MOU TASK 11)

OBJECTIVE: A rigorous program of value engineering will be implemented to satisfy the required project function at the lowest total cost (capital, operating, and maintenance) over the life of the project.

ACTIVITY: A formal value engineering workshop will be undertaken early in the design process but subsequent to the completion and approval by the TJPA Board of the Project Phasing Study. A second workshop will be conducted as design progresses prior to the completion of preliminary engineering (30%).

OWNER: TJPA
REQUIRED INPUTS: Design development documents, Operations and Maintenance Plans, Cost and Schedule documentation, Risk Workshop output.

DELIVERABLES: The value engineering report will incorporate the VE recommendations developed during the workshops along with an evaluation of those recommendations, including recommendations for implementation, further study, or rejection. The VE report will also identify items that do not meet the cost/benefit requirements established during the workshops and by the client. Additionally, targeting areas of residual risk as part of the VE process may reduce risk and increase confidence in the project bottom line.

6.1.13 Constructability Review
(SCHEDULE ACTIVITY NO. A2-3700) (MOU Task 11)

OBJECTIVE: Constructability reviews of the various contract packages are a key component of all design and construction management projects. These reviews can be performed simultaneously with the technical design review to evaluate the contract documents for conformance with the overall goals, objectives, and program mitigation requirements.

ACTIVITY: Plans and specifications will be reviewed by a team not directly involved in the design development to make sure they are accurate, complete, and consistent, and that the design conforms to program standards, the constructability reviews will focus on items such as site access and truck routes, maintenance and protection of traffic, lay-down and storage areas, work means and methods in general, and consistency with work by other contractors or utility companies in the vicinity. The constructability reviews will also evaluate the proposed construction schedule to determine whether it is consistent with the plans and specifications. The constructability review of the schedule will check the sequence of activities, overall production rates, durations for long lead-time procurement items, and conformance with project milestones.

OWNER: TJPA

REQUIRED INPUTS: Plans, specifications, estimates, construction schedule, real estate acquisition plan, and contract documents.

DELIVERABLES: A final report identifying areas where plans, specifications, and contract documents can be improved for clarity, biddability and claims avoidance.

7 Governance and Oversight

7.1 Governance Structure
(SCHEDULE ACTIVITY A2-3150) (MOU TASK 18)

OBJECTIVE: The objective is to explore and select the best institutional arrangement and governance for the delivery of the DTX Rail Program through construction and make recommendations to the TJPA Board. A detailed study of the governance structure for the project during the design, construction, and operational phases and identify roles and responsibilities of various agencies that will benefit from the use of the transit center and DTX facilities will be conducted. This will enable the alignment of stakeholders, support effective megaproject delivery, and identify oversight roles. Consideration will be given to the recommended governance structure's impact on federal, regional, and state agencies' scoring for funding allocations.

ACTIVITY: Discovery Phase - Perform an internal organizational review of the agencies' current governance structures, personnel capabilities, oversight requirements. Identify key criteria and success factors for sponsors and stakeholders, leverage international transit system best practices (transparent, independent, small and empowered, robust expertise, long term implementation, community involvement, diverse and focused on implementation over policy). Perform a gap analysis and develop a closure action plan to strive for alignment between the project delivery team and the identified stakeholders

Structuring Phase - Incorporate the project's vision, mission and overall culture objectives. (Use as input Task 7) and map the evolution and expected change in governance strategy throughout the project's lifecycle. Prepare governance structure regarding:

- Board Role and Responsibilities
- Stage-Gated Decision-Making Protocols
- Board Size
- Membership
- Terms
- Appointment and Selection Process
- Staffing Qualifications
- Auditing and Feedback Mechanisms
- Accountability Structure
- Data Management Structure
- Community Engagement
- Reporting and Communication Protocols

Validation Phase - Develop auditing/feedback mechanism to quantitatively and qualitatively measure compliance and performance. Develop outcome-based performance and sourcing management systems, regime of Key Performance Indicators (KPIs). Create compliance and performance assessment tools to capture the health of the governance structure and its impact on the project based on those KPIs. Revise and stress-test the governance structure through interviews with stakeholders and real-world scenarios. Maximize opportunities for Federal, State and Regional funding as a Project of Regional and National Significance.

OWNER: MTC/BATA and SFCTA

REQUIRED INPUTS: Rebranding Strategy, Funding Plan, construction methodology and contracting strategy, Project Delivery Method report, O&M plans, Project Controls Plan, Agency Project Delivery Questionnaire. This task will also be informed by MTC's Bay Area Regional Rail Partnership Study and Plan Bay Area 2050 and its related studies.

DELIVERABLES: A recommended Implementation Plan for any new or modified structure, aligned with the project development schedule, including a transition plan between the current governance structure and new structure.

7.2 Construction Delivery Agency (SCHEDULE ACTIVITY A2-3500) (MOU TASK 19)

OBJECTIVE: Selection of a lead agency for construction. Based upon the results of the governance structure analysis, the TJPA Board will determine the appropriate agency/entity to oversee the construction of the project. Consideration will be given to technical capacity, stakeholder engagement, and enough time for transition activities should an entity other than the TJPA be selected.

ACTIVITY: TJPA staff will review the output of activities under 7.1, Governance Structure, and prepare a recommendation for TJPA Board review, consideration and approval.

OWNER: TJPA

REQUIRED INPUTS: TJPA Board decisions regarding Governance Structure Final Report

DELIVERABLES: Execution Plan for implementation of TJPA Board direction with regard to project delivery responsibilities. As appropriate to Board direction, draft and final inter-agency agreements for planning, design, construction, validation, and turnover of the project.

7.3 Prepare for Procurement (SCHEDULE ACTIVITY A8750-A8870 and A1320, A1690, A1830, A1980) (MOU TASK 20)

OBJECTIVE: Prepare for procurement as applicable based on final institutional agreement, selected project delivery method, and scoping.

ACTIVITY: TBD

OWNER: TJPA

REQUIRED INPUTS: Transit operating plans, Phasing Plan, project delivery strategy, design development and technical studies, SEIS/EIR Mitigation Monitoring and Reporting Program, approved Governance Structure Final Report, approved Execution Plan

DELIVERABLES:

- Plans, Specifications, and Estimates (PS&E) to the level required by the contracting strategy and delivery method(s)
- Commercial Terms and Conditions as appropriate for each contract
- Industry Outreach program
- Bid documents for each contract

Appendix A
San Francisco Peninsula Rail Program Memorandum of Understanding

San Francisco Peninsula Rail Program MOU

This San Francisco Peninsula Rail Program Memorandum of Understanding (MOU), effective June 5, 2020 is between the Transbay Joint Powers Authority (TJPA); the Metropolitan Transportation Commission (MTC); the San Francisco County Transportation Authority (SFCTA); the Peninsula Corridor Joint Powers Board (Caltrain); the California High Speed Rail Authority (CHSRA); and the City and County of San Francisco (CCSF) (each a "Partner" and collectively the "Partners).

1. Definitions:

DTX Rail Program: Activities directed toward the advancement of the environmentally cleared Downtown Rail Extension Project (DTX)

SF Peninsula Rail Program: A program of projects comprised of the DTX and Related Projects

Related Projects: Pennsylvania Avenue Extension (PAX), Railyards Development, and 22nd St Station Study

Regional and State Rail Efforts: Related regional and state rail efforts including the ongoing development of Caltrain and CHSRA programs, the State Rail Plan, New Transbay Rail Crossing, and others, including any future regional rail planning or funding programs

Ready-for-Procurement: All work in planning and engineering is advanced to a level consistent with the contract(s) delivery method(s), has completed all required planning and National Environmental Policy Act/California Environmental Quality Act, and applicable other permit/approval requirements, has secured necessary funding, has obtained or identified Right-of-Way and/or easements and permits, and is ready to proceed to bid.

2. Purpose:

The Partners recognize that the DTX is a critical rail link in the Bay Area, mega-region, and state transportation system and that it will be more efficiently and effectively developed through a multi-agency partnership among local, regional, and state stakeholder agencies with expertise in developing, funding, and implementing major infrastructure projects.

The Partners also recognize that – and nothing in this MOU is intended to imply otherwise – state law and the TJPA's 2001 Joint Powers Agreement (as amended) currently provide that the TJPA has primary jurisdiction over and will implement all aspects of the DTX that will connect the new Salesforce Transit Center (STC) to the regional rail system.

This MOU describes a new organizational structure that will support the efforts of the TJPA in the development of the DTX to a Ready-for-Procurement status and would make direct recommendations to the TJPA Board based on a set of activities outlined below. These activities will be undertaken by an integrated multi-agency project team, comprised of senior staff of the signatory agencies to this agreement, as shown in Attachment 1, who will oversee the Work Program shown in Attachment 2.

3. Structure

The new organizational structure described by this MOU is summarized below and depicted in the Organization Charts in Attachment 3.

Executive Steering Committee (ESC):

By virtue of this MOU, an Executive Steering Committee (ESC) will be instituted to support the TJPA in project development efforts for the DTX as described in Attachment 2, and empowered to implement this MOU. The ESC is responsible for making recommendations to the TJPA Board regarding the scope of efforts under this MOU. The TJPA Board will maintain its ultimate authority over the DTX. Accordingly, it may accept or reject recommendations of the ESC, and it may act in the absence of a recommendation from the ESC.

The ESC will consist of the executives (or their designee) of the TJPA, MTC, SFCTA, Caltrain, CHSRA, and the CCSF (for CCSF the executive will be the Mayor or her designee). The initial and alternate members of the ESC are named on Attachment 1. Each Partner may change its appointment to the ESC by providing written notice to the ESC. The ESC will meet at least monthly, sufficiently in advance of the TJPA Board's regularly scheduled meetings that the ESC will have an opportunity to provide a progress update or to present items to the TJPA Board; a majority of authorized representatives shall constitute quorum. The ESC will elect a Chair and Vice-Chair as a first order of business. At the request of the TJPA Board Chair, the ESC Chair or Vice-Chair will report to the TJPA Board on a monthly basis on the status of the program. The ESC will be responsible for the DTX work program as summarized in Attachment 2, which specifies which elements of the DTX work program must be brought to the TJPA Board for information and/or approval. The ESC will also help resolve conflicting areas of work among the Partners. While the ESC will attempt to reach consensus, it will make recommendations to the TJPA Board by a majority vote of the representatives present. The ESC may also serve as a coordinating forum for the SF Peninsula Rail Program and other relevant regional or statewide rail system planning and development efforts.

Integrated Program Management Team (IPMT):

For the DTX Rail Program, the ESC will be supported by an IPMT consisting of representatives with relevant experience in large complex projects from each of the Partners, as designated by their corresponding executive. In addition, the IPMT may also be supplemented with relevant qualified personnel from within their own agencies or their supporting consultancy organizations.

Project Director (PD):

The PD should have proven leadership, organizational acumen and relevant experience in delivering all aspects of mega rail projects and tunneling. The ESC, or a sub-committee thereof, will recruit and recommend a short list of the PD candidates to the TJPA Board for final selection. The TJPA prefers that the PD be a TJPA employee or direct consultant. However, the TJPA may also consider PD candidates as a consultant seconded to the TJPA through one of the Partners; in such case, a separate agreement between the TJPA and the Partner would be required. The PD will lead the IPMT.

The PD will report to his/her hiring entity for purposes of administrative matters and report to the ESC for purposes of coordination of the IPMT. The PD will coordinate the IPMT in its development of recommendations to present to the TJPA Board as to the delivery of the Work Program (Attachment 2). The PD will be responsible for the day-to-day management of those portions of the DTX work program identified for TJPA to lead, reporting on those matters to the TJPA's Executive Director. The PD shall also be responsible for directing TJPA DTX staff and consultants as needed. To the extent another Partner is identified as assuming a lead role for portions of the DTX work program, that Partner will be responsible for day-to-day management of its tasks.

The PD will coordinate with other IPMT members leading other tasks, as well as with the SF Peninsula Rail program of projects. The PD may also coordinate with other relevant Regional and State Rail Projects as needed.

4. Scope/Responsibilities

SF Peninsula Rail Program Group of Projects:

The DTX is part of a set of regional rail projects within San Francisco that will provide valuable connectivity for the Bay Area and mega-region rail network.[1] A subset of these, called "Related Projects" for the purpose of this MOU, is covered under a separately executed San Francisco 4th/King Railyard MOU (Railyards MOU)[2], which describes cooperative planning and project development activities for the Related Projects.

Whereas the DTX Rail Program will be managed as described in this MOU, the Related Projects are coordinated in accordance with the Railyards MOU and managed according to their own responsible agency's individual governance. For the Related Projects, the ESC will serve in an advisory and supporting role.

While the Partners recognize that coordinating activities can improve their planning and delivery in order to maximize public benefit for the region as a whole, the Partners confirm

[1] Additional regional rail system planning, and coordination is being undertaken for potential BART and standard gauge Transbay rail crossings with BART, Capitol Corridor, Caltrain and the California State Transportation Agency (CalSTA).

[2] San Francisco 4th/King Railyard MOU dated June 3, 2019 between Caltrain, Prologis, CCSF/SFCTA, and TJPA

that each project within the SF Peninsula Rail Program has independent utility from every other project.

Summary of Work Elements Under this MOU:

DTX Rail Program:

The following are the main activities that comprise the DTX work program.

DTX Project Development -- anticipated activities include, but are not limited to, developing a phasing strategy that addresses both Caltrain and CHSRA needs, conducting industry reviews, performing design of the phased project to a level that will allow for a reliable bottom-up cost estimate, updating the right-of-way plan, conducting robust risk assessment, implementation planning, and developing the project delivery strategy to advance the DTX to a Ready-for-Procurement status.

Coordination for Regional Planning and Funding— this effort will focus on articulating the regional context for the DTX and integrating the planning and funding of the DTX with broader regional, mega-regional, statewide plans, and funding programs. This includes helping to design and advance DTX funding strategies and analyzing implementation options in coordination with other regional and statewide entities and efforts.

A Summary Work Program is attached (Attachment 2) that includes detailed description of the roles and responsibilities for each participating agency. The Summary Work Program consists of the following main tasks, for which the ESC will develop recommendations to the TJPA Board for decision:

- Establish and Initiate New Management Structure
- Define a Fundable and Deliverable Initial Phase of the DTX Project
- Select the Project Delivery Strategy
- Undertake a Governance and Oversight Review
- Prepare for Procurement

Select work elements under the Railyards MOU:

Pennsylvania Avenue Extension (PAX)– Led by the SFCTA, this project will perform scoping and pre-environmental engineering to affect an underground rail grade separation at 16th Street and Mission Bay Drive by means of a tunnel following the general alignment of Pennsylvania Avenue, with a special focus on the interface with the DTX at 4th/Townsend rail station and the transition to the mainline at its southern end.

4th and King Railyard Studies – Led by Caltrain, in coordination with Prologis, Inc. (the property owner), this project will perform studies to determine Caltrain's needs within San Francisco, develop railyard alternatives, determine storage, service,

station, and maintenance requirements, among others, in accordance with the agreement set forth in the Railyards MOU for the possible development of the railyard.

22nd Street Station Study – Led by SF Planning, in close coordination with Caltrain, this project will study the options for improving or relocating the current 22nd Street Station.

Railyard Site Land Use and Development Study – Led by Prologis, Inc., this work will examine the feasibility of various development options at the 4th and King railyards; options will consider DTX, PAX, and/or the undergrounding of some or all of the current railyard.

5. External Resources and Engagement:

The Partners will work together to identify the necessary resources to support their respective activities to carry out the DTX work program. Some agencies' budgets have identified sources, while others are to be confirmed. Within two months after signing the MOU, the Partners will develop a more detailed work plan, identify a budget for the total resource requirement (staffing and contractor) for each agency and in total, and confirm funding sources. Notwithstanding the above, this MOU commits the Partners to consider providing funding or resources, but does not commit any Partner to provide any resources other than those the agency already has funded and programmed to support DTX or to provide any funding.

These resources may include, among others, on-call consultants and legal counsel. Actual staffing and support from each agency will be based on their designated roles and responsibilities. This MOU commits the Partners to participation in the ESC/IMPT process but does not constitute a commitment of financial resources.

The Partners recognize that other state, regional and local government agencies, such as BART, Capitol Corridor, California State Transportation Agency, and Caltrans, have an interest in and/or expertise regarding the matters contemplated in the Summary Work Program. Accordingly, the Partners agree to work collaboratively to engage those agencies as appropriate during implementation of the Summary Work Program.

6. Work Plan:

A Summary Work Program, delineating the scope of efforts to be executed under this MOU, is attached (Attachment 2). Once the MOU is executed and the ESC and IPMT instituted, the first order of business will be the development of a comprehensive Work Plan, for presentation and approval by the TJPA Board, building upon the activities of the Summary Work Program. The Detailed Work Plan will detail all the necessary tasks, their relationships, schedule, and responsible Partner to take the project to start of construction. The Detailed Work Plan should be completed within 2 months.

As defined in the Summary Work Program, the ESC will work to develop an initial operating phase that provides the necessary capacity to operate a reliable blended system to the Salesforce Transit Center at the earliest practicable date and with consideration of reasonably available funding. Any proposed initial operating phase recommended by the ESC must have prior concurrence of Caltrain and CHSRA members of the ESC.

7. NEPA/CEQA:

Any recommendations regarding modifications to the DTX resulting from the work under the MOU is intended to be consistent with and not require any material modification of the existing DTX NEPA/CEQA documentation.

8. Funding:

The Partners recognize that Federal funding programs require demonstration of strong local financial capacity and commitment and intend to collaborate on strengthening project funding plans.

9. Principles for Collaboration:

- Follow the decision-making processes and communication models established by the ESC and IPMT
- Share information and resources to assist with the successful and timely completion of tasks and follow-on studies
- Respond and provide input within agreed-upon response times
- Design meetings as small working sessions and provide appropriate staff to focus on the outcomes required, in accordance with the roles and responsibilities established in the attached Summary Work Program
- Seek to make decisions by consensus when possible, by majority vote otherwise

10. Policy Recommendations:

Policy recommendations of the ESC to the TJPA Board for the DTX will require majority support of the ESC. Policy recommendations are expected to include, but are not limited to:

- Phasing Plan for the Initial Operating Segment
- Adoption of a new Funding Plan
- Project Delivery Plan, including ROW acquisition plan, project delivery method(s), contracting strategy
- Final institutional arrangement for project delivery through initial operating segment as proposed in the Summary Work Program
- Significant design decisions

11. No Adjudication of Rights:

The MOU does not adjudicate legal rights with respect to the development of the DTX or provide the Partners with any rights with respect to the revenues derived therefrom.

12. Other MOUs:

The Partners acknowledge that there are other agreements already entered into by the Partners or which may be entered in the future related to the SF Peninsula Rail Program, including but not limited to operating and maintenance agreements between the TJPA (or another entity designated to carry out the DTX) and Caltrain and the California High-Speed Rail Authority; MOU between the TJPA the Federal Railroad Administration related to the allocation of $400 million for the construction of the train box at the STC; and the Railyards MOU. This MOU is separate from and does not modify or replace any other MOU or other agreement between the Partners regarding the DTX.

13. Term

13.1 The term of this MOU shall be 36 months or when the DTX reaches Ready-for-Procurement status, whichever is earlier.

13.2 The Partners may amend, conclude or extend this MOU by mutual agreement; such agreement shall be evidenced in writing. Notwithstanding the foregoing, the TJPA may terminate this MOU in its discretion by action of the TJPA Board; prior to any such proposed termination, the TJPA shall meet and confer with the other Partners in a good faith effort to resolve any concerns and avoid the need for termination. Any other Partner may withdraw from this MOU in its discretion, following a meet and confer with the other Partners in a good faith effort to resolve any concerns and avoid the need for withdrawal

14 General Conditions

14.1 Each Partner will conduct its activities under this MOU in accordance with applicable federal, state, and local laws, regulations, and standards.

14.2 Each Partner will ensure that personnel assigned by it to conduct activities under this MOU are appropriately qualified or licensed to the perform the tasks assigned to them.

14.3 Each Partner will hold all administrative drafts and administrative final reports, studies, materials, and documentation relied upon, produced, created, or utilized for the activities under this MOU in confidence to the extent permitted by law. Where applicable, the provisions of California Government Code section 6254.5(e) shall protect the confidentiality of such documents in the event that said documents are shared between the Partners. The Partners will not distribute, release, or share said documents with anyone other than employees, agents, and consultants who require access to complete the activities under this MOU without the written consent of the Partner authorized to release

them, unless required and authorized to do so by law. If a Partner receives a public records request pertaining to activities under this MOU, that Partner will notify the other Partners within five (5) working days of receipt and make the other Partners aware of any intent to disclose public documents. The Partners will consult with each other prior to the release of any public documents or statements related to the activities under this MOU. Nothing herein shall require any Partner to waive any attorney-client privileges or other protections it otherwise has a right to assert.

14.4 The Partners do not intend this MOU to create a third- party beneficiary or define duties, obligations, or rights in parties not signatory to this MOU.

14.5 The Partners will not assign or attempt to assign their rights or obligations under this MOU to parties not signatory to this MOU without an amendment to this MOU.

14.6 The following documents are **Attachments** hereto:

Attachment 1: Initial members of the ESC
Attachment 2: Summary DTX Rail Program -- Work Program
Attachment 3: Organization Chart

IN WITNESS WHEREOF, the Partners have executed this MOU as of the date first written above.

Transbay Joint Powers Authority

By: Nadia Sesay
TJPA Board Chair

Address:
425 Mission St., Ste. 250
San Francisco, CA 94105

Metropolitan Transportation Commission

DocuSigned by:
Therese W. McMillan
9FD56424D5A54BA...

By: _____
Therese W. McMillan, Executive Director

Address:
375 Beale Street, Suite 800
San Francisco, CA 94105

San Francisco County Transportation Authority

By: _____
Tilly Chang, Executive Director

Address:
1455 Market Street, 22nd Floor
San Francisco, CA 94103

Peninsula Corridor Joint Powers Board

By: _____

Address:

them, unless required and authorized to do so by law. If a Partner receives a public records request pertaining to activities under this MOU, that Partner will notify the other Partners within five (5) working days of receipt and make the other Partners aware of any intent to disclose public documents. The Partners will consult with each other prior to the release of any public documents or statements related to the activities under this MOU. Nothing herein shall require any Partner to waive any attorney-client privileges or other protections it otherwise has a right to assert.

14.4 The Partners do not intend this MOU to create a third- party beneficiary or define duties, obligations, or rights in parties not signatory to this MOU.

14.5 The Partners will not assign or attempt to assign their rights or obligations under this MOU to parties not signatory to this MOU without an amendment to this MOU.

14.6 The following documents are **Attachments** hereto:

Attachment 1: Initial members of the ESC
Attachment 2: Summary DTX Rail Program -- Work Program
Attachment 3: Organization Chart

IN WITNESS WHEREOF, the Partners have executed this MOU as of the date first written above.

Transbay Joint Powers Authority

By: _____
TJPA Board Chair
Address:

Metropolitan Transportation Commission

By: _____

Address:

San Francisco County Transportation Authority

By: _____

Address:

Peninsula Corridor Joint Powers Board

By: Jim Hartnett, Executive Director
Address:
1250 San Carlos Avenue
San Carlos, CA 94070

California High Speed Rail Authority

By: Brian P. Kelly

Address: April 30, 2020

City and County of San Francisco

By: _____

Address:

California High Speed Rail Authority	City and County of San Francisco
By: _____	By: Rich Hillis Rich Hillis (May 5, 2020) _____
Address:	Address: 1650 Mission St., Suite 400, San Francisco, CA 94103

DTX MOU Attachment 1 Initial ESC and IPMT Membership		
Executive Steering Committee	**Member**	**Alternate**
Caltrain	Jim Harnett	Michelle Bouchard
CCSF	Paul Supawanich	TBD
CHSRA	Boris Lipkin	Simon Whitehorn
MTC/BATA	Andrew Fremier	Lisa Klein
TJPA	Mark Zabaneh	Erin Roseman
SFCTA	Tilly Chang	Eric Cordoba
Integrated Program Management Team		
Caltrain	Sebastian Petty	Anthony Simmons
CCSF	Doug Johnson	Anna Harvey
CHSRA	Simon Whitehorn	Paul Hebditch
MTC/BATA	Stephen Wolf	Trish Stoops
TJPA	TBD	TBD
SFCTA	Eric Cordoba	Luis Zurinaga

	Roles and Responsibilities Lead: Agency responsible for executing the task Co-Lead: Agencies jointly responsible for executing the task Concur: Agency that must sign off on deliverables Contribute: Agency that will provide input and assistance to Lead Consulted: Agency that must be informed and consulted by Lead								
Task No	**Task**	**Sub-task Description**	**Caltrain**	**CCSF**	**CHSRA**	**MTC/BATA**	**SFCTA**	**TJPA**	**To TJPA Board For**
A.	**Establish and Initiate New Management Structure**								
1	Establish Executive Steering Committee (ESC) and Integrated Project Management Team (IPMT), identify resources and develop a staffing plan.	(a)Develop MOU (b)Develop Summary Work Program (c) Define roles and responsibilities (d) Determine staffing levels for IPMT from participating agencies	Concur	Concur	Concur	Concur	Lead	Concur	Reporting
2	ESC and IPMT Program Management	(a) Execute and implement transition to the new structure and agreements (b) Ongoing oversight and management of the program (c) Manage key initiatives to address issues (d) Coordinate with other regional and state projects (e.g. BART/Capitol Corridor on the development of the New Transbay Rail Crossing and State Rail Plan)	Contribute	Contribute	Contribute	Contribute	Contribute	Contribute	Reporting
3	Recruit Program Director		Contribute	Contribute	Contribute	Contribute	Contribute	Lead	Approval
4	Coordinate with Project Initiation phase of the Pennsylvania Avenue Extension (PAX)	(a) Interface with PAX pre-environmental engineering and funding permitting, environmental studies.	Contribute	Contribute	Contribute	Contribute	Lead	Contribute	Reporting
5	Coordinate with other SF Peninsula Rail Program components	(a) Coordinate with Railyards Development planning (per Railyards MOU) and 22nd Street Station study led by SF Planning (b) Coordinate with BART/CCJPA on potential through running of conventional rail services	Contribute	Lead	Contribute	Contribute	Contribute	Contribute	Reporting
6	Develop a comprehensive Work Plan, building upon the activities of this Summary Work Program. The Detailed Work Plan will describe all the necessary tasks, their relationships, schedule, and responsible party to take the project to start of construction. (target completion: within 2 months)	(a) Identify all tasks, including programmatic documentation (PMP and associated management plans and criteria), a project phasing study and business case analysis; branding, planning and funding plans; outreach and stakeholder engagement; qualitative and quantitative risk analyses, constructability review and industry review;	Concur	Concur	Concur	Concur	Concur	Lead	Approval

		project delivery plan; and other tasks necessary to bring the DTX Rail Program to bid, and assign responsibilities (b) Determine staffing levels, budgets and funding for delivering the tasks (c) Develop a Master Schedule							
Task No	**Task**	**Sub-task Description**	**Caltrain**	**CCSF**	**CHSRA**	**MTC/BATA**	**SFCTA**	**TJPA**	**To TJPA Board For**
7	Develop a re-branding strategy to reposition the DTX Rail Program	Develop a plan for re-branding of the Program with updated graphics and messaging based on economic benefits for the region, state, and nation	Contribute	Contribute	Contribute	Contribute	Concur	Lead	Approval
8	Perform public outreach by engaging external stakeholders, advocacy groups, and the public at large, and perform public outreach	(a) Develop external outreach plan (b) Conduct public outreach (c) Conduct advocacy group outreach (d) Maintain clear records of stakeholder engagement (e) Coordinate with adjacent developments, related and interconnected plans and projects by other agencies, such as Transbay rail planning, and stakeholder business plans	Contribute	Contribute	Contribute	Contribute	Contribute	Lead	Reporting
B.	**Define a Fundable and Deliverable Initial Phase of the DTX Project**								
9	Develop operational plans for near-term and long-term rail operations at the STC	(a) Develop a consolidated set of service assumptions (b) Develop operational objectives, timetables, track usage, and platform distribution. (c) Perform all necessary modeling, including perturbation analysis, to assure reliable, smooth operations at the STC and the Peninsula	Co-Lead	Contribute	Co-Lead	Contribute	Contribute	Contribute	Reporting
10	Conduct planning for DTX	(a) Identify the full extent of the Salesforce Transit Center users, currently planned and future, direct and indirect, and existing relevant plans and studies (b) perform ridership forecasts, and coordinate with Caltrain and CHSR based on their current/updated Business Plans; transit users; and, New Transbay Crossing based on 2018 State Rail Plan, regional rail plan, and current BART/CCJPA planning study	Concur	Contribute	Concur	Concur	Lead	Concur	Reporting

Task No	Task	Sub-task Description	Caltrain	CCSF	CHSRA	MTC/BATA	SFCTA	TJPA	To TJPA Board For
11	Perform technical studies and design to re-define and deliver a DTX initial operating phase as soon as possible	(a) Engineering studies to achieve project re-definition and initial operating phase (b) Utilizing input from the operational plans developed under task 9, perform demand vs capacity scenario analysis over time and side-by-side comparison of options in terms of benefits (economic, riders, housing, etc.), costs, schedules, operations, etc. (c) Perform design of the phased project to a level that will allow for the reliability of the tasks below (d) Develop detailed cost estimates, schedules, and extensive risk register and analysis based on structured workshops, including risk management program and independent reviews (e) Develop plans for utility relocations and ROW acquisition requirements, including risk management and insurance plans, early works packages, and third-party agreements as needed (f) Resolve critical operational issues for all users of the initial operating phase, conduct operational analysis, and coordinate operators' plans and requirements	Concur	Contribute	Concur	Contribute	Concur	Lead	Approval
12	Prepare a preferred Phasing Plan conforming with technical studies and policy direction on realistic amounts/timing of funding and stakeholder delivery date expectations -with an explicit goal to deliver rail service to the STC as soon as possible	(a) Utilizing input from tasks 9, 10, 11 and 13, prepare Rail Program phasing options in response to rail service scenarios, funding sources and availability, and stakeholder requirements (b) Develop detailed risk management and assurance plans including ownership, staffing, independent strategic advisor / independent engineer, and management processes (c) Develop Business Case for the phased project (d) Revisit Detailed Work Plan to assure compatibility with preferred phasing plan	Concur	Concur	Concur	Concur	Concur	Lead	Approval
13	Develop and confirm Funding Plan strategy for the DTX Rail Program based on achievable funding assumptions and securing adequate capital funding and O&M revenues enough for the initial phase	(a) Develop funding plan for construction and operations, inter-agency responsibilities, securing commitments, schedule of availability, and tasks to enter FTA funding process (b) Conduct assessment of high/ low confidence sources of funding with focus on funding initial operating phase and funding strategy of subsequent phases (c) Develop new/innovative funding and financing sources including joint development (e.g., Railyards) enabled by project re-definition strategy (d) Develop funding plan strategy for operations phase, including funding agreements and commitments to support initial operating phase operating costs	Contribute	Contribute	Contribute	Concur	Lead	Concur	Approval

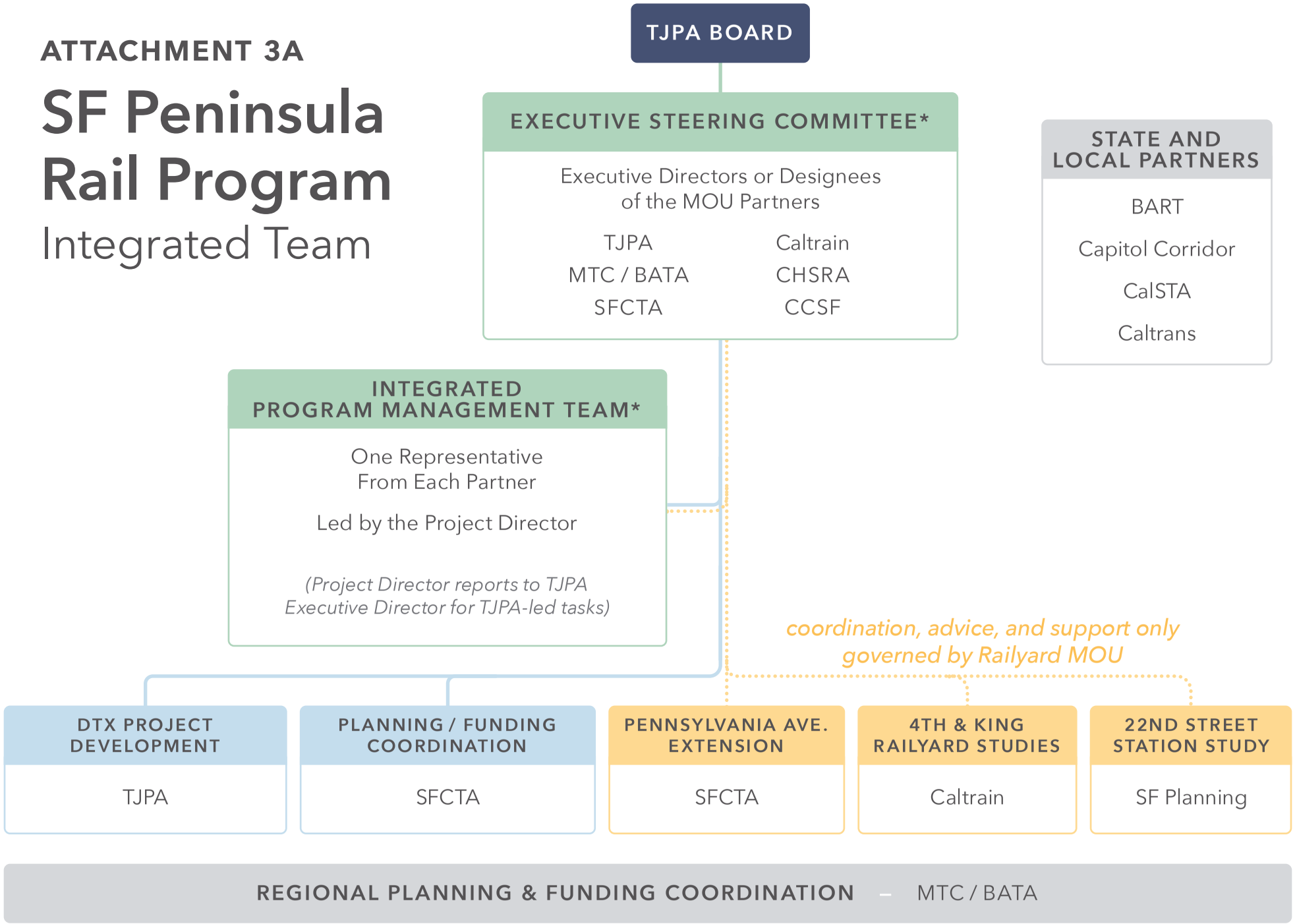
Task No	Task	Sub-task Description	Caltrain	CCSF	CHSRA	MTC/BATA	SFCTA	TJPA	To TJPA Board For
14	Prepare the project to enter the federal New Starts Program	(a)Develop all the documentation required by the FTA to enter the New Starts Program (b) Engage with the FTA to develop a road map to the Full Funding Grant Agreement	Concur	Concur	Concur	Concur	Concur	Lead	Report on progress and approval of final documents
C.	**Select the Project Delivery Strategy**								
15	Conduct industry outreach to validate construction methodology and contracting strategy	Conduct market sounding through engagement with the infrastructure industry and update the qualitative delivery options analysis previously completed.	Contribute	Contribute	Contribute	Contribute	Contribute	Lead	Report
16	Develop a project delivery and contracting strategy	(a) Analyze project delivery options analysis based on a business case and risk-adjusted financial analysis, including input from the market sounding (b) Analyze legal framework and issues for delivery options, procurement, and development of contracts (c) Develop a strategic implementation roadmap including a procurement and contracting plan, risk management plan, and organizational requirements (d) Conduct workshops to allocate risk based on risk analysis performed under tasks above, and develop analysis and plans for insurance (e) Scope pre-procurement engineering and early works contracts tailored to the delivery options	Contribute	Contribute	Contribute	Concur	Co-Lead	Co-Lead	Approval
17	Develop an O&M plan with roles and responsibilities	(a) Prepare a 20-year financial plan for Operations and Maintenance (b) Review and identify the ownership and governance of project elements for construction, operations, and maintenance (c) Develop and execute agreements for Operations and Maintenance	Concur	Consulted	Concur	Concur	Concur	Lead	Approval
D.	**Undertake a Governance and Oversight Review and Transition**								
18	Explore the best institutional arrangement and governance for the delivery of the DTX Rail Program thru construction and make recommendations to TJPA Board	(a) Detailed study to identify the governance structure to enable stakeholder alignment, effective mega-project delivery, oversight, independent strategic advice, and assurance (b)Stress-test options to maximize opportunities for Federal, State, and Regional funding as a Project of Regional and National Significance. Recommend governance/project delivery structure for delivery (c) Develop management structure, briefs with roles and responsibilities, staffing qualifications, reporting and communication protocols, contracting, and staffing plan (d) Conduct assessment with strategic, economic, commercial, financial, management cases and consider	Contribute	Contribute	Contribute	Co-Lead	Co-Lead	Concur	Approval

		responsibilities for O&M of new trackage and the rail portion of STC (e) Develop outcome-based performance and sourcing management system, regime of Key Performance Indicators (KPIs), and stage-gated decision-making protocols							
Task No	**Task**	**Sub-task Description**	**Caltrain**	**CCSF**	**CHSRA**	**MTC/BATA**	**SFCTA**	**TJPA**	**To TJPA Board For**
19.	Select lead agency for Construction. Should an alternate structure be adopted by the TJPA Board as a result of the above task, effect transition to final institutional arrangement and organization	Execution and implementation of Task 18 outcomes in coordination with the selected project delivery method.	Concur	Concur	Concur	Concur	Concur	Lead	Approval
E.	**Prepare for Procurement**								
20	Start procurement tasks as applicable based on final institutional agreement, selected project delivery method, and scoping	(a) Finalize Plans, Specifications, and Estimates (PS&E) to the level required by the contracting strategy and delivery method(s) (b) Develop draft Commercial Terms and Conditions as appropriate for each contract (c) Conduct additional industry outreach to create interest and create a competitive environment (d) Develop draft bid documents for each contract	Concur	Concur	Concur	Concur	Concur	Lead	Report on Progress Approval to begin procurement

ATTACHMENT 3A

SF Peninsula Rail Program

Integrated Team

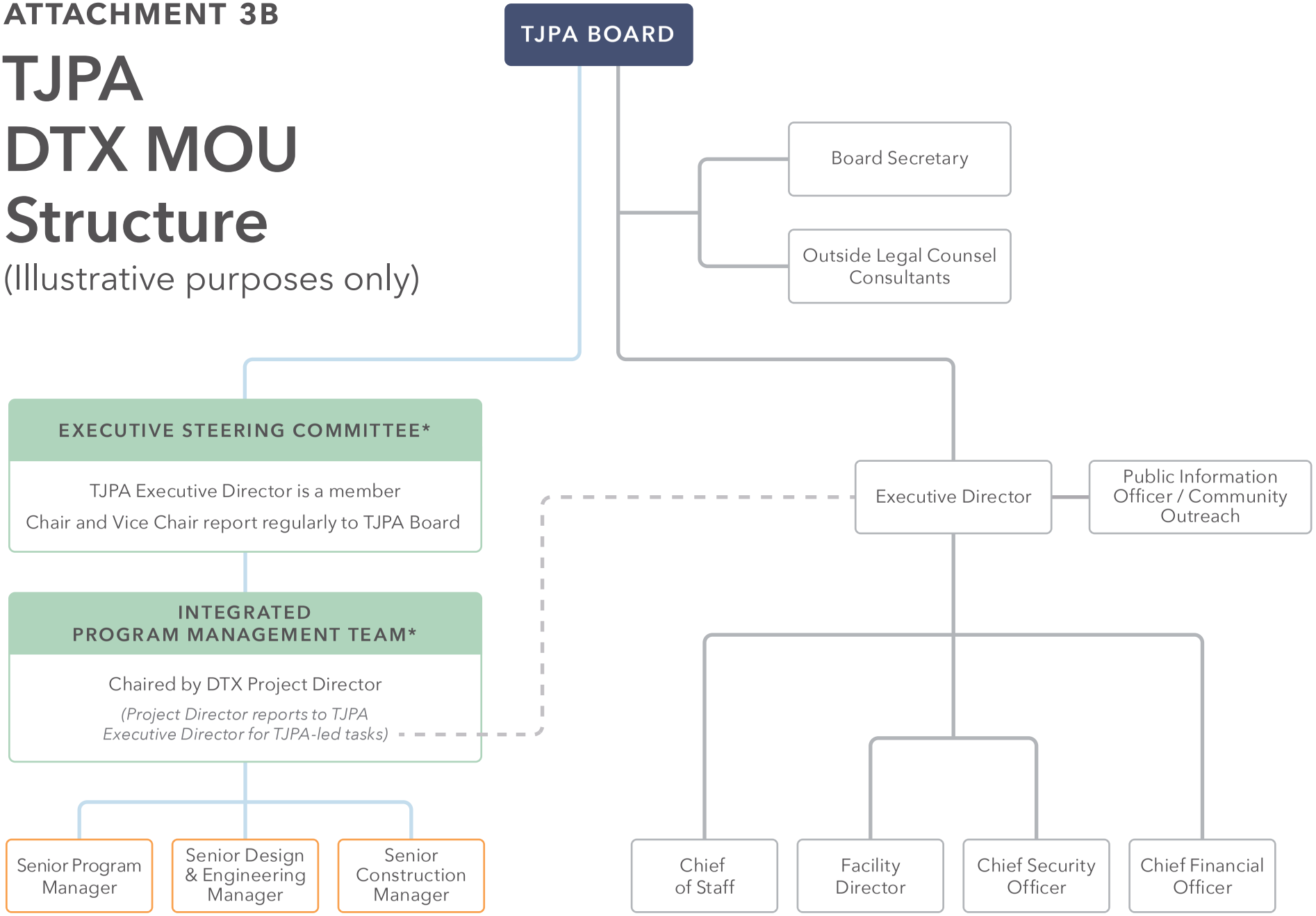


* *Consistent with and limited to the Summary Work Program (Attachment 2) defined by the San Francisco Peninsula Rail Program MOU approved by TJPA Board on April 9, 2020*

ATTACHMENT 3B

TJPA DTX MOU Structure

(Illustrative purposes only)



* *Consistent with and limited to the Summary Work Program (Attachment 2) defined by the San Francisco Peninsula Rail Program MOU approved by TJPA Board on April 9, 2020*

DTX MOU for Signature

Final Audit Report 2020-05-05

Created:	2020-05-05
By:	Deborah Sanders (deborah.sanders@sfgov.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAAA2pF6ZDXzbLpgXCXs3ja4-d_Sip20t9B

"DTX MOU for Signature" History

Document created by Deborah Sanders (deborah.sanders@sfgov.org)
2020-05-05 - 9:58:17 PM GMT- IP address: 68.177.129.179

Document emailed to Rich Hillis (rich.hillis@sfgov.org) for signature
2020-05-05 - 10:21:56 PM GMT

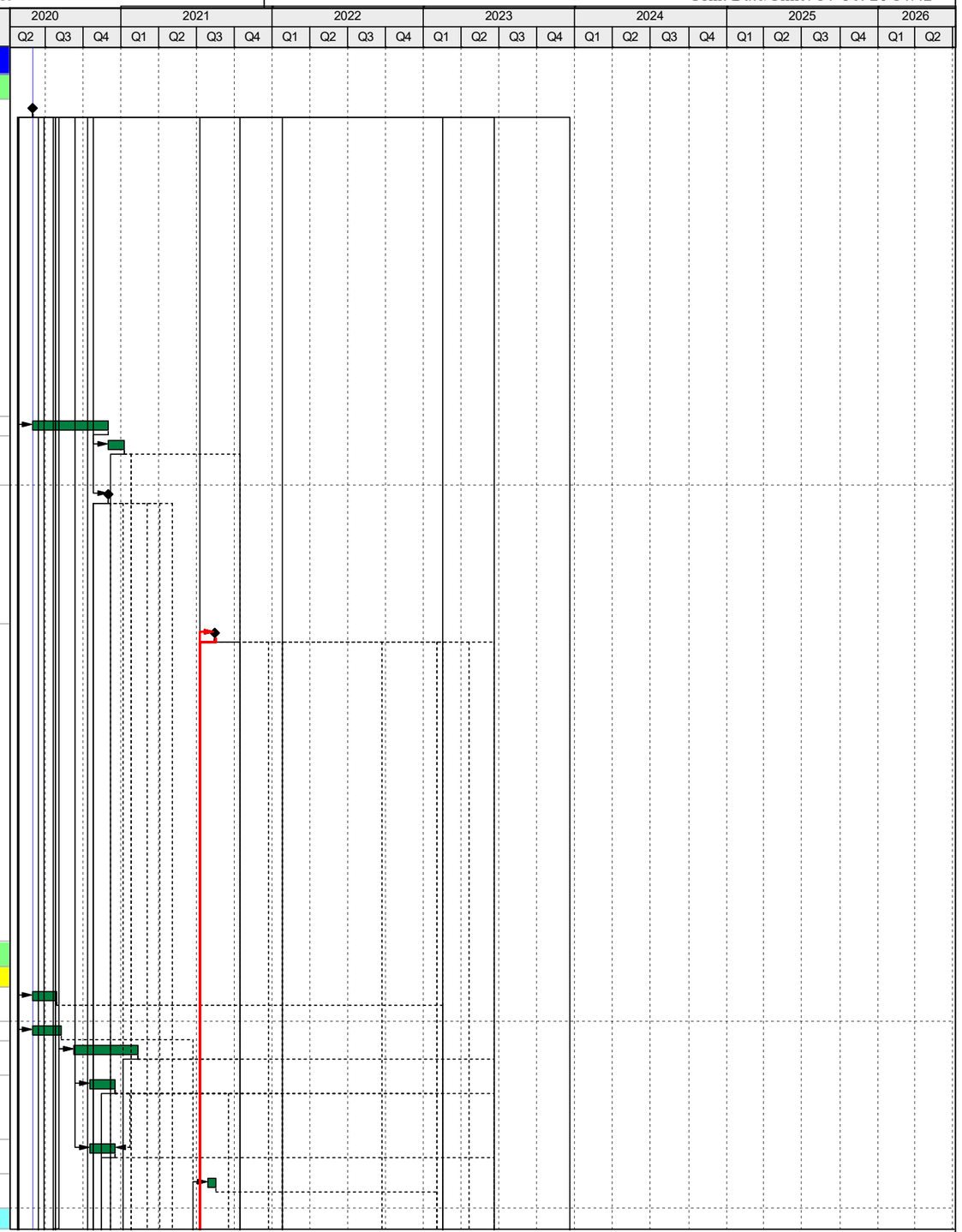
Email viewed by Rich Hillis (rich.hillis@sfgov.org)
2020-05-05 - 10:22:38 PM GMT- IP address: 68.177.129.179

Document e-signed by Rich Hillis (rich.hillis@sfgov.org)
Signature Date: 2020-05-05 - 10:24:21 PM GMT - Time Source: server- IP address: 68.177.129.179

Signed document emailed to Rich Hillis (rich.hillis@sfgov.org) and Deborah Sanders (deborah.sanders@sfgov.org)
2020-05-05 - 10:24:21 PM GMT

Appendix B
Project Master Schedule

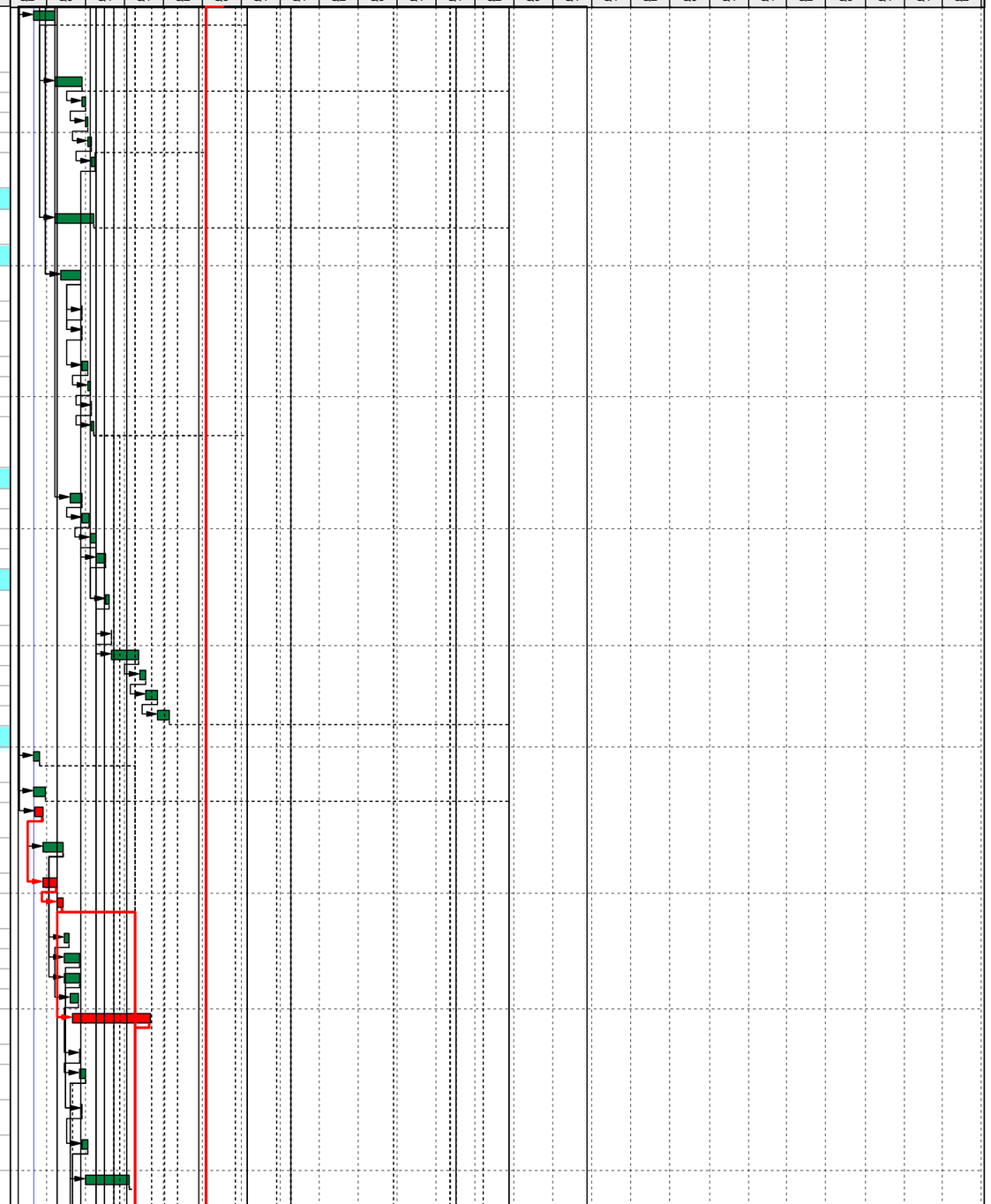
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
P2 DTX Funding Constrained Schedule - DD01JUN20								
Phase 2 Key Milestones & Activities								
A1-1000	NTP #1	0	01-Jun-20 A			TJPA		A2-1350: SS 97, A2-1050: SS, A2-1600: SS, A2-1150: SS, A1-1100: FS, A8-1400: FS, A2-1250: SS, A2-1300: SS 97, A2-1000: SS, A2-1550: SS, A1-1050: FS, A2-2150: SS, A2-1650: FS 3, A2-1370: SS, A8-1010: SS 65, A2-3000: SS, A2-1210: SS, A2-6495: SS, A2-6300: SS, A2-6000: SS, A2-6420: SS, A2-1460: SS 60, A8-1300: SS, A2-1505: SS, A2-4100: FS, A2-3600: FS, A2-1810: FS 65, A1-1160: FS
A1-1050	Issue RFP, Select and Award New Design Contract	125	01-Jun-20	30-Nov-20	35	TJPA	A1-1000: FS	A1-1150: FS
A1-1150	Design Team NTP & Ramp-up	27	01-Dec-20	08-Jan-21	35	TJPA	A1-1050: FS	A2-3000: FS, A2-1850: FS, A2-1860: FS, A2-3200: FS
A1-1160	Limited NTP	0	01-Dec-20*		0	SFCTA	A1-1000: FS	A2-2500: SS, A2-2900: SS, A2-2750: SS, A2-2800: SS, A2-2550: SS, A2-2600: SS, A2-2650: SS, A2-2700: SS, A2-2850: SS, A2-3250: SS, A2-3200: SS, A2-3350: SS, A2-3450: SS
A1-1100	NTP #2	0	16-Aug-21		0	SFCTA	A1-1000: FS, A2-2100: FS, A2-1135: FS	A7-1050: SS, A2-3100: SS, A7-1250: SS, A7-1100: SS, A7-1550: SS, A7-1500: SS, A4-1000: SS, A2-3300: SS, A2-3950: SS, A7-1150: SS, A7-1200: SS, A2-3700: SS, A5-1000: SS 66, A2-3550: SS, A6-1000: SS, A7-1000: SS, A2-4100: SS, A2-4000: SS, A2-4150: SS, A7-1350: SS, A7-1300: SS, A7-1400: SS, A8-1100: SS, A2-3600: SS, A7-0950: SS, A8-1300: SS, A2-4600: FS, A2-3500: SS, A2-2520: SS
Programmatic Documentation & Management Plans								
NTP #1								
A2-1000	Update Baseline Cost Estimate & Schedule	43	01-Jun-20	30-Jul-20	608	PMPC	A1-1000: SS	A2-3000: FS, A2-4050: FS
A2-1370	WBS Update #1	50	01-Jun-20	10-Aug-20	760	PMPC	A1-1000: SS	A2-1400: FS
A2-1250	Preliminary Real Estate Acquisition Plan	104	10-Sep-20	11-Feb-21	309	TJPA	A1-1000: SS, A2-1050: FS 35	A8-1300: FS, A5-1000: FS, A2-2500: FS
A2-1300	Rebranding Plan	42	19-Oct-20	18-Dec-20	164	TJPA	A1-1000: SS 97	A8-1300: FS, A2-2100: FF, A2-1350: FF, A2-4100: FS, A2-3600: FS, A2-1820: FS
A2-1350	Public Outreach Plan	42	19-Oct-20	18-Dec-20	413	TJPA	A1-1000: SS 97, A2-1300: FF	A8-1300: FS, A2-1820: FS
A2-1400	WBS Update #2	14	28-Jul-21	16-Aug-21	520	PMPC	A2-2000: FS, A2-1370: FS	A2-3910: FS
Work Plan								



Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work

TASK filter: Through FFGA.

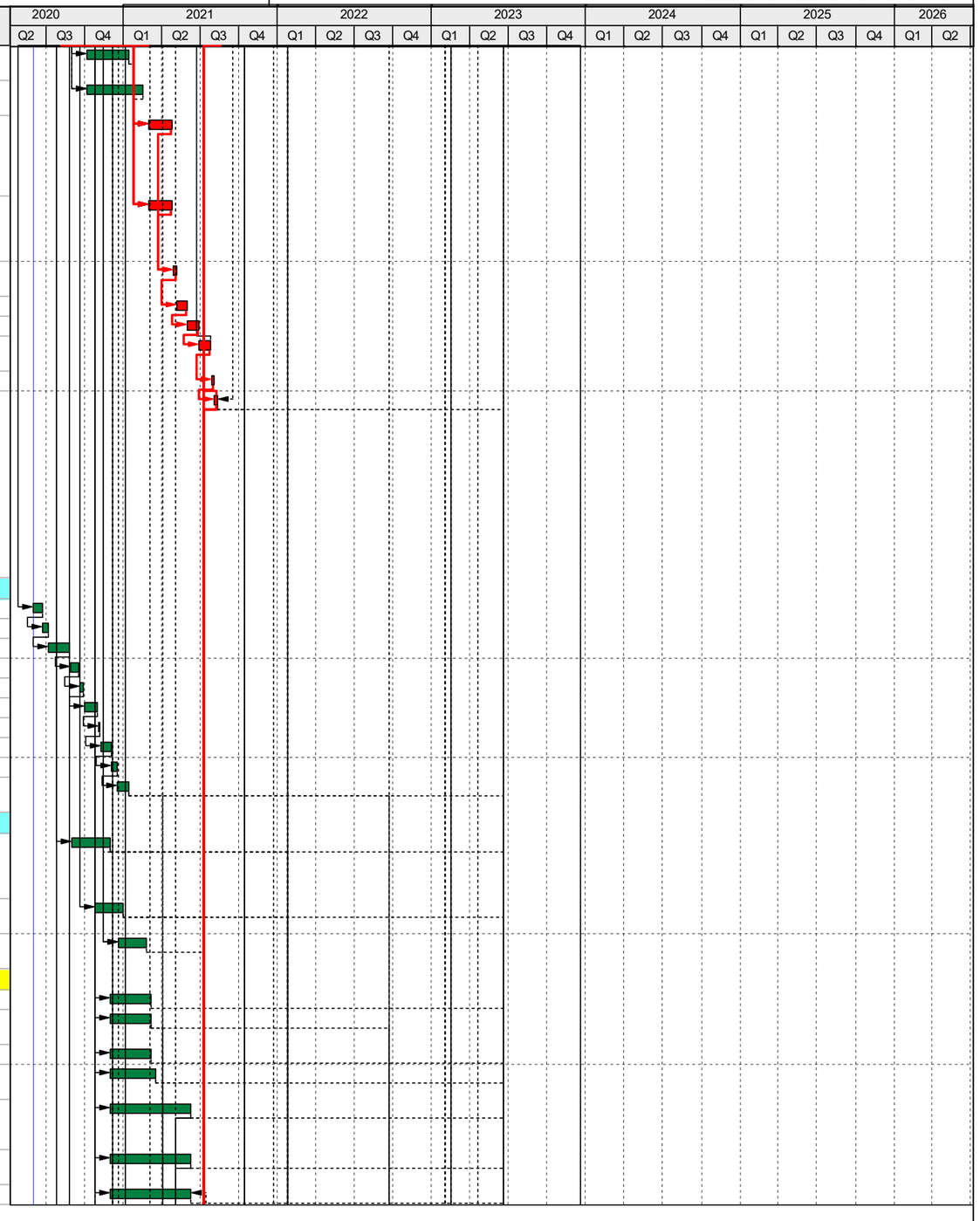
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A2-1050	Draft Work Plan	36	01-Jun-20	21-Jul-20	201	PMPC	A1-1000: SS	A2-1100: FS, A2-1150: FS, A2-1250: FS 35, A2-3000: FS, A2-1210: FS 10
A2-1100	IPMT Review and Approve Work Plan	44	22-Jul-20	22-Sep-20	201	IPMT	A2-1050: FS	A8-1300: FS, A2-1110: F
A2-1110	Incorporate IPMT comments for Work Plan	7	23-Sep-20	01-Oct-20	201	PMPC	A2-1100: FS	A2-1120: FS
A2-1120	IPMT review of updated Work Plan	2	02-Oct-20	05-Oct-20	201	IPMT	A2-1110: FS	A2-1130: FS
A2-1130	IPMT approves Work Plan	7	06-Oct-20	15-Oct-20	201	PMPC	A2-1120: FS	A2-1135: FS
A2-1135	ESC approves Work Plan	6	16-Oct-20	23-Oct-20	201	IPMT	A2-1130: FS	A1-1100: FS, A2-3050: FS
Preliminary Permit List								
A2-1150	Preliminary Permit List	64	22-Jul-20	21-Oct-20	342	PMPC	A1-1000: SS, A2-1050: FS	A2-2900: FS, A8-1300: FS
Risk Register								
A2-1210	Update Register	33	05-Aug-20	21-Sep-20	368	PMPC	A1-1000: SS, A2-1050: FS 10	A2-1220: FS, A2-1215: FS
A2-1215	IPMT Risk Discussion	1	22-Sep-20	22-Sep-20	368	IPMT	A2-1210: FS	A2-1220: SS
A2-1220	Prepare transmittal and internal review	1	22-Sep-20	22-Sep-20	368	PMPC	A2-1210: FS, A2-1215: SS	A2-1230: FS
A2-1230	IPMT review of Risk Register	10	23-Sep-20	06-Oct-20	368	IPMT	A2-1220: FS	A2-1233: FS
A2-1233	Review IPMT Comments	4	07-Oct-20	13-Oct-20	368	PMPC	A2-1230: FS	A2-1237: FS
A2-1237	IPMT Risk Discussion	1	14-Oct-20	14-Oct-20	368	IPMT	A2-1233: FS	A2-1240: FS
A2-1240	Final Updated Risk Register	5	15-Oct-20	21-Oct-20	368	PMPC	A2-1237: FS	A2-3000: FS, A2-3200: FS, A2-4800: FS, A2-3208: FS
Log of Changes Made to Program								
A2-1460	Prepare draft log of changes	21	25-Aug-20	23-Sep-20	618	PMPC	A1-1000: SS 60	A2-1470: FS
A2-1470	Prepare transmittal and internal review	12	24-Sep-20	09-Oct-20	618	PMPC	A2-1460: FS	A2-1480: FS
A2-1480	IPMT review of Log Changes	10	13-Oct-20	26-Oct-20	618	IPMT	A2-1470: FS	A2-1490: FS
A2-1490	Final Log of Changes Made to Program	14	27-Oct-20	16-Nov-20	618	PMPC	A2-1480: FS	A2-1505: FS
Configuration Management								
A2-1505	Review background information	7	17-Nov-20	25-Nov-20	618	PMPC	A1-1000: SS, A2-1490: FS	A2-1510: FS
A2-1510	Meet internally to review potential content	2	30-Nov-20	01-Dec-20	618	PMPC	A2-1505: FS	A2-1515: FS
A2-1515	Prepare Configuration Management Plan	43	02-Dec-20	03-Feb-21	618	PMPC	A2-1510: FS	A2-1520: FS
A2-1520	Prepare transmittal and internal review	10	04-Feb-21	18-Feb-21	618	PMPC	A2-1515: FS	A2-1525: FS
A2-1525	IPMT review of Configuration Management Plan	20	19-Feb-21	18-Mar-21	618	IPMT	A2-1520: FS	A2-1530: FS
A2-1530	Final Configuration Management Plan	21	19-Mar-21	16-Apr-21	618	PMPC	A2-1525: FS	A8-1300: FS
Project Phasing Study								
A2-1550	Prepare for and hold Workshop #0	11	01-Jun-20	15-Jun-20	176	PMPC	A1-1000: SS	A2-1850: FS, A2-1860: FS
A2-1600	Update East Bay Crossing Memo	22	01-Jun-20	30-Jun-20	816	GEC	A1-1000: SS	A8-1300: FS
A2-1650	Prepare for and hold Workshop #1	13	04-Jun-20	22-Jun-20	0	PMPC	A1-1000: FS 3	A2-1700: FS, A2-1654: FS
A2-1654	Work to Issue NTP for Phasing Study Cost Estimating Work	34	23-Jun-20	10-Aug-20	9	TJPA	A2-1650: FS	A2-1658: FS, A2-1666: FS, A2-1670: FS
A2-1700	Draft Report Workshop #1	24	23-Jun-20	27-Jul-20	0	PMPC	A2-1650: FS	A2-1750: FS
A2-1750	IPMT Review and Approve Draft Report #1	10	28-Jul-20	10-Aug-20	0	IPMT	A2-1700: FS	A2-1850: FS, A2-1800: FS 14, A2-1860: FS
A2-1658	Prepare Trainbox Extension Construction Costs	10	11-Aug-20	24-Aug-20	12	PMPC	A2-1654: FS	A2-1662: FS
A2-1666	Prepare Deferral Costs BART Pedestrian Connector	28	11-Aug-20	18-Sep-20	9	PMPC	A2-1654: FS	A2-1674: FS
A2-1670	Prepare Deferral Costs 4th/Townsend	28	11-Aug-20	18-Sep-20	9	PMPC	A2-1654: FS	A2-1674: FS
A2-1662	Trainbox Extension Reduction Costs	15	25-Aug-20	15-Sep-20	12	PMPC	A2-1658: FS	A2-1686: FS
A2-1800	STC-DTX Ops Analysis	123	31-Aug-20	02-Mar-21	0	Caltrain	A2-1750: FS 14	A2-1850: FS, A2-1860: FS
A2-1686	Present Preliminary Trainbox Ext Reduction Costs to IPMT	2	16-Sep-20	17-Sep-20	12	PMPC	A2-1662: FS	A2-1690: FS
A2-1690	IPMT Review of Preliminary Trainbox Ext Reduction Costs	10	18-Sep-20	01-Oct-20	12	IPMT	A2-1686: FS	A2-1694: FS, A2-1697: FS, A7-1450: FS
A2-1674	Present Preliminary Deferral Costs for BART & 4th/Townsend to IPMT	2	21-Sep-20	22-Sep-20	9	PMPC	A2-1666: FS, A2-1670: FS	A2-1678: FS
A2-1678	IPMT Review of Preliminary Deferral Costs for BART & 4th/Townsend	10	23-Sep-20	06-Oct-20	9	IPMT	A2-1674: FS	A2-1682: FS, A2-1697: FS
A2-1694	Update Trainbox Ext Reduction Costs	66	02-Oct-20	11-Jan-21	34	PMPC	A2-1690: FS	A2-1850: FS, A2-1860: FS



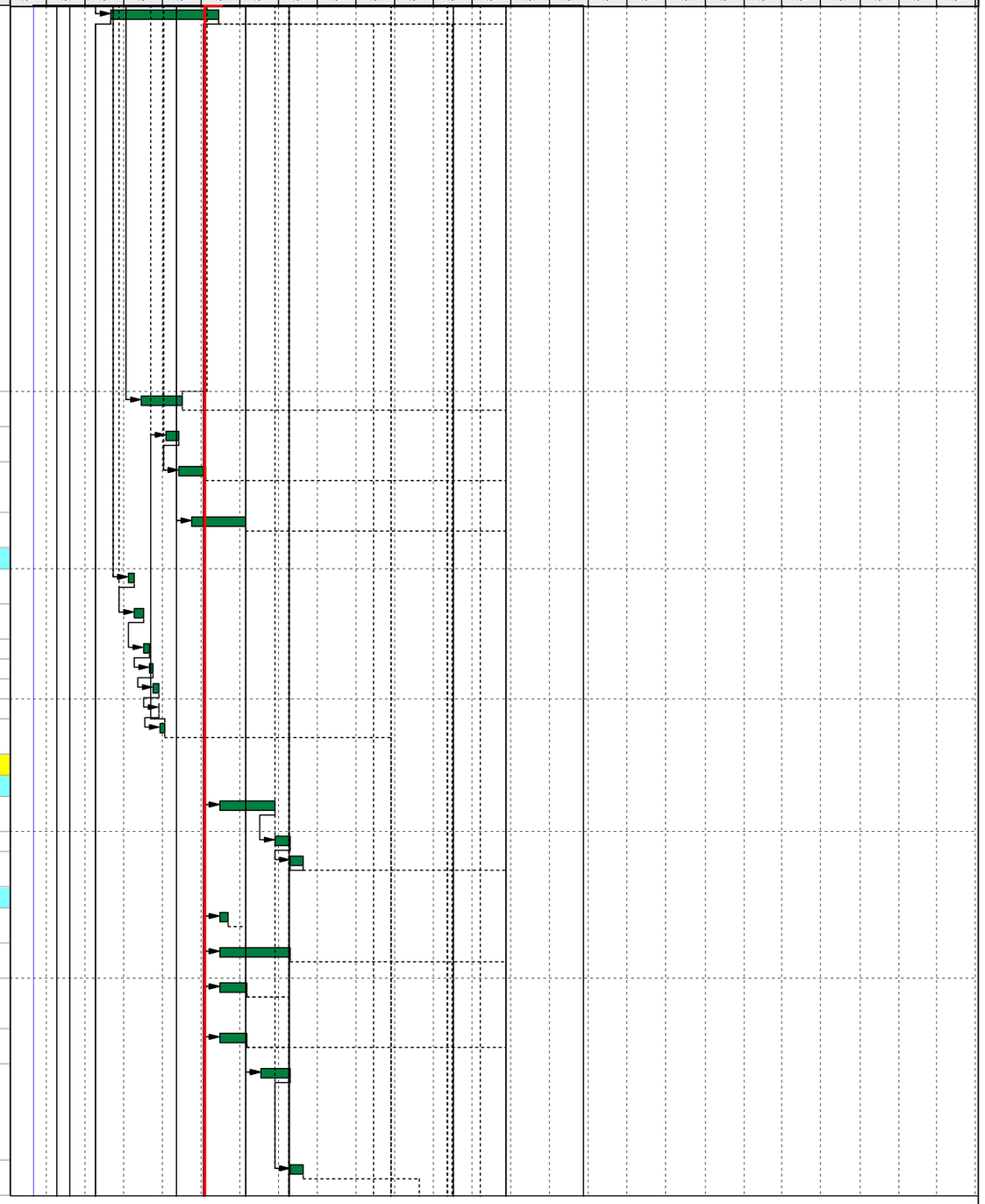
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work

TASK filter: Through FFGA.

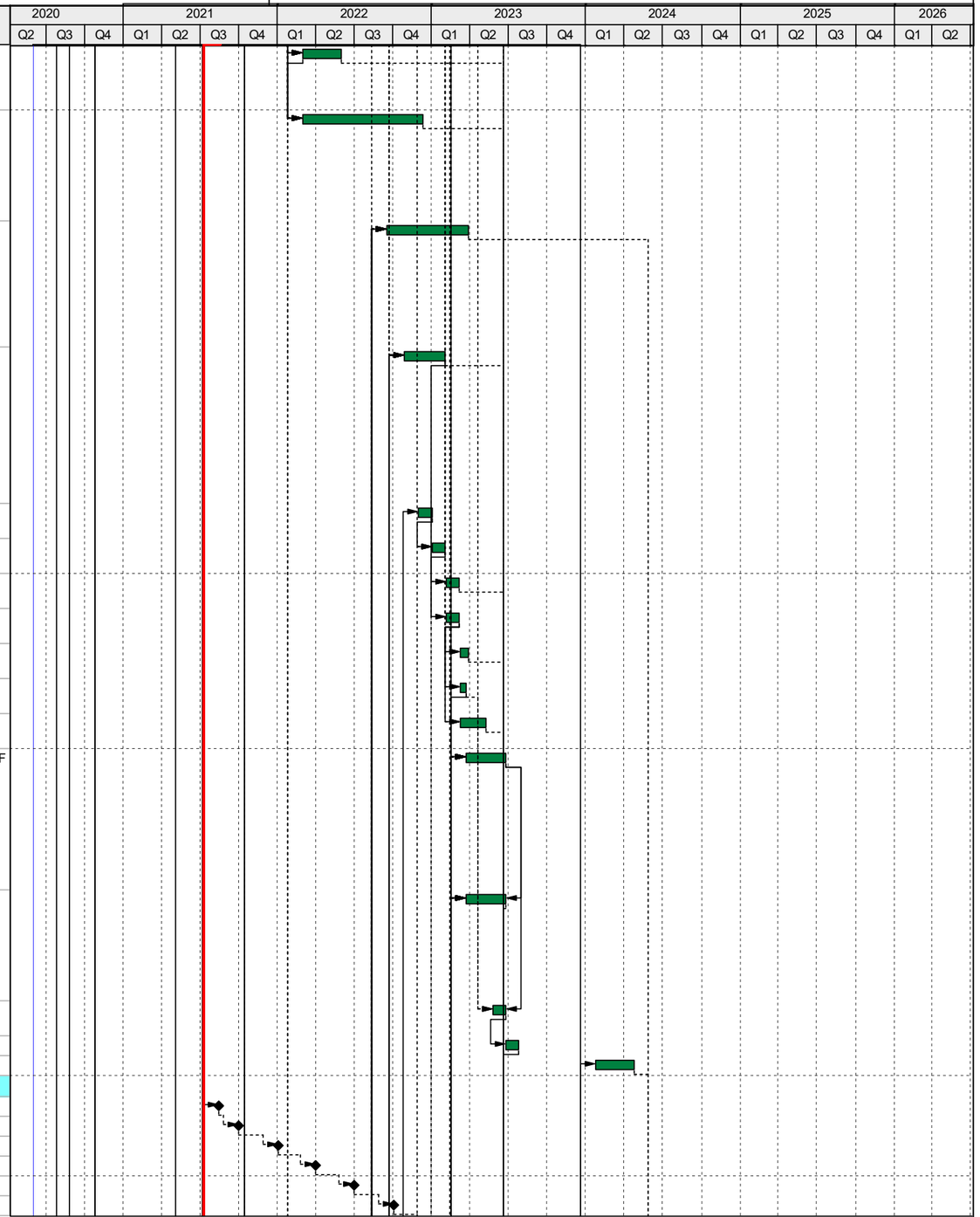
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A2-1682	Updated Deferral Costs for BART & 4th/Townsend	66	07-Oct-20	14-Jan-21	31	PMPC	A2-1678: FS	A2-1850: FS, A2-1860: FS
A2-1697	Analyze options against evaluation criteria	88	07-Oct-20	17-Feb-21	9	PMPC	A2-1690: FS, A2-1678: FS	A2-1850: FS
A2-1850	Prepare for and hold Workshop #2	40	03-Mar-21	27-Apr-21	0	PMPC	A2-1550: FS, A1-1150: FS, A2-1750: FS, A2-1800: FS, A2-1682: FS, A2-1694: FS, A2-1697: FS	A2-1870: FS
A2-1860	Prepare Business Case	40	03-Mar-21	27-Apr-21	0	PMPC	A2-1550: FS, A2-1750: FS, A2-1800: FS, A2-1682: FS, A2-1694: FS, A1-1150: FS	A2-1870: FS
A2-1870	Internal Review Draft Report #2	7	28-Apr-21	06-May-21	0	PMPC	A2-1850: FS, A2-1860: FS	A2-1900: FS
A2-1900	Updated in-progress draft report (Draft Report #2)	17	07-May-21	01-Jun-21	0	PMPC	A2-1870: FS	A2-1950: FS
A2-1950	IPMT Review and Approve Draft Report #2	20	02-Jun-21	29-Jun-21	0	IPMT	A2-1900: FS	A2-2000: FS
A2-2000	Final Report	19	30-Jun-21	27-Jul-21	0	PMPC	A2-1950: FS	A2-2050: FS, A2-1400: FS
A2-2050	Presentation to ESC	5	28-Jul-21	03-Aug-21	0	PMPC	A2-2000: FS	A2-2100: FS
A2-2100	Presentation to TJPA Board for Approval	8	04-Aug-21	13-Aug-21	0	PMPC	A2-2050: FS, A2-1300: FF	A8-1300: FS, A7-1150: FS, A7-1200: FS, A7-1250: FS, A7-1300: FS, A7-1350: FS, A7-1000: FS, A7-1050: FS, A7-1100: FS, A4-1000: FS, A2-3400: FS, A2-3000: FS, A7-0950: FS, A2-2520: FS, A1-1100: FS, A2-4800: FS, A7-1550: FS, A7-1400: FS
Industry Sounding RFI #1								
A2-2150	Develop Industry Sounding RFI Plan	16	01-Jun-20	22-Jun-20	396	PMPC	A1-1000: SS	A2-2200: FS
A2-2200	IPMT Review and Approve Industry Sounding RFI Plan	9	23-Jun-20	06-Jul-20	396	IPMT	A2-2150: FS	A2-2205: FS
A2-2205	Issue Industry Sounding RFI	38	07-Jul-20	27-Aug-20	396	TJPA	A2-2200: FS	A2-2250: FS
A2-2250	Schedule meetings	15	28-Aug-20	18-Sep-20	396	PMPC	A2-2205: FS	A2-2300: FS
A2-2300	Meetings with Contractors	7	21-Sep-20	29-Sep-20	396	PMPC	A2-2250: FS	A2-2320: FS
A2-2320	Prepare Draft Memo	22	30-Sep-20	30-Oct-20	396	PMPC	A2-2300: FS	A2-2350: FS
A2-2350	Internal Review Draft Memo	5	02-Nov-20	06-Nov-20	396	PMPC	A2-2320: FS	A2-2400: FS
A2-2400	IPMT Review Draft Memo	15	09-Nov-20	02-Dec-20	396	IPMT	A2-2350: FS	A2-2410: FS
A2-2410	Internal Review Final Memo	10	03-Dec-20	16-Dec-20	396	PMPC	A2-2400: FS	A2-2450: FS
A2-2450	Final Memo	19	17-Dec-20	14-Jan-21	396	PMPC	A2-2410: FS	A8-1300: FS, A2-3650: FS, A2-3450: FS
Facility Use Planning								
A2-1810	Scenario Planning	60	01-Sep-20	30-Nov-20	383	SFCTA	A1-1000: FS 65	A2-4800: FS, A8-1300: FS, A2-3550: FS, A2-3600: FS, A2-1820: FS
A2-3050	Ridership Modeling Forecasts	44	26-Oct-20	30-Dec-20	450	SFCTA	A2-1135: FS	A8-1300: FS, A2-3400: FS, A2-3600: FS
A2-1820	Project Benefits	44	21-Dec-20	24-Feb-21	413	SFCTA	A2-1300: FS, A2-1350: FS, A2-1810: FS	A2-3400: FS
Limited NTP								
A2-2550	Operators develop Transit Operating Plans	66	01-Dec-20	08-Mar-21	647	IPMT	A1-1160: SS	A8-1300: FS
A2-2600	Agency Project Delivery Questionnaire	66	01-Dec-20	08-Mar-21	361	PMPC	A1-1160: SS	A2-3450: FS, A2-3650: FS
A2-2650	Update Quality Management Plan (QMP)	66	01-Dec-20	08-Mar-21	647	PMPC	A1-1160: SS	A8-1300: FS
A2-2700	Updated Ground Motions Report	75	01-Dec-20	19-Mar-21	528	PMPC	A1-1160: SS	A8-1300: FS, A2-3300: FS
A2-2750	Threat and Vulnerability Assessment	132	01-Dec-20	09-Jun-21	471	IPMT	A1-1160: SS	A2-3300: FS, A2-3250: FS, A8-1300: FS, A6-2520: FS
A2-2800	Preliminary Safety Hazard Analysis (PHA)	132	01-Dec-20	09-Jun-21	493	PMPC	A1-1160: SS	A2-3250: FS, A8-1300: FS
A2-2850	Program Management Plan	132	01-Dec-20	09-Jun-21	581	PMPC	A2-2500: FF, A1-1160: S	A8-1300: FS



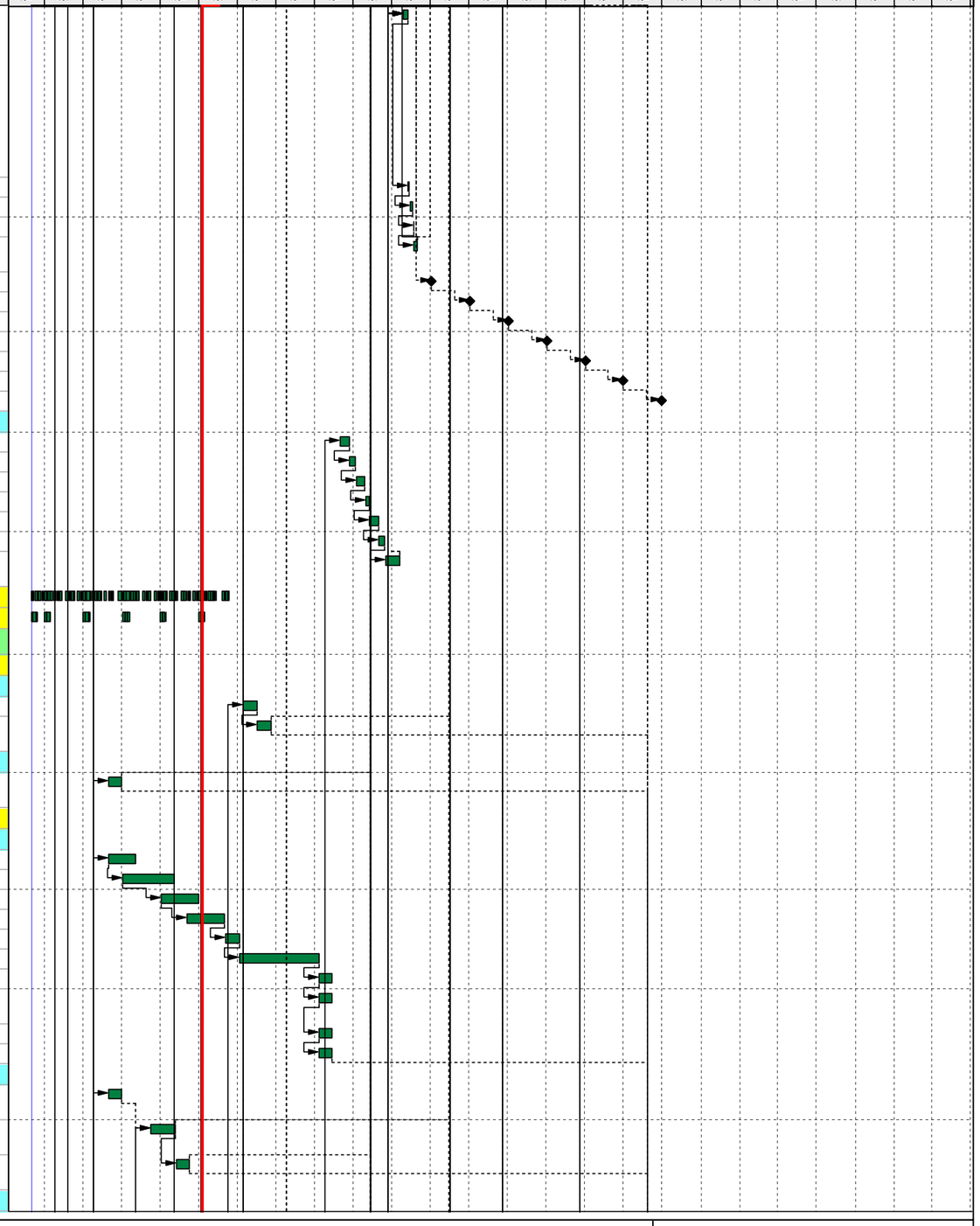
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A2-2900	Third Party Agreements Plan	176	01-Dec-20	11-Aug-21	317	TJPA	A2-1150: FS, A1-1160: SS	A2-3550: FS, A8-1300: FS, A3-1000: SS, A3-1500: SS, A3-1650: SS, A3-1750: SS, A3-2400: SS, A3-2750: SS, A3-2950: SS, A3-3200: SS, A3-3400: SS, A3-4050: SS, A3-4150: SS, A3-4250: SS, A3-4350: SS, A3-4450: SS, A3-4950: SS, A3-5100: SS, A3-5200: SS, A3-5300: SS, A3-5350: SS, A3-5550: SS, A3-5600: SS, A3-5650: SS, A3-5700: SS, A3-5750: SS, A3-5800: SS, A3-5400: SS, A2-2910: FS, A3-4410: FS, A3-6000: FS, A3-6200: FS, A3-6600: FS, A3-6500: FS, A3-6450: FS
A2-2500	Project Controls Plan	66	12-Feb-21	17-May-21	597	TJPA	A2-1250: FS, A1-1160: SS	A8-1300: FS, A2-2850: FF
A2-3350	Draft Risk & Contingency Management Plan	22	09-Apr-21	10-May-21	316	TJPA	A2-3248: FS, A1-1160: SS	A2-3450: FS
A2-3450	Project Delivery Method Report (Project Construction and Procurement Plan)	44	11-May-21	13-Jul-21	316	PMPC	A2-3350: FS, A2-2450: FS, A2-2600: FS, A1-1160: SS	A2-3500: FS, A8-1300: FS
A2-3250	Safety & Security Management Plan	88	10-Jun-21	14-Oct-21	493	TJPA	A2-2750: FS, A2-2800: FS, A1-1160: SS	A8-1300: FS
Risk Analysis Workshop#1								
A2-3200	Determine workshop participants	10	11-Jan-21	25-Jan-21	316	PMPC	A1-1160: SS, A2-1240: FS, A1-1150: FS	A2-3208: FS
A2-3208	Prepare Risk Workshop planning materials	15	26-Jan-21	16-Feb-21	316	PMPC	A2-3200: FS, A2-1240: FS	A2-3216: FS
A2-3216	IPMT review planning materials,	10	17-Feb-21	02-Mar-21	316	IPMT	A2-3208: FS	A2-3224: FS
A2-3224	Risk Assessment Workshop #1,	5	03-Mar-21	09-Mar-21	316	PMPC	A2-3216: FS	A2-3232: FS
A2-3232	Qualitative Risk Analysis	10	10-Mar-21	23-Mar-21	316	PMPC	A2-3224: FS	A2-3240: FS
A2-3240	Risk Mitigation Workshop #1	2	24-Mar-21	25-Mar-21	316	PMPC	A2-3232: FS	A2-3248: FS
A2-3248	Qualitative Risk Analysis	10	26-Mar-21	08-Apr-21	316	PMPC	A2-3240: FS	A2-3650: FS, A2-3350: FS
NTP #2								
Develop Construction and O&M Governance Structure								
A2-4800	Develop Governance Structure	88	16-Aug-21	22-Dec-21	205	IPMT	A2-1810: FS, A2-2100: FS, A2-1240: FS	A2-4830: FS
A2-4830	ESC Approval of Governance Structure	22	23-Dec-21	26-Jan-22	205	IPMT	A2-4800: FS	A2-4860: FS
A2-4860	TJPA Board Approval of Governance Structure	22	27-Jan-22	28-Feb-22	205	TJPA	A2-4830: FS	A8-1300: FS, A2-3550: FS, A2-3600: SS
NTP #2 Activities								
A2-2520	Update Cost Estimate	14	16-Aug-21	02-Sep-21	334	PMPC	A2-2100: FS, A1-1100: SS	A2-3000: FS
A2-3300	Update Basis of Design	110	16-Aug-21	26-Jan-22	425	PMPC	A2-2750: FS, A1-1100: SS, A2-2700: FS	A8-1300: FS
A2-3400	Economic Impact Study	44	16-Aug-21	18-Oct-21	293	TJPA	A2-3050: FS, A2-2100: FS, A2-1820: FS, A8-1020: FS	A2-3550: FS, A2-3600: FS
A2-3500	Project Delivery Method Decision	44	16-Aug-21	18-Oct-21	293	TJPA	A2-3450: FS, A1-1100: SS	A8-1300: FS, A2-3600: FS
A2-3000	VE Workshop #1	44	19-Nov-21	26-Jan-22	282	PMPC	A2-1000: FS, A1-1150: FS, A2-2100: FS, A2-2520: FS, A2-1240: FS, A1-1000: SS, A2-1050: FS, A7-1200: SS 66	A2-3100: FS
A2-3100	VE Evaluation Report #1	22	27-Jan-22	28-Feb-22	282	PMPC	A1-1100: SS, A2-3000: FS	A2-3850: FS



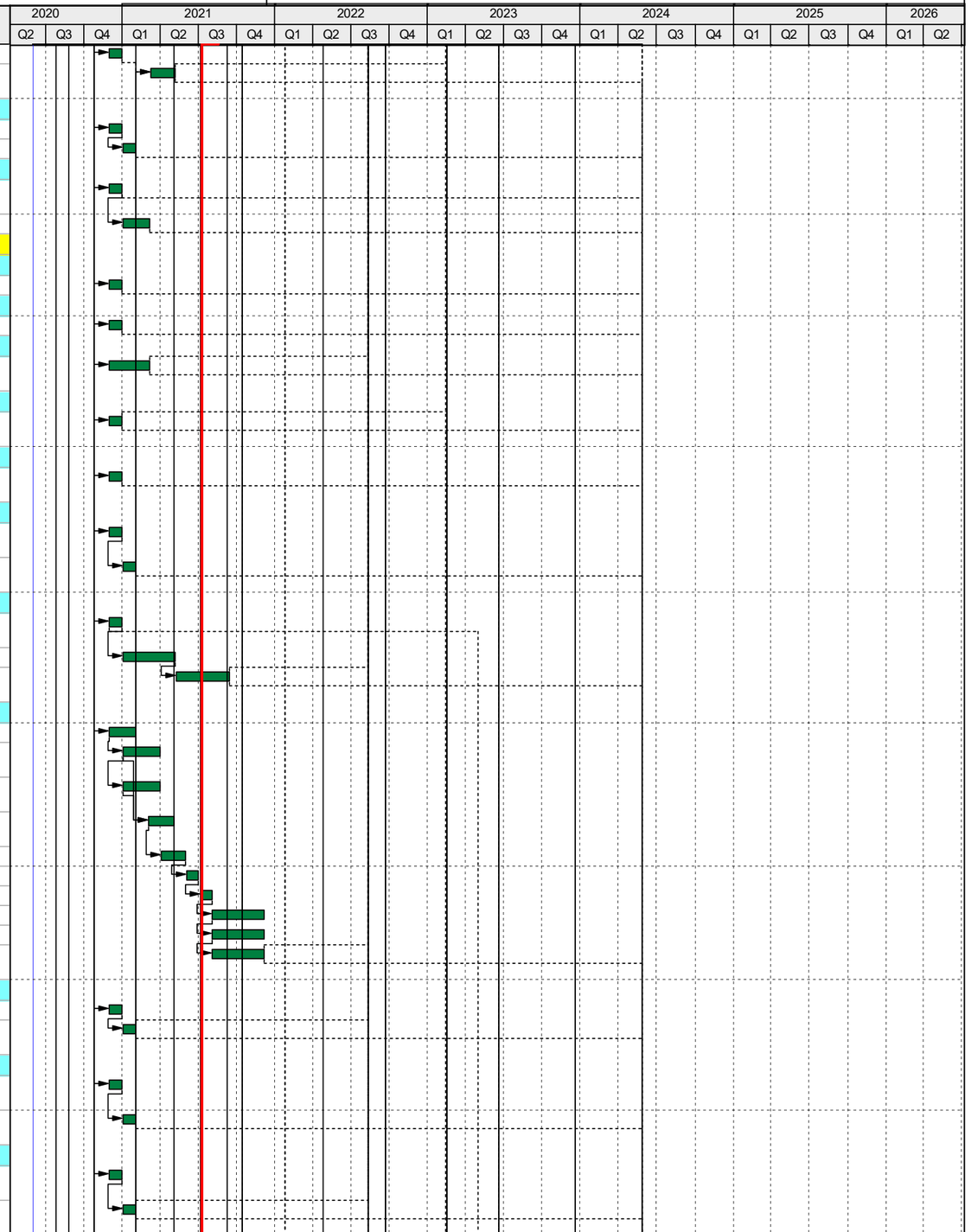
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A2-3550	Update O&M Report	66	01-Mar-22	01-Jun-22	205	TJPA	A1-1100: SS, A2-2900: FS, A2-3400: FS, A8-1030: FS, A2-4860: FS, A2-1810: FS	A8-1300: FS, A2-3600: SS
A2-3600	20-Year Financial Plan	198	01-Mar-22	12-Dec-22	205	IPMT	A2-3550: SS, A1-1100: SS, A2-3050: FS, A2-3400: FS, A2-3500: FS, A8-1030: FS, A1-1000: FS, A2-1300: FS, A2-4860: SS, A2-1810: FS	A8-1300: FS
A2-2910	Finalize Real Estate Acquisition Management Plan (RAMP)	132	16-Sep-22	30-Mar-23	317	TJPA	A2-2900: FS, A3-1600: FS, A3-4100: FS, A3-4200: FS, A3-4300: FS, A3-4400: FS, A3-4900: FS, A3-5050: FS, A3-5400: FS, A3-5550: FS, A5-1000: FS, A3-2800: FS	A8-1450: FS
A2-3700	Constructability Review	66	27-Oct-22	03-Feb-23	147	PMPC	A7-1100: SS 300, A1-1100: SS, A7-1050: SS 300, A7-1300: SS 300, A7-1500: FS, A7-1200: SS 300, A7-1400: FS, A7-1150: SS 300, A7-1550: FS, A7-1350: SS 300, A7-1450: FS, A2-4500: FS, A7-1250: SS 300	A8-1300: FS, A2-3800: FS
A2-3750	Tunnel Construction Method Decision	22	01-Dec-22	03-Jan-23	70	IPMT	A2-3690: FS	A10-1000: FS, A2-3850: FS
A2-3850	VE Workshop #2	22	04-Jan-23	03-Feb-23	70	PMPC	A2-3750: FS, A2-3690: FS, A2-3100: FS	A2-3900: FS
A2-3800	Risk & Contingency Management Plan	22	06-Feb-23	08-Mar-23	147	TJPA	A2-3700: FS, A2-3690: FS	A8-1300: FS
A2-3900	VE Evaluation Report #2	22	06-Feb-23	08-Mar-23	70	PMPC	A2-3850: FS	A2-3950: FS, A2-4000: FS, A2-3910: FS
A2-3910	WBS Update #3	14	09-Mar-23	28-Mar-23	133	PMPC	A2-3900: FS, A2-1400: FS	A8-1300: FS
A2-3950	Program Cost Estimate	11	09-Mar-23	23-Mar-23	70	TJPA	A2-3900: FS, A1-1100: SS	A2-4150: FS, A2-4100: FS
A2-4000	Program Master Schedule for FTA Submittal	44	09-Mar-23	09-May-23	103	TJPA	A2-3900: FS, A1-1100: SS	A8-1300: FS
A2-4050	Cost Estimate Peer Review	66	24-Mar-23	26-Jun-23	48	PMPC	A7-1550: FS, A7-1000: FS, A7-1050: FS, A7-1200: FS, A7-1350: FS, A7-1150: FS, A7-1400: FS, A7-1500: FS, A7-1450: FS, A2-1000: FS, A7-1100: FS, A7-1250: FS, A7-1300: FS	A2-4150: FF, A2-4100: FF
A2-4100	Finalize Funding Plan	66	24-Mar-23	26-Jun-23	70	IPMT	A3-1700: FS, A3-1550: FS, A3-5500: FS, A1-1100: SS, A2-3950: FS, A2-4050: FF, A3-5350: FS, A8-1030: FS, A1-1000: FS, A2-1300: FS	A8-1300: FS
A2-4150	Finalize Program Budget	22	25-May-23	26-Jun-23	48	TJPA	A2-4050: FF, A2-3950: FS, A1-1100: SS	A2-4155: FS
A2-4155	TJPA Board Approval of Baseline Budget	22	27-Jun-23	27-Jul-23	48	TJPA	A2-4150: FS	A8-1300: FS
A2-2855	Update PMP	66	24-Jan-24	25-Apr-24	48	PMPC	A8-1350: FS	A8-1450: FS
Risk Analysis								
A2-4600	Quarterly Risk Review	0		16-Aug-21	33		A1-1100: FS	A2-4605: FS
A2-4605	Quarterly Risk Review	0		01-Oct-21*	0		A2-4600: FS	A2-4610: FS
A2-4610	Quarterly Risk Review	0		03-Jan-22*	0		A2-4605: FS	A2-4615: FS
A2-4615	Quarterly Risk Review	0		01-Apr-22*	0		A2-4610: FS	A2-4620: FS
A2-4620	Quarterly Risk Review	0		01-Jul-22*	0		A2-4615: FS	A2-4625: FS
A2-4625	Quarterly Risk Review	0		03-Oct-22*	0		A2-4620: FS	A2-4630: FS



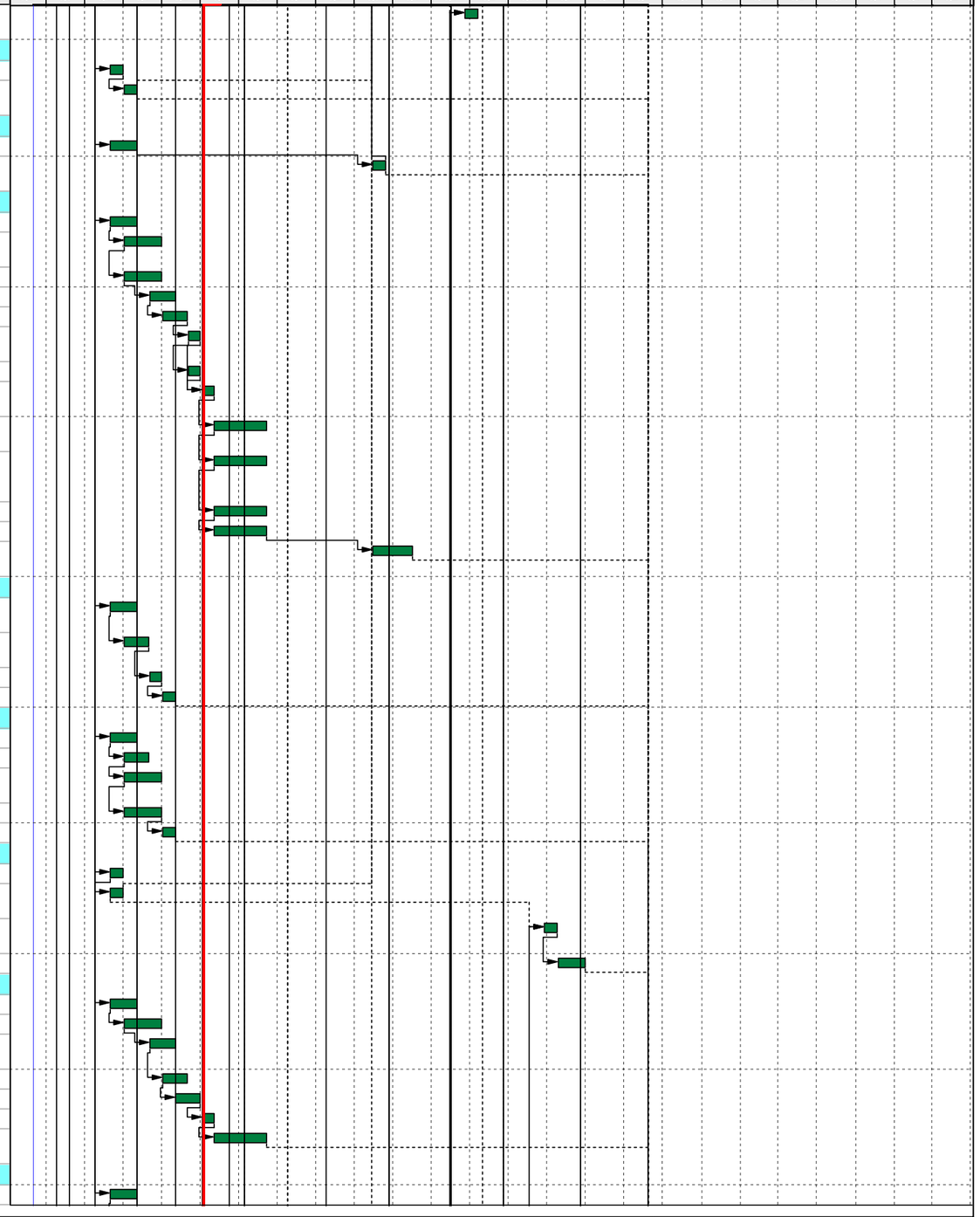
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A2-3650	Prepare Risk Workshop #2 materials	9	27-Oct-22	08-Nov-22	70	PMPC	A2-2450: FS, A7-1100: SS 300, A7-1550: SS 96, A7-1300: SS 300, A7-1150: SS 300, A7-1050: SS 300, A7-1200: SS 300, A7-1400: SS 96, A2-2600: FS, A7-1500: SS 96, A7-1350: SS 300, A2-4500: FS, A7-1250: SS 300, A2-3248: FS	A2-3660: FS
A2-3660	Risk Assessment Workshop #2	2	09-Nov-22	10-Nov-22	70	PMPC	A2-3650: FS	A2-3670: FS
A2-3670	Quantitative Risk Analysis	5	14-Nov-22	18-Nov-22	70	PMPC	A2-3660: FS	A2-3680: FS
A2-3680	Risk Mitigation Workshop #2	1	21-Nov-22	21-Nov-22	70	PMPC	A2-3670: FS	A2-3690: FS
A2-3690	Quantitative Risk Analysis,	5	22-Nov-22	30-Nov-22	70	PMPC	A2-3680: FS	A2-3750: FS, A2-3800: FS, A2-3850: FS
A2-4630	Quarterly Risk Review	0		03-Jan-23*	0		A2-4625: FS	A2-4635: FS
A2-4635	Quarterly Risk Review	0		03-Apr-23*	0		A2-4630: FS	A2-4640: FS
A2-4640	Quarterly Risk Review	0		03-Jul-23*	0		A2-4635: FS	A2-4645: FS
A2-4645	Quarterly Risk Review	0		02-Oct-23*	0		A2-4640: FS	A2-4650: FS
A2-4650	Quarterly Risk Review	0		02-Jan-24*	0		A2-4645: FS	A2-4655: FS
A2-4655	Quarterly Risk Review	0		01-Apr-24*	0		A2-4650: FS	A2-4660: FS
A2-4660	Quarterly Risk Review	0		01-Jul-24*	0		A2-4655: FS	
Industry Sounding RFI #2								
A2-4200	Update Industry Sounding RFI Plan	16	02-Jun-22	23-Jun-22	73	PMPC	A7-1200: SS 198	A2-4250: FS
A2-4250	IPMT Review and Approve Industry Sounding RFI Plan	10	24-Jun-22	08-Jul-22	73	IPMT	A2-4200: FS	A2-4300: FS
A2-4300	Schedule meetings	15	11-Jul-22	29-Jul-22	73	PMPC	A2-4250: FS	A2-4350: FS
A2-4350	Meetings with contractors	7	01-Aug-22	09-Aug-22	73	PMPC	A2-4300: FS	A2-4400: FS
A2-4400	Draft Memo	16	10-Aug-22	31-Aug-22	73	PMPC	A2-4350: FS	A2-4450: FS
A2-4450	IPMT Review Draft Memo	10	01-Sep-22	15-Sep-22	73	IPMT	A2-4400: FS	A2-4500: FS
A2-4500	Final Memo	25	16-Sep-22	21-Oct-22	73	PMPC	A2-4450: FS	A2-3700: FS, A2-3650: FS
Status Reporting								
Program Master Schedule								
Third Party Agreements								
Federal								
Federal Transit Administration (FTA)								
A3-5450	Funding Partner	22	15-Oct-21	16-Nov-21	383	TJPA	A8-1150: FS	A3-5500: FS
A3-5500	MOA Oversight of Cultural Resources (Historic / Archaeo)	22	17-Nov-21	20-Dec-21	383	TJPA	A3-5450: FS	A8-1450: FS, A2-4100: FS
Federal Railroad Administration (FRA)								
A3-5550	MOA Oversight of Cultural Resources (Historic / Archaeo)	22	01-Dec-20	31-Dec-20	745	TJPA	A2-2900: SS	A8-1450: FS, A2-2910: FS
State								
California Department of Transportation (Caltrans)								
A3-1000	Determine Whether New or Amended IGA is Pursued	42	01-Dec-20	01-Feb-21	537	TJPA	A2-2900: SS	A3-1050: SS 22
A3-1050	Negotiate Scope of Services	85	04-Jan-21	04-May-21	537	TJPA	A3-1000: SS 22	A3-1100: SS 63
A3-1100	Negotiate Associated Fees	64	05-Apr-21	02-Jul-21	537	TJPA	A3-1050: SS 63	A3-1150: SS 42
A3-1150	Draft / Finalize Terms of Cooperative Agreement	64	03-Jun-21	01-Sep-21	537	TJPA	A3-1100: SS 42	A3-1200: FS
A3-1200	Seek TJPA Board Approval	23	02-Sep-21	05-Oct-21	537	TJPA	A3-1150: FS	A3-1250: FS
A3-1250	Issue Task Orders to Initiate Work	127	06-Oct-21	12-Apr-22	537	TJPA	A3-1200: FS	A3-1300: FS
A3-1300	Design Review / PSR Oversight	21	13-Apr-22	11-May-22	537	TJPA	A3-1250: FS	A3-1350: SS
A3-1350	ROW Certification Approval	21	13-Apr-22	11-May-22	537	TJPA	A3-1300: SS	A10-1000: FS, A3-1400: SS, A10-1050: FS
A3-1400	Construction Oversight	21	13-Apr-22	11-May-22	537	TJPA	A3-1350: SS	A3-1450: SS
A3-1450	Continue MOA Oversight for Cultural Resources	21	13-Apr-22	11-May-22	537	TJPA	A3-1400: SS	A8-1450: FS
Caltrain / Peninsula Corridor Joint Powers Board								
A3-1500	Oversight to Ensure Operational Criteria Met / Engineering Support	22	01-Dec-20	31-Dec-20	581	TJPA	A2-2900: SS	A3-1550: FS
A3-1550	Negotiate Passenger Facility Charge (PFC) if applicable	44	09-Mar-21	07-May-21	537	TJPA	A3-1500: FS, A8-1015: FS	A2-4100: FS, A3-1600: FS
A3-1600	Continue MOA Oversight for Cultural Resources	22	10-May-21	09-Jun-21	635	TJPA	A3-1550: FS	A8-1450: FS, A2-2910: FS
California High Speed Rail Authority (CHSRA)								



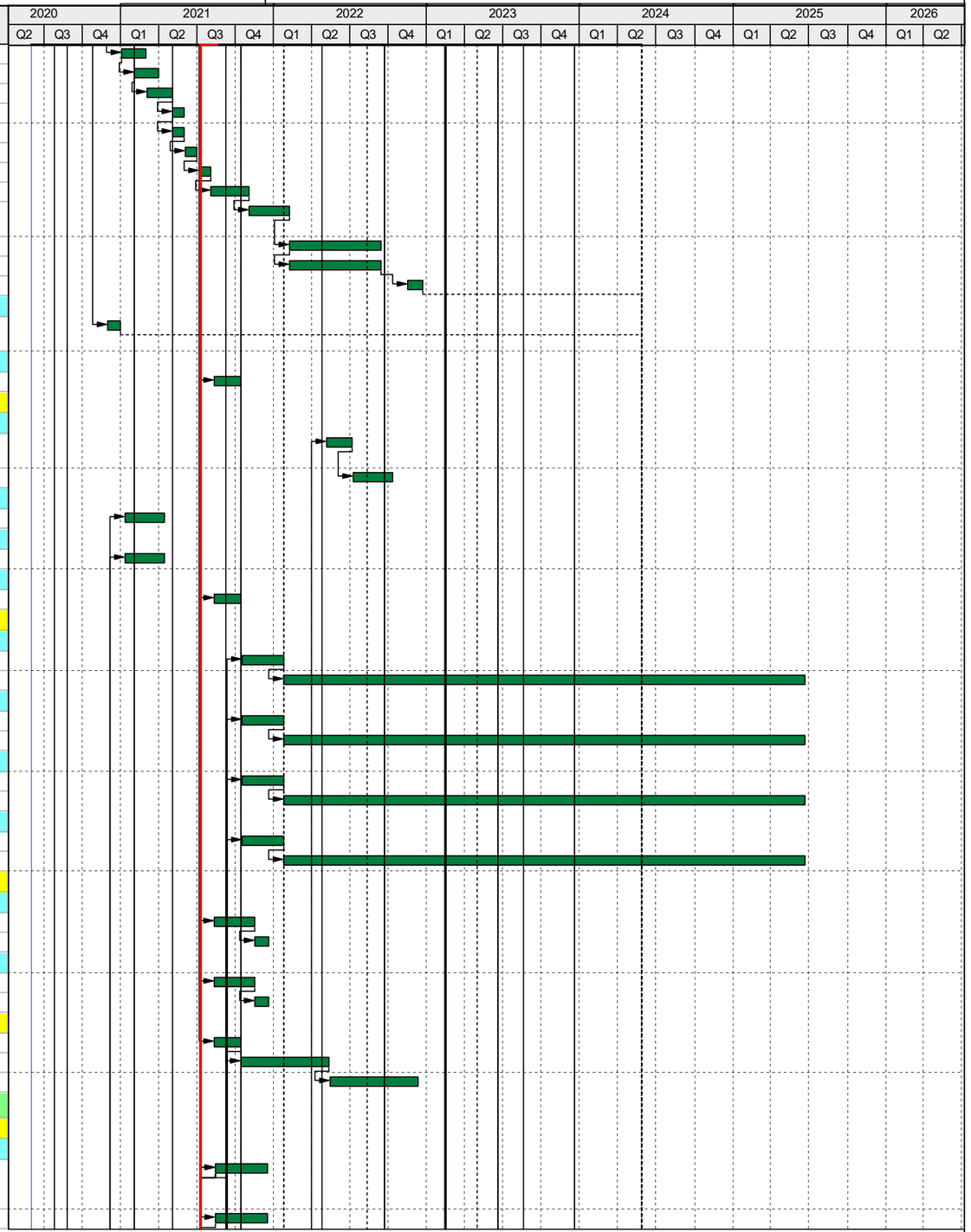
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A3-1650	Oversight to Ensure Operational Criteria Met	22	01-Dec-20	31-Dec-20	581	TJPA	A2-2900: SS	A3-1700: FS
A3-1700	Negotiate Passenger Facility Charge (PFC), if applicable	44	09-Mar-21	07-May-21	537	TJPA	A3-1650: FS, A8-1015: FS	A2-4100: FS, A8-1450: FS
State Historic Preservation Officer (SHPO)								
A3-5600	MOA Oversight of Cultural Resources (Historic / Archaeo)	22	01-Dec-20	31-Dec-20	855	TJPA	A2-2900: SS	A3-5620: FS
A3-5620	Develop Action Plan for Cultural Resource Findings	22	04-Jan-21	03-Feb-21	855	TJPA	A3-5600: FS	A8-1450: FS
California Public Utilities Commission (CPUC)								
A3-5800	Grade Crossing Coordination	22	01-Dec-20	31-Dec-20	833	TJPA	A2-2900: SS	A8-1450: FS, A9-1100: FS, A3-5820: FS
A3-5820	Safety Certification Plan	44	04-Jan-21	08-Mar-21	833	TJPA	A3-5800: FS	A8-1450: FS
Local								
SF Flood Plain Management Program								
A3-5700	Placeholder for Future Activity	22	01-Dec-20	31-Dec-20	877	TJPA	A2-2900: SS	A8-1450: FS
SF Office of Resilience and Recovery								
A3-5750	Placeholder for Future Activity	22	01-Dec-20	31-Dec-20	877	TJPA	A2-2900: SS	A8-1450: FS
SF Relocation Appeals Board								
A3-5400	Create and secure approvals	66	01-Dec-20	08-Mar-21	701	TJPA	A2-2900: SS	A8-1450: FS, A2-2910: FS
SF County Transportation Authority (SFCTA)								
A3-5350	Funding Partner	22	01-Dec-20	31-Dec-20	625	TJPA	A2-2900: SS	A8-1450: FS, A2-4100: FS
SF Department of Emergency Management (SFDEM)								
A3-5300	Emergency Radio Communications (800MHz?)	22	01-Dec-20	31-Dec-20	877	TJPA	A2-2900: SS	A9-1100: FS, A8-1450: FS
SF Department of Technology (DT)								
A3-5100	Determine if Engineering / Inspection Needed for City Fiber / Copper	22	01-Dec-20	31-Dec-20	855	TJPA	A2-2900: SS	A3-5150: FS
A3-5150	Confirm Emergency Responder Radio Communications Requirements	22	04-Jan-21	03-Feb-21	855	TJPA	A3-5100: FS	A8-1450: FS
SF Real Estate Division								
A3-4950	Street Vacation Legislation	22	01-Dec-20	31-Dec-20	569	TJPA	A2-2900: SS	A3-5000: FS, A4-2850: SS
A3-5000	Request Caltrans Convey Parcel Q to City	88	04-Jan-21	07-May-21	569	TJPA	A3-4950: FS	A3-5050: FS
A3-5050	After Caltrans Conveys Parcel Q to City, City Conveys to TJPA	88	10-May-21	13-Sep-21	569	TJPA	A3-5000: FS	A8-1450: FS, A2-2910: FS
SF Public Works (SFPW)								
A3-4450	Determine Whether New or Amended IGA is Pursued	42	01-Dec-20	01-Feb-21	513	TJPA	A2-2900: SS	A3-4500: SS 22
A3-4500	Negotiate Scope to Engineer Relocation of City Utilities	63	04-Jan-21	02-Apr-21	513	TJPA	A3-4450: SS 22	A3-4550: SS, A3-4600: SS 41
A3-4550	If Design-Build, Are Permit Apps Submitted @ 30%: street improvement, major encoachments, sidewalk legislation?	63	04-Jan-21	02-Apr-21	513	TJPA	A3-4500: SS	A3-4600: SS 41
A3-4600	Negotiate / Estimate Associated Engineering / Inspection Fees	44	04-Mar-21	04-May-21	513	TJPA	A3-4550: SS 41, A3-4500: SS 41	A3-4650: SS 22
A3-4650	Draft / Finalize Terms of IGA	42	05-Apr-21	02-Jun-21	513	TJPA	A3-4600: SS 22	A3-4700: FS
A3-4700	Seek TJPA Board Approval	22	03-Jun-21	02-Jul-21	513	TJPA	A3-4650: FS	A3-4750: FS
A3-4750	Issue Task Orders to Initiate Work	22	06-Jul-21	04-Aug-21	513	TJPA	A3-4700: FS	A3-4800: FS
A3-4800	Engineer Relocation for AWSS/SFFD	83	05-Aug-21	06-Dec-21	513	TJPA	A3-4750: FS	A3-4850: SS
A3-4850	Engineer Relocation for Domestic Water/CDD	83	05-Aug-21	06-Dec-21	513	TJPA	A3-4800: SS	A3-4900: SS
A3-4900	Engineer Relocation for Sewer/Storm Drain/SFPUC	83	05-Aug-21	06-Dec-21	513	TJPA	A3-4850: SS	A8-1450: FS, A9-1100: FS, A2-2910: FS
SF Planning								
A3-4150	Street Vacation Referrals via Fees	22	01-Dec-20	31-Dec-20	723	TJPA	A2-2900: SS	A3-4200: FS
A3-4200	Continue MOA Oversight for Cultural Resources	22	04-Jan-21	03-Feb-21	723	TJPA	A3-4150: FS	A8-1450: FS, A2-2910: FS
Metropolitan Transportation Commission (MTC)								
A3-5200	Coordinate / Negotiate Ticket Vending Machines (Clipper 2.0?)	22	01-Dec-20	31-Dec-20	855	TJPA	A2-2900: SS	A3-5250: FS
A3-5250	Coordinate Digital Sign Direction	22	04-Jan-21	03-Feb-21	855	TJPA	A3-5200: FS	A10-1700: FS, A8-1450: FS
SF Public Utilities Commission (SFPUC)								
A3-4350	Via Street Improvement Permit - BLHP Streetlight Design Review / Inspection	22	01-Dec-20	31-Dec-20	723	TJPA	A2-2900: SS	A3-4400: FS
A3-4400	Confirm Utility Relocation Engineering of SFPUC Facilities via SFPW	22	04-Jan-21	03-Feb-21	723	TJPA	A3-4350: FS	A9-1100: FS, A8-1450: FS, A2-2910: FS



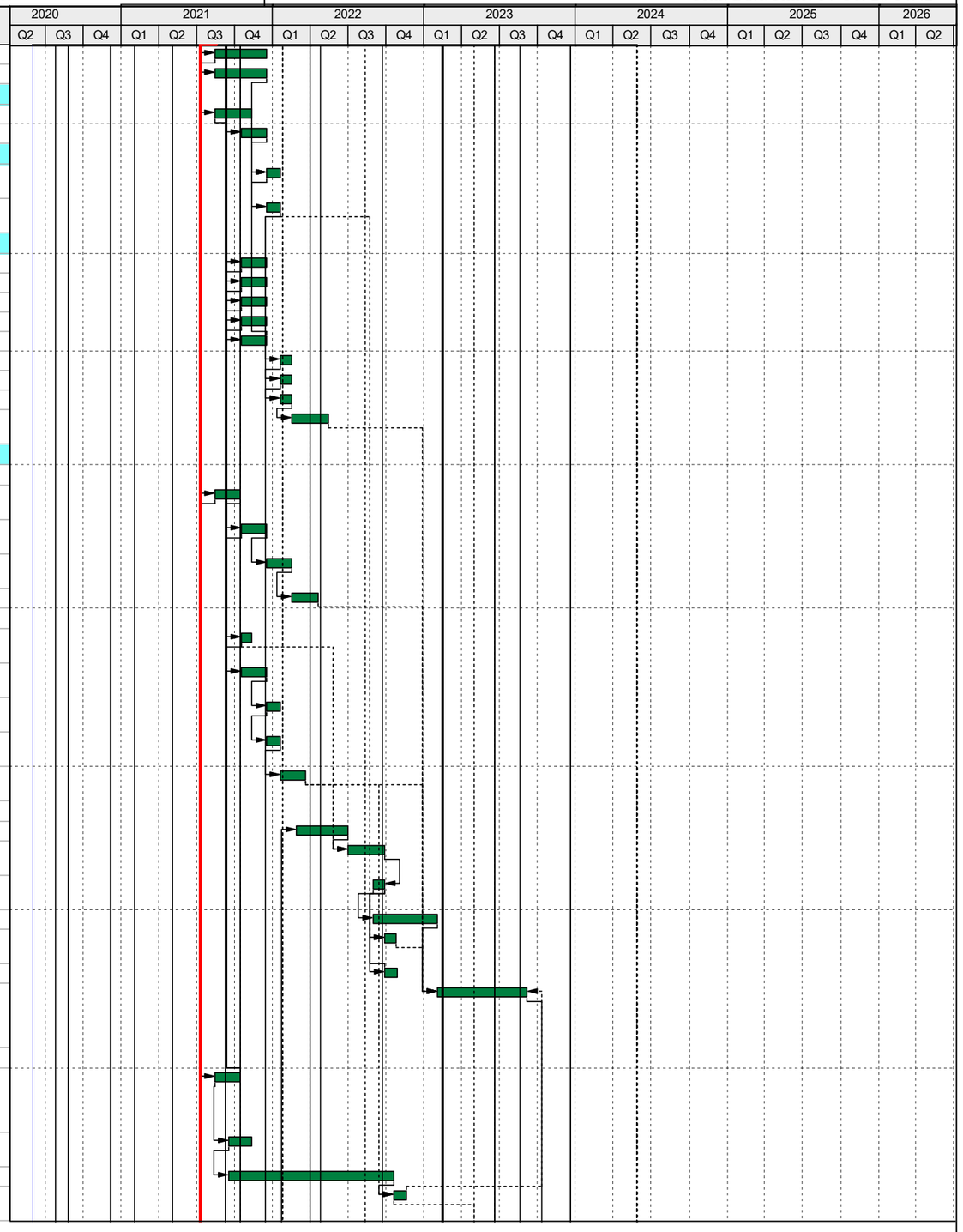
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A3-4410	Electrical Service Agreement	22	21-Mar-23	19-Apr-23	1134	TJPA	A2-2900: FS, A7-1300: FS	A10-1500: SS
Port of San Francisco								
A3-4250	Burton Act / Port Trust Strategy	22	01-Dec-20	31-Dec-20	723	TJPA	A2-2900: SS	A3-4300: FS
A3-4300	Negotiated Strategy?	22	04-Jan-21	03-Feb-21	723	TJPA	A3-4250: FS	A8-1450: FS, A2-2910: FS
SF Office of Community Investment and Infrastructure (OCII)								
A3-4050	Determine Whether New or Amended IGA is Pursued	42	01-Dec-20	01-Feb-21	317	TJPA	A2-2900: SS	A3-4100: FS 386
A3-4100	Coordinate with OCII in Development of Parcel Q RFP for Affordable Housing	22	16-Aug-22	15-Sep-22	317	TJPA	A3-4050: FS 386	A8-1450: FS, A2-2910: FS
SF Municipal Transportation Agency (SFMTA)								
A3-3400	Determine Whether new or Amended IGA is Pursued	42	01-Dec-20	01-Feb-21	406	TJPA	A2-2900: SS	A3-3450: SS 22
A3-3450	Negotiate Scope for OCS/Traffic/Re-routes/Digital Content/TCOs Eng./Inspection for Temp & Final Relocations	63	04-Jan-21	02-Apr-21	406	TJPA	A3-3400: SS 22	A3-3500: SS
A3-3500	Negotiate Scope for TCOs @ TT (IGA or Contractor?)	63	04-Jan-21	02-Apr-21	406	TJPA	A3-3450: SS	A3-3550: SS 41
A3-3550	Negotiate Associated Fees	44	04-Mar-21	04-May-21	406	TJPA	A3-3500: SS 41	A3-3600: SS 22
A3-3600	Draft / Finalize Terms of IGA	42	05-Apr-21	02-Jun-21	406	TJPA	A3-3550: SS 22	A3-3650: FS
A3-3650	Seek SFMTA Board Approval	22	03-Jun-21	02-Jul-21	406	TJPA	A3-3600: FS	A3-3750: FS, A3-3700: SS
A3-3700	Seek TJPA Board Approval	22	03-Jun-21	02-Jul-21	406	TJPA	A3-3650: SS	A3-3750: FS
A3-3750	Issue Task Orders to Initiate Work to 30% Design for Utility Relocation Report	22	06-Jul-21	04-Aug-21	406	TJPA	A3-3700: FS, A3-3650: FS	A3-3800: FS
A3-3800	OCS Engineering / Inspection for Temporary & Final Relocations	83	05-Aug-21	06-Dec-21	406	TJPA	A3-3750: FS	A3-3850: SS
A3-3850	Design or Design Review of Traffic Engineering (Street Legislation, Signals, Vehicle/Bicycle Lanes, Crosswalks, Signs)	83	05-Aug-21	06-Dec-21	406	TJPA	A3-3800: SS	A3-3900: SS
A3-3900	MUNI Reroute Coordination (Diesel Bus Bridge Future Cost	83	05-Aug-21	06-Dec-21	406	TJPA	A3-3850: SS	A3-3950: SS
A3-3950	Traffic Diversion Plan Coordination if Beyond Blue Book	83	05-Aug-21	06-Dec-21	406	TJPA	A3-3900: SS	A4-4000: FS 174
A3-4000	Ticket Vending Machines (TVMs)	65	16-Aug-22	17-Nov-22	406	TJPA	A3-3950: FS 174	A8-1450: FS, A9-1100: FS
SF Mayor's Office on Disability (MOD)								
A3-3200	Determine Form of IGA (Invoice/Check Request?) for Design Review & Inspection as Consultant	42	01-Dec-20	01-Feb-21	792	TJPA	A2-2900: SS	A3-3250: SS 22
A3-3250	Determine Jurisdiction - Occupied (and Potentially Occupied?) Spaces	41	04-Jan-21	03-Mar-21	792	TJPA	A3-3200: SS 22	A3-3300: FS
A3-3300	Negotiate Associated Fees	22	04-Mar-21	02-Apr-21	792	TJPA	A3-3250: FS	A3-3350: FS
A3-3350	Seek TJPA Board Approval	22	05-Apr-21	04-May-21	792	TJPA	A3-3300: FS	A8-1450: FS
SF Fire Department (SFFD)								
A3-2950	Confirm SFFD Review via DBI Task Orders	42	01-Dec-20	01-Feb-21	792	TJPA	A2-2900: SS	A3-3000: SS 22
A3-3000	Confirm SFFD Inspection via Deferred Submitall Review	41	04-Jan-21	03-Mar-21	792	TJPA	A3-2950: SS 22	A3-3050: SS
A3-3050	Determine Jurisdiction for Phase 2 Elements (e.g. tunnels, LC/TP levels, 4th/Townsend Stn)	63	04-Jan-21	02-Apr-21	792	TJPA	A3-3000: SS	A3-3100: SS
A3-3100	Draft / Finalize Terms of IGA	63	04-Jan-21	02-Apr-21	792	TJPA	A3-3050: SS	A3-3150: FS
A3-3150	Seek TJPA Board Approval	22	05-Apr-21	04-May-21	792	TJPA	A3-3100: FS	A8-1450: FS
SF City Attorney								
A3-2750	Street Vacation Legislation	22	01-Dec-20	31-Dec-20	745	TJPA	A2-2900: SS	A3-2800: SS
A3-2800	Burton Act / Port Trust Strategy	22	01-Dec-20	31-Dec-20	745	TJPA	A3-2750: SS	A3-2850: SS, A2-2910: FS
A3-2850	File Eminent Domain As Needed	22	26-Sep-23	26-Oct-23	129	TJPA	A3-2800: SS, A5-1350: FS	A3-2900: FS
A3-2900	Determine Whether New or Amended IGA is Pursued	42	27-Oct-23	29-Dec-23	129	TJPA	A3-2850: FS	A8-1450: FS
SF Department of Building Inspection (DBI)								
A3-2400	Determine Whether New or Amended IGA is Pursued	42	01-Dec-20	01-Feb-21	645	TJPA	A2-2900: SS	A3-2450: SS 22
A3-2450	Determine Jurisdiction for Phase 2 Elements	63	04-Jan-21	02-Apr-21	645	TJPA	A3-2400: SS 22	A3-2500: SS 41
A3-2500	Confirm Scope for Design Review and Inspection as Consultant	44	04-Mar-21	04-May-21	645	TJPA	A3-2450: SS 41	A3-2550: SS 22
A3-2550	Negotiate Associated Fees	42	05-Apr-21	02-Jun-21	645	TJPA	A3-2500: SS 22	A3-2600: SS 22
A3-2600	Draft / Finalize Terms of IGA	42	05-May-21	02-Jul-21	645	TJPA	A3-2550: SS 22	A3-2650: FS
A3-2650	Seek TJPA Board Approval	22	06-Jul-21	04-Aug-21	645	TJPA	A3-2600: FS	A3-2700: FS
A3-2700	Issue Task Orders to Initiate Work (e.g. LC/TP levels, 4th & Townsend Stn, etc)	83	05-Aug-21	06-Dec-21	645	TJPA	A3-2650: FS	A8-1450: FS
SF Arts Commission (SFAC)								
A3-1750	Determine Whether New or Amended IGA is Pursued	42	01-Dec-20	01-Feb-21	383	TJPA	A2-2900: SS	A3-1800: SS 22



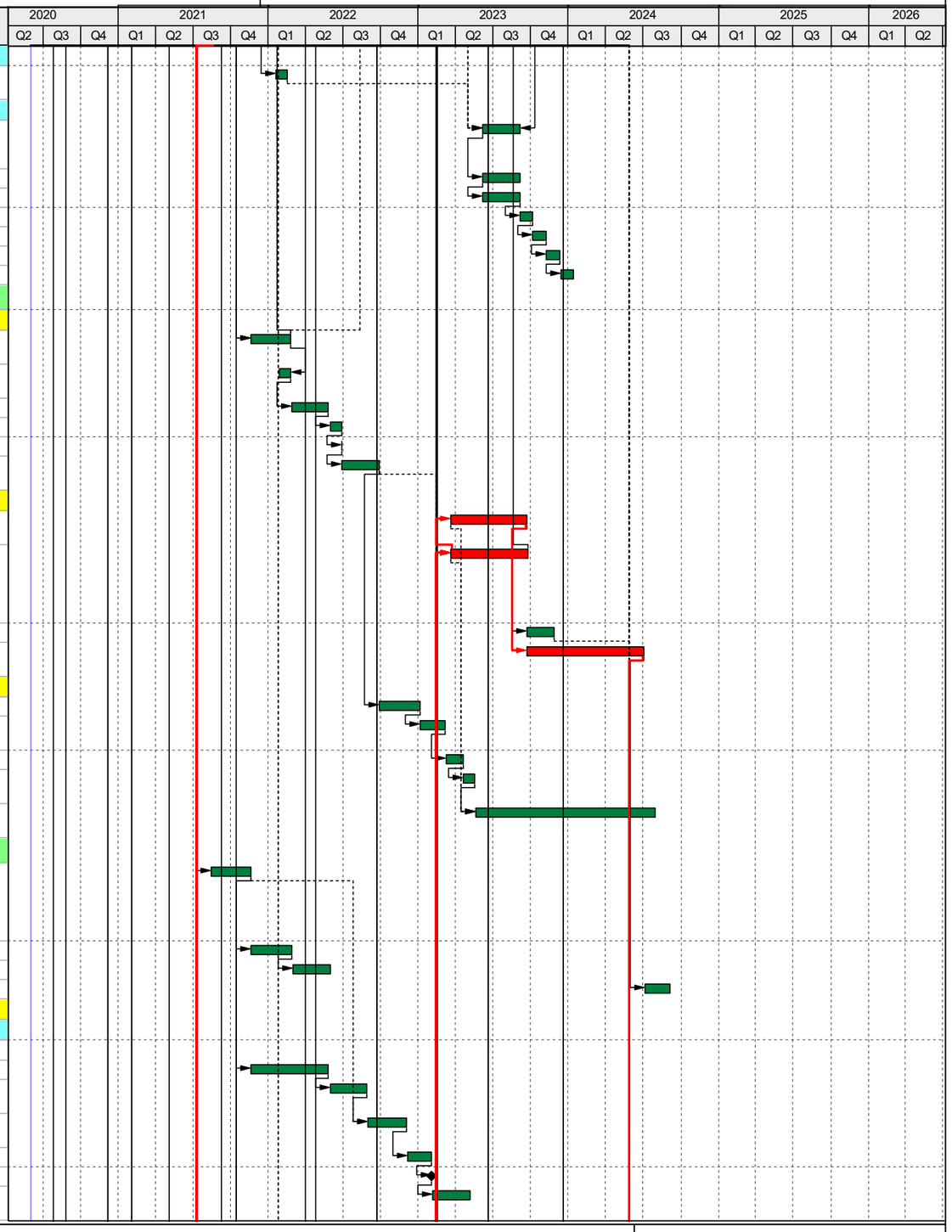
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A3-1800	Confirm Scope	41	04-Jan-21	03-Mar-21	383	TJPA	A3-1750: SS 22	A3-1850: SS 20
A3-1850	Negotiate Associated Fees & Art Budget	43	02-Feb-21	02-Apr-21	383	TJPA	A3-1800: SS 20	A3-1900: SS 21
A3-1900	Draft / Finalize Terms of IGA	44	04-Mar-21	04-May-21	383	TJPA	A3-1850: SS 21	A3-1950: FS
A3-1950	Seek Arts Commission Approval	20	05-May-21	02-Jun-21	383	TJPA	A3-1900: FS	A3-2000: SS
A3-2000	Seek TJPA Board Approval	20	05-May-21	02-Jun-21	383	TJPA	A3-1950: SS	A3-2050: FS
A3-2050	Issue Task Orders to Initiate Work	22	03-Jun-21	02-Jul-21	383	TJPA	A3-2000: FS	A3-2100: FS
A3-2100	Joint Selection of Venues / Types of Art	22	06-Jul-21	04-Aug-21	383	TJPA	A3-2050: FS	A3-2150: FS
A3-2150	Manage Artist Selection Process	62	05-Aug-21	02-Nov-21	383	TJPA	A3-2100: FS	A3-2200: FS
A3-2200	Contract with Artists (Venues Previously Identified: RP, BD, GH, LC, TP)	64	03-Nov-21	08-Feb-22	383	TJPA	A3-2150: FS	A3-2250: FS
A3-2250	Integration with Design Documents	153	09-Feb-22	15-Sep-22	383	TJPA	A3-2200: FS	A3-2300: SS
A3-2300	Artist Contract Oversight	153	09-Feb-22	15-Sep-22	383	TJPA	A3-2250: SS	A3-2350: FS 43
A3-2350	Art Design / Installation Oversight	23	18-Nov-22	22-Dec-22	383	TJPA	A3-2300: FS 43	A8-1450: FS
Bicycle Advisory Committee								
A3-5650	Placeholder for Future Activity	22	01-Dec-20	31-Dec-20	877	TJPA	A2-2900: SS	A9-1100: FS, A8-1450: FS
SFPD								
A3-6000	Security Support Agreement	44	12-Aug-21	14-Oct-21	3405	TJPA	A2-2900: FS	A10-1850: FS
Operators								
BART								
A3-6050	Receive Approval for BART/Muni Pedestrian Connection Design	44	06-May-22	08-Jul-22	1558	TJPA	A7-1500: FS	A3-6070: FS
A3-6070	Use Agreement	66	11-Jul-22	12-Oct-22	1558	TJPA	A3-6050: FS	A10-1350: FS
Greyhound								
A3-6100	Lease Agreement IBF	66	12-Jan-21	15-Apr-21	2180	TJPA	A7-1450: FS	A10-1400: FS
Amtrack								
A3-6150	Lease Agreement IBF	66	12-Jan-21	15-Apr-21	2180	TJPA	A7-1450: FS	A10-1400: FS
AC Transit								
A3-6200	Lease Agreement for BSF for Event Parking	44	12-Aug-21	14-Oct-21	3405	TJPA	A2-2900: FS	A10-1850: FS
Private Utilities								
PG&E								
A3-6250	Negotiate scope, cost, and cost sharing	66	18-Oct-21	25-Jan-22	180	TJPA	A4-2600: FS	A3-6255: FS
A3-6255	Construction Oversight	853	26-Jan-22	20-Jun-25	180	TJPA	A3-6250: FS	A9-2850: FF
AT&T								
A3-6300	Negotiate Scope and Cost	66	18-Oct-21	25-Jan-22	180	TJPA	A4-2600: FS	A3-6305: FS
A3-6305	Construction Oversight	853	26-Jan-22	20-Jun-25	180	TJPA	A3-6300: FS	A9-2850: FF
Comcast								
A3-6350	Negotiate Scope and Cost	66	18-Oct-21	25-Jan-22	180	TJPA	A4-2600: FS	A3-6355: FS
A3-6355	Construction Oversight	853	26-Jan-22	20-Jun-25	180	TJPA	A3-6350: FS	A9-2850: FF
Verizon								
A3-6400	Negotiate Scope and Cost	66	18-Oct-21	25-Jan-22	180	TJPA	A4-2600: FS	A3-6405: FS
A3-6405	Construction Oversight	853	26-Jan-22	20-Jun-25	180	TJPA	A3-6400: FS	A9-2850: FF
Other								
Trade Council and Union								
A3-6450	Negotiate Scope	66	12-Aug-21	16-Nov-21	1078	TJPA	A2-2900: FS	A3-6460: FS
A3-6460	Sign and Execute Agreement	22	17-Nov-21	20-Dec-21	1078	TJPA	A3-6450: FS	A10-1150: FS
Golden Gate Disposal & Recycling Co.								
A3-6500	Negotiate Scope	66	12-Aug-21	16-Nov-21	1078	TJPA	A2-2900: FS	A3-6510: FS
A3-6510	Sign and Execute Agreement	22	17-Nov-21	20-Dec-21	1078	TJPA	A3-6500: FS	A10-1150: FS
Real Estate Agreements								
A3-6600	Right of Entry	44	12-Aug-21	14-Oct-21	834	TJPA	A2-2900: FS	A3-6650: FS
A3-6650	Temporary Construction Easements	144	15-Oct-21	13-May-22	834	TJPA	A3-6600: FS	A3-6700: FS
A3-6700	Permanent Easements	144	16-May-22	12-Dec-22	834	TJPA	A3-6650: FS	A10-1150: FS
Public Right of Way								
Street Vacation								
ROW Engineering								
A4-1000	Plans / Sections to Describe Where DTX Occupies Public Right-of-Way	84	16-Aug-21	16-Dec-21	180	GEC	A1-1100: SS, A2-2100: FS	A4-1850: SS, A4-1200: SS, A4-1050: SS, A4-1400: SS 43
A4-1050	Renderings	84	16-Aug-21	16-Dec-21	550	GEC	A4-1000: SS	A4-1100: SS



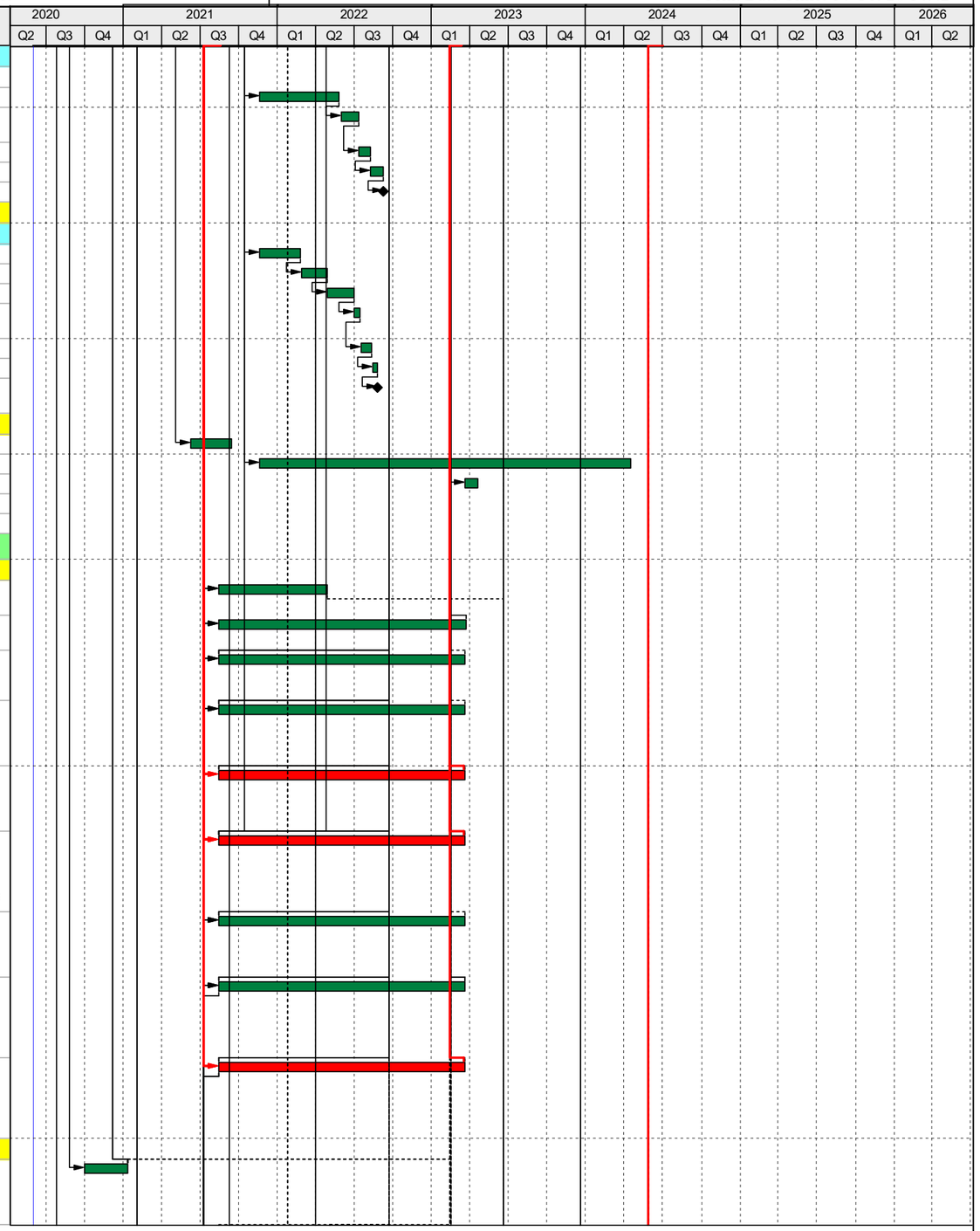
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A4-1100	Photographs (Aerial & On Affected Streets)	84	16-Aug-21	16-Dec-21	550	GEC	A4-1050: SS	A4-1150: SS
A4-1150	Block / Lot Diagram of Adjacent & Affected Properties	84	16-Aug-21	16-Dec-21	550	GEC	A4-1100: SS	A4-1300: FS
Legal Strategy								
A4-1200	Research Street Vacation vs Franchise	62	16-Aug-21	12-Nov-21	550	TJPA	A4-1000: SS	A4-1250: SS 43
A4-1250	Recommend Strategy to TJPA	41	18-Oct-21	16-Dec-21	550	TJPA	A4-1200: SS 43	A4-1300: FS
TJPA Board								
A4-1300	Petition Letter	20	17-Dec-21	18-Jan-22	550	TJPA	A4-1250: FS, A4-1600: FS, A4-1150: FS	A4-1350: SS
A4-1350	Staff Report / Resolution	20	17-Dec-21	18-Jan-22	550	TJPA	A4-1300: SS	A4-1650: FS, A4-2800: FS, A4-2450: FS
Planning								
A4-1400	Assemble ROW Engineering Supporting Materials	41	18-Oct-21	16-Dec-21	550	TJPA	A4-1000: SS 43	A4-1450: SS
A4-1450	Confirm with Planning Fees to be Submitted	41	18-Oct-21	16-Dec-21	550	TJPA	A4-1400: SS	A4-1500: SS
A4-1500	Draft General Plan Referral	41	18-Oct-21	16-Dec-21	550	TJPA	A4-1450: SS	A4-1550: SS
A4-1550	Draft Priority Policies Consistency	41	18-Oct-21	16-Dec-21	550	TJPA	A4-1500: SS	A4-1600: SS
A4-1600	Statement of Environmental Clearance	41	18-Oct-21	16-Dec-21	550	TJPA	A4-1550: SS	A4-1300: FS
A4-1650	Request TJPA Check to Submit for Fees	20	19-Jan-22	15-Feb-22	550	TJPA	A4-1350: FS	A4-1700: SS
A4-1700	Request General Plan Referral	20	19-Jan-22	15-Feb-22	550	TJPA	A4-1650: SS	A4-1750: SS
A4-1750	Request Priority Policies Consistency Statement	20	19-Jan-22	15-Feb-22	550	TJPA	A4-1700: SS	A4-1800: FS
A4-1800	Planning Issues General Plan Referral / Priority Policies Consistency	63	16-Feb-22	16-May-22	550	TJPA	A4-1750: FS	A9-1100: FS, A4-2550: FS
Public Works								
Research								
A4-1850	Research DBI Records for Temporary Tieback / Shoring Drawings	43	16-Aug-21	15-Oct-21	180	TJPA	A4-1000: SS	A4-2600: SS, A4-1900: FS
A4-1900	Request SFPW Research for Temporary Tieback Easements	41	18-Oct-21	16-Dec-21	739	TJPA	A4-1850: FS	A4-2050: SS, A4-1950: FS
A4-1950	Draft / Send Letter with SFPW Concurrence to Affected Property Owners	41	17-Dec-21	16-Feb-22	759	TJPA	A4-1900: FS	A4-2000: FS
A4-2000	SFPW Issues Order Rescinding Easement	44	17-Feb-22	20-Apr-22	759	TJPA	A4-1950: FS	A4-2550: FS
Outreach								
A4-2050	Develop List of All Fronting Property Owners	19	18-Oct-21	12-Nov-21	739	TJPA	A4-1900: SS	A4-2100: SS, A4-2300: SS
A4-2100	Draft Letter to Fronting Property Owners Requesting Concurrence	41	18-Oct-21	16-Dec-21	781	TJPA	A4-2050: SS	A4-2150: FS
A4-2150	Send Letter with SFPW Concurrence to Fronting Property Owners	20	17-Dec-21	18-Jan-22	781	TJPA	A4-2100: FS	A4-2200: SS
A4-2200	Outreach to Fronting Property Owners (Community Meetings?)	20	17-Dec-21	18-Jan-22	781	TJPA	A4-2150: SS	A4-2250: FS
A4-2250	Await / Compile / Report on Responses	43	19-Jan-22	21-Mar-22	781	TJPA	A4-2200: FS	A4-2750: FS, A4-2550: FS
Survey								
A4-2290	Prepare Record of Survey (ROS)	88	28-Feb-22	30-Jun-22	563	TJPA	A5-1000: FS	A4-2300: FS
A4-2300	TJPA Prepares SUR Drawings to Describe Vacation Area	61	01-Jul-22	27-Sep-22	563	TJPA	A4-2050: SS, A4-2290: FS	A4-2350: FF
A4-2350	Negotiate Street Vacation Fee (per block)?	20	30-Aug-22	27-Sep-22	563	TJPA	A4-2300: FF	A4-2400: SS, A4-2450: FS, A4-2500: FS
A4-2400	TJPA Reviews SUR Drawings with SFPW	105	30-Aug-22	02-Feb-23	563	TJPA	A4-2350: SS	A4-2550: FS
A4-2450	Submit SFPW Application for Street Vacation	20	28-Sep-22	26-Oct-22	628	TJPA	A4-2350: FS, A4-2500: SS, A4-1350: FS	A4-2550: FS
A4-2500	Request TJPA Check to Submit for Fees	21	28-Sep-22	27-Oct-22	628	TJPA	A4-2350: FS	A4-2450: SS
A4-2550	SFPW Assembles Concurrence Documents to Recommend to Real Estate	149	03-Feb-23	05-Sep-23	563	TJPA	A4-2750: FF, A4-2000: FS, A4-2400: FS, A4-1800: FS, A4-2250: FS, A4-2450: FS	A4-2850: FF
Utilities								
A4-2600	Issue NOI to Assemble Existing / Planned Utility Infrastructure	43	16-Aug-21	15-Oct-21	180	TJPA	A4-1850: SS	A4-2650: SS 23, A3-6250: FS, A3-6300: FS, A3-6350: FS, A3-6400: FS
A4-2650	Compile Utility Infrastructure Information Received / Track Down	39	17-Sep-21	12-Nov-21	718	TJPA	A4-2600: SS 23	A4-2700: SS
A4-2700	Provides Preliminary Utility Relocation Engineering Report	272	17-Sep-21	19-Oct-22	718	TJPA	A4-2650: SS	A4-2750: FS
A4-2750	SFPW Confirms Utility Agencies Concurrence, Including SFPUC 6th Street	21	20-Oct-22	18-Nov-22	718	TJPA	A4-2250: FS, A4-2700: FS	A4-2550: FF, A4-2850: SS



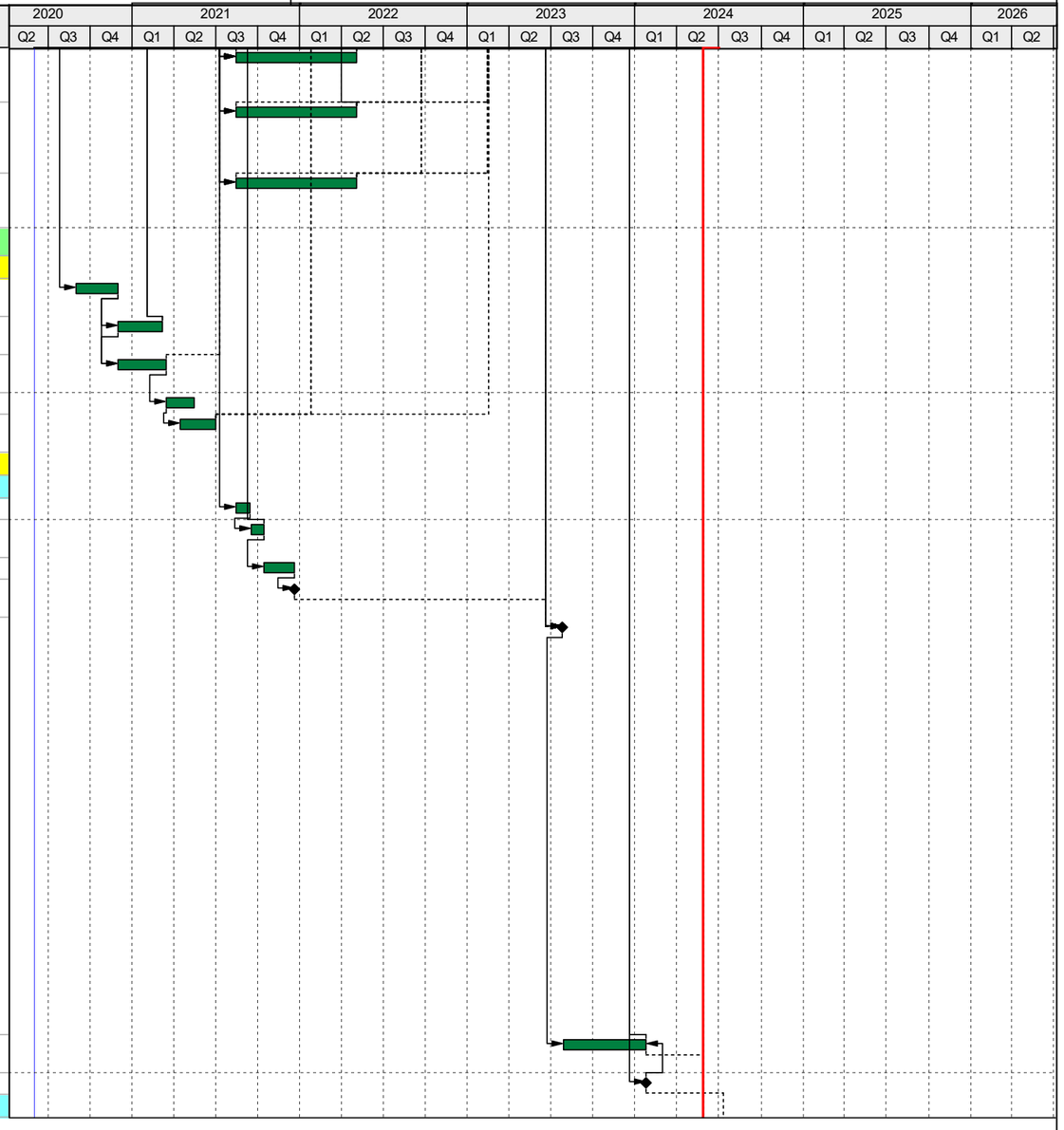
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
SFMTA TASC								
A4-2800	Interagency Briefing for SFPW, SFFD, SFPD, SFMTA, Others	21	19-Jan-22	16-Feb-22	888	TJPA	A4-1350: FS	A4-2850: FS
Real Estate								
A4-2850	Draft / Finalize Ordinance for Vacation	64	06-Jun-23	05-Sep-23	563	TJPA	A4-2550: FF, A4-2750: SS, A4-2800: FS, A3-4950: SS	A4-2900: SS
A4-2900	Draft / Finalize Easements	64	06-Jun-23	05-Sep-23	563	TJPA	A4-2850: SS	A4-2950: SS
A4-2950	Draft BOS Staff Report & Resolution	64	06-Jun-23	05-Sep-23	563	TJPA	A4-2900: SS	A4-3000: FS
A4-3000	Review & Recommend to BOS / Calendar Hearings	22	06-Sep-23	05-Oct-23	563	TJPA	A4-2950: FS	A4-3050: FS
A4-3050	Land Use Committee	23	06-Oct-23	08-Nov-23	563	TJPA	A4-3000: FS	A4-3100: FS
A4-3100	Full Board	21	09-Nov-23	12-Dec-23	563	TJPA	A4-3050: FS	A4-3150: FS
A4-3150	Mayor's Signature	21	13-Dec-23	12-Jan-24	563	TJPA	A4-3100: FS	A10-1150: FS
Real Estate Acquisition								
Appraisals								
A5-1000	Issue RFP & Select Three Appraisers	65	19-Nov-21	25-Feb-22	115	TJPA	A1-1100: SS 66, A2-1250: FS	A5-1050: FF, A4-2290: FS, A2-2910: FS
A5-1050	TJPA Issues NOIs to Property Owners (Drafted by Legal Counsel)	20	28-Jan-22	25-Feb-22	115	TJPA	A5-1000: FF	A5-1100: FS
A5-1100	Two Appraisals Conducted & Submitted to TJPA	65	28-Feb-22	27-May-22	115	TJPA	A5-1050: FS	A5-1150: FS
A5-1150	Review Appraiser Selects One of Two Appraisals	20	31-May-22	27-Jun-22	115	TJPA	A5-1100: FS	A5-1200: FS
A5-1200	TJPA Forwards Selected Appraisal to FTA for Concurrence	0	28-Jun-22	28-Jun-22	115	TJPA	A5-1150: FS	A5-1250: FS
A5-1250	FTA Reviews Appraisal & Indicates Concurrence	65	28-Jun-22	28-Sep-22	115	FTA	A5-1200: FS	A5-1350: FS, A5-1500: FS
Acquisitions								
A5-1300	Negotiating Property Purchases	130	21-Mar-23	21-Sep-23	0	TJPA	A5-1350: SS	A5-1700: SS, A5-1400: FS, A5-1450: FS
A5-1350	TJPA Makes Offers to Property Owners	132	21-Mar-23	25-Sep-23	0	TJPA	A5-1250: FS, A7-1150: FS, A7-1200: FS, A7-1350: FS, A7-1450: FS, A7-1500: FS, A7-1550: FS	A5-1300: SS, A3-2850: FS, A5-1700: SS
A5-1400	Cost Justification to FTA, If Necessary	44	22-Sep-23	28-Nov-23	151	TJPA	A5-1300: FS	A8-1450: FS
A5-1450	Condemnation/Possession of Properties	195	22-Sep-23	03-Jul-24	0	TJPA	A5-1300: FS	A8-1450: FS, A6-1030: FS
Relocations								
A5-1500	Issue RFP & Select Relocation Consultant	65	29-Sep-22	05-Jan-23	424	TJPA	A5-1250: FS	A5-1550: FS
A5-1550	Consultant Drafts & Submits Relocation Assistance Program / Relocation Impact Study	42	06-Jan-23	08-Mar-23	424	TJPA	A5-1500: FS	A5-1600: FS
A5-1600	Public Comment on Relocation Impact Study	30	09-Mar-23	19-Apr-23	424	TJPA	A5-1550: FS	A5-1650: FS
A5-1650	Consultant Prepares & Submits Final Relocation Impact Study	22	20-Apr-23	19-May-23	424	TJPA	A5-1600: FS	A5-1700: FS
A5-1700	Relocation Assistance Program Administered by Consultant / TJPA	300	22-May-23	31-Jul-24	424	TJPA	A5-1300: SS, A5-1650: FS, A5-1350: SS	A10-1150: FS
Environmental								
A6-1000	Procure Environmental Subconsultant	66	16-Aug-21	18-Nov-21	306	TJPA	A1-1100: SS	A6-2500: FS, A6-2150: FS, A6-1650: FS, A6-1010: FS, A9-1100: FS, A6-1150: FS, A6-1050: FS, A9-1100: FF
A6-1010	Environmental Site Assessment Phase 1 (ESA 1)	66	19-Nov-21	28-Feb-22	900	TJPA	A6-1000: FS	A6-1020: FS
A6-1020	Environmental Site Assessment Phase 2 (ESA 2)	66	01-Mar-22	01-Jun-22	900	TJPA	A6-1010: FS	A10-1000: FF
A6-1030	Hazardous Material Surveys of Structures	44	05-Jul-24	05-Sep-24	333	TJPA	A5-1450: FS	A10-1000: FF
Archaeology								
Archaeological Design / Treatment Plans (ARDTPs)								
ARDTP								
A6-1050	Draft ARDTP Developed by Archaeologists	130	19-Nov-21	27-May-22	306	TJPA	A6-1000: FS	A6-1100: FS
A6-1100	PMPC Tech Edits & Distributes to MOA Signatories for Review	64	31-May-22	29-Aug-22	306	PMPC	A6-1050: FS	A6-1150: FS
A6-1150	Signatories Review ARDTP	64	30-Aug-22	02-Dec-22	306	TJPA	A6-1000: FS, A6-1100: FS	A6-1200: FS
A6-1200	Final ARDTP Edited by Archaeologists as Needed	42	05-Dec-22	03-Feb-23	306	TJPA	A6-1150: FS	A6-1250: FS
A6-1250	PMPC Distributes Final ARDTP to MOA Signatories	0		03-Feb-23	306	TJPA	A6-1200: FS	A6-1300: FS
A6-1300	Field Investigations	65	06-Feb-23	08-May-23	306	TJPA	A6-1250: FS	A9-1100: FS, A10-1500: SS



Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
	Archaeological Resources Reports (ARRs)							
	ARR							
A6-1650	Archaeologists Draft & Submit ARR	130	19-Nov-21	27-May-22	471	TJPA	A6-1000: FS	A6-1700: FS
A6-1700	PMPC Reviews/Edits Draft ARR & Distributes to MOA Signatories	30	31-May-22	12-Jul-22	471	TJPA	A6-1650: FS	A6-1750: FS
A6-1750	MOA Signatories Comment Period - ARR	20	13-Jul-22	09-Aug-22	471	TJPA	A6-1700: FS	A6-1800: FS
A6-1800	Archaeologists Prepare Final ARR	20	10-Aug-22	07-Sep-22	471	TJPA	A6-1750: FS	A6-1850: FS
A6-1850	PMPC Distributes Final ARR to MOA Signatories	0		07-Sep-22	471	TJPA	A6-1800: FS	A9-1100: FS
	HABS HAER							
	191 Second St. & 217 Second St. & 580 Howard St.							
A6-2150	Issue RFP & Select Consultant to Write HABS Reports	65	19-Nov-21	25-Feb-22	478	TJPA	A6-1000: FS	A6-2200: FS
A6-2200	Provide Consultant Access to Buildings	44	28-Feb-22	28-Apr-22	478	TJPA	A6-2150: FS	A6-2250: FS
A6-2250	Consultant Drafts HABS Reports	44	29-Apr-22	30-Jun-22	478	TJPA	A6-2200: FS	A6-2300: FS
A6-2300	PMPC Reviews/Edits Draft HABS Reports & Distributes to MOA Signatories	10	01-Jul-22	15-Jul-22	478	TJPA	A6-2250: FS	A6-2350: FS
A6-2350	MOA Signatories Comment Period - Draft HABS Reports	20	18-Jul-22	12-Aug-22	478	TJPA	A6-2300: FS	A6-2400: FS
A6-2400	Consultant Prepares Final HABS Reports	10	15-Aug-22	26-Aug-22	478	TJPA	A6-2350: FS	A6-2450: FS
A6-2450	PMPC Distributes HABS Reports to MOA Signatories (SHPO?)	0		26-Aug-22	478	TJPA	A6-2400: FS	A9-1100: FS
	Mitigation & Monitoring							
A6-2520	Sea-Level Rise Adaptation (MM-C-WQ-9.1)	66	10-Jun-21	13-Sep-21	1576	TJPA	A2-2750: FS	A10-1500: SS
A6-2500	Mitigation & Monitoring	599	19-Nov-21	15-Apr-24	2782	TJPA	A6-1000: FS	A10-1850: FS
A6-2540	EMI Study on Medical Facilities	22	21-Mar-23	19-Apr-23	680	TJPA	A7-1300: FS	A10-1000: FF
A6-2510	Construction Emissions Minimization Plan (MM-C-AQ-5.1)	10	29-Sep-27	13-Oct-27	1053	TJPA	A10-1500: SS	A10-1800: FS
A6-2530	Pre-Construction Bird Survey (MM-C-BR-1.1)	7	29-Sep-27	07-Oct-27	1056	TJPA	A10-1500: SS	A10-1800: FS
	Phase 2 Preliminary Engineering & Design							
	DTX Design							
A7-0950	Geotechnical Baseline Report (GBR)	176	16-Aug-21	29-Apr-22	359	GEC	A1-1100: SS, A2-2100: FS	A8-1300: FS
A7-1000	Design Utilities	399	16-Aug-21	23-Mar-23	48	GEC	A1-1100: SS, A2-2100: FS	A2-4050: FS, A9-1000: FS
A7-1050	Design Fourth and Townsend St. Station	396	16-Aug-21	20-Mar-23	51	GEC	A1-1100: SS, A2-2100: FS	A2-4050: FS, A2-3650: SS 300, A2-3700: SS 300, A10-1000: FS
A7-1100	Design U-Wall/Tunnel Stub	396	16-Aug-21	20-Mar-23	51	GEC	A1-1100: SS, A2-2100: FS	A2-3650: SS 300, A2-3700: SS 300, A10-1000: FS, A2-4050: FS
A7-1150	Design Cut and Cover Tunnel	396	16-Aug-21	20-Mar-23	0	GEC	A1-1100: SS, A2-2100: FS	A10-1000: FS, A2-3650: SS 300, A2-4050: FS, A2-3700: SS 300, A5-1350: FS
A7-1200	Design Mined Tunnel	396	16-Aug-21	20-Mar-23	0	GEC	A1-1100: SS, A2-2100: FS	A2-4050: FS, A2-3650: SS 300, A2-3700: SS 300, A10-1000: FS, A5-1350: FS, A2-4200: SS 198, A2-3000: SS 66
A7-1250	Design 4th & King Surface	396	16-Aug-21	20-Mar-23	51	GEC	A1-1100: SS, A2-2100: FS	A9-1000: FS, A2-4050: FS, A2-3650: SS 300, A2-3700: SS 300, A10-1000: FS
A7-1300	Design Track & Systems	396	16-Aug-21	20-Mar-23	51	GEC	A1-1100: SS, A2-2100: FS	A2-3650: SS 300, A10-1000: FS, A2-3700: SS 300, A2-4050: FS, A7-1400: SS, A3-4410: FS, A6-2540: FS
A7-1350	Design Ventilation & Egress Structures	396	16-Aug-21	20-Mar-23	0	GEC	A1-1100: SS, A2-2100: FS	A2-4050: FS, A10-1000: FS, A7-1500: SS, A7-1400: SS, A2-3650: SS 300, A2-3700: SS 300, A5-1350: FS
	Transit Center Design							
A7-1450	Design IBF	66	02-Oct-20	11-Jan-21	546	GEC	A2-1690: FS	A2-4050: FS, A2-3700: FS, A5-1350: FS, A3-6100: FS, A3-6150: FS



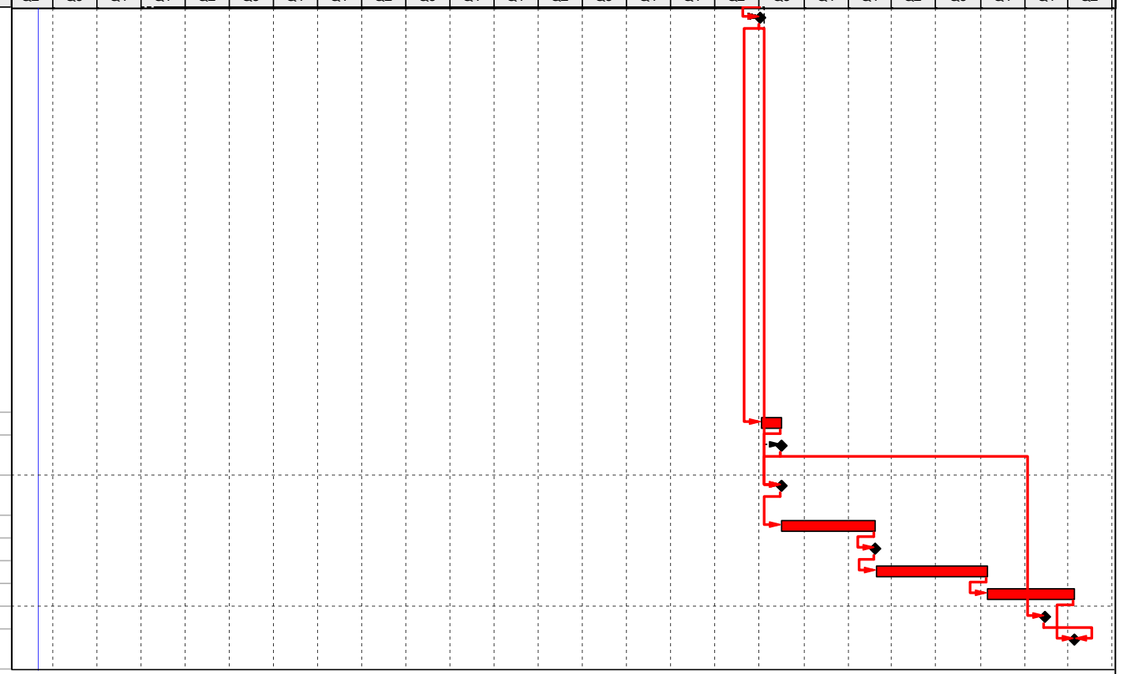
Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A7-1400	Design Transit Center Fit-out	180	16-Aug-21	05-May-22	267	GEC	A1-1100: SS, A7-1350: SS, A7-1300: SS, A2-2100: FS	A2-3650: SS 96, A2-4050: FS, A2-3700: FS
A7-1500	Design Trainbox Extension	180	16-Aug-21	05-May-22	216	GEC	A1-1100: SS, A7-1350: SS	A2-3700: FS, A2-4050: FS, A2-3650: SS 96, A5-1350: FS, A3-6050: FS
A7-1550	Design BART/Muni Pedestrian Tunnel	180	16-Aug-21	05-May-22	216	GEC	A1-1100: SS, A2-2100: FS	A2-4050: FS, A2-3650: SS 96, A2-3700: FS, A5-1350: FS
Secure Funding								
Funding Plan Strategy								
A8-1010	Funding Sources Approach	60	01-Sep-20	30-Nov-20	368	SFCTA	A1-1000: SS 65	A8-1020: FS, A8-1015: FS
A8-1015	Passenger Facility Charge Feasibility Study	66	01-Dec-20	08-Mar-21	368	SFCTA	A8-1010: FS	A8-1020: SS, A3-1550: FS, A3-1700: FS
A8-1020	Draft Funding Strategy Memo	71	01-Dec-20	15-Mar-21	368	SFCTA	A8-1010: FS, A8-1015: SS	A2-3400: FS, A8-1025: FS
A8-1025	Business Case	44	16-Mar-21	14-May-21	368	SFCTA	A8-1020: FS	A8-1030: SS 22
A8-1030	Final Funding Strategy Memo	54	15-Apr-21	30-Jun-21	368	SFCTA	A8-1025: SS 22	A2-3600: FS, A2-4100: FS, A2-3550: FS
Full Funding Grant Application								
Project Development								
A8-1100	Internal New Starts Rating Assessment	22	16-Aug-21	15-Sep-21	383	PMPC	A1-1100: SS	A8-1150: FS
A8-1150	Request Entry Into Project Development	20	16-Sep-21	14-Oct-21	383	TJPA	A8-1100: FS	A8-1200: FS, A3-5450: FS
A8-1200	FTA Review Request Entry Into Project Development	44	15-Oct-21	20-Dec-21	449	FTA	A8-1150: FS	A8-1250: FS
A8-1250	FTA Approval of Entry to Project Development	0		20-Dec-21	449	FTA	A8-1200: FS	A8-1300: FS, A9-1050: FS
A8-1300	Notify FTA of Intent to Enter Engineering	0		27-Jul-23	48	TJPA	A2-3300: FS, A2-2700: FS, A2-3500: FS, A2-2100: FS, A2-2450: FS, A7-0950: FS, A2-3550: FS, A2-2800: FS, A2-3450: FS, A2-1250: FS, A2-2650: FS, A2-3250: FS, A2-3050: FS, A8-1250: FS, A2-2500: FS, A2-3700: FS, A2-1150: FS, A2-1300: FS, A2-4100: FS, A2-4000: FS, A2-3600: FS, A2-1350: FS, A2-1600: FS, A2-3800: FS, A2-2900: FS, A2-2750: FS, A2-2850: FS, A2-1100: FS, A2-3910: FS, A2-1530: FS, A1-1000: SS, A2-4860: FS, A1-1100: SS, A2-1810: FS, A2-4155: FS, A2-2550: FS	A8-1350: FS
A8-1350	FTA Readiness Review & Approve Entry Into Engineering	120	28-Jul-23	23-Jan-24	48	FTA	A8-1400: FF, A8-1300: FS	A8-1450: FS, A2-2855: FS
A8-1400	Commitment of 30% Non-CIG Funds	0		23-Jan-24	48	TJPA	A1-1000: FS	A8-1350: FF, A8-1550: F
Engineering								



Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work

TASK filter: Through FFGA.

Activity ID	Activity Name	Dur.	Start	Finish	Total Float	RESP	Predecessor Details	Successor Details
A8-1450	Ready to Submit Funding Request to FTA	0		03-Jul-24	0	TJPA	A3-3350: FS, A3-4000: FS, A3-5350: FS, A3-5550: FS, A3-4300: FS, A3-5800: FS, A3-2350: FS, A3-5500: FS, A3-5150: FS, A3-1700: FS, A3-4900: FS, A3-5050: FS, A3-1600: FS, A3-4100: FS, A3-5750: FS, A8-1350: FS, A3-2900: FS, A3-5400: FS, A3-5250: FS, A3-5650: FS, A5-1400: FS, A3-2700: FS, A3-3150: FS, A3-4200: FS, A3-1450: FS, A3-4400: FS, A3-5700: FS, A5-1450: FS, A3-5300: FS, A2-2855: FS, A2-2910: FS, A3-5620: FS, A3-5820: FS	A8-1600: FS, A8-1500: FS
A8-1500	Hold for FTA Funding Request Window	30	05-Jul-24	15-Aug-24	0	TJPA	A8-1450: FS	A8-1600: FS
A8-1550	Secure 50% Funding Commitment (within 3 years of Engineering)	0		15-Aug-24	0	TJPA	A8-1400: FS	A8-1600: FS, A8-1850: FS
A8-1600	Submit Funding Request to FTA (Annually around mid-August)	0		15-Aug-24	0	TJPA	A8-1450: FS, A8-1500: FS, A8-1550: FS	A8-1650: FS
A8-1650	FTA Evaluate & Rate Project	130	16-Aug-24	26-Feb-25	0	FTA	A8-1600: FS	A8-1700: FS
A8-1700	FTA Funding Recommendation Report Released	0		26-Feb-25	0	FTA	A8-1650: FS	A8-1750: FS
A8-1750	Congressional Budget Approval	160	27-Feb-25	14-Oct-25	0	FTA	A8-1700: FS	A8-1800: FS
A8-1800	Negotiate FFGA	123	15-Oct-25	14-Apr-26	0	TJPA	A8-1750: FS	A8-1900: FS
A8-1850	Secure 100% Funding Commitment	0		10-Feb-26	0	TJPA	A8-1550: FS	A8-1900: FF 44
A8-1900	FFGA Approval	0		14-Apr-26	0	FTA	A8-1850: FF 44, A8-1800: FS	A10-1150: FS



Item 13

DTX / PHASE 2 Comprehensive Work Plan

December 10, 2020

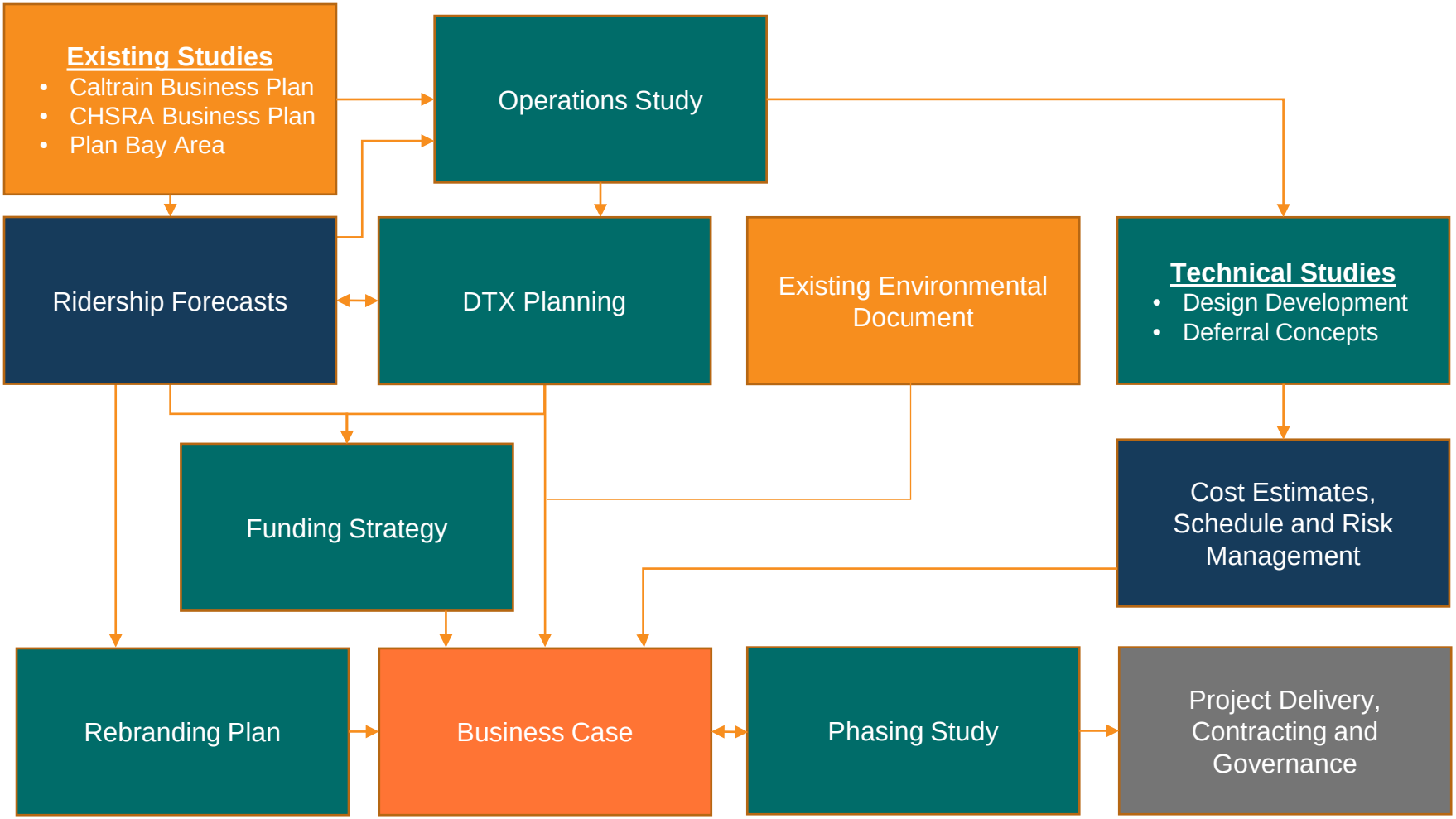
TJPA
TRANSBAY JOINT POWERS AUTHORITY

Comprehensive Work Plan

- Draft final Work Plan and Master Schedule approved by IPMT on October 13
- Multiple collaborative reviews
- Tied to MOU Summary Work Program
- Tied to Ready for Procurement Schedule

TJPA
TRANSBAY JOINT POWERS AUTHORITY

Work Flow


Existing Studies
• Caltrain Business Plan
• CHSRA Business Plan
• Plan Bay Area
Operations Study
Ridership Forecasts
DTX Planning
Existing Environmental Document
Technical Studies
• Design Development
• Deferral Concepts
Funding Strategy
Cost Estimates, Schedule and Risk Management
Rebranding Plan
Business Case
Phasing Study
Project Delivery, Contracting and Governance

Primary Work Areas

1

PROJECT POSITIONING & OUTREACH
Rebranding
Public Outreach
Economic Impact

2

FUNDING & FINANCE
Public Sources
Private Sources

3

FACILITY OPERATIONS, PLANNING & DEMAND
Transit Operating Plans
(service levels and cost)
DTX Planning, Use and Benefits

4

PROCUREMENT, PROJECT PHASING & DELIVERY STRATEGIES
Phasing
Business Case
Delivery Strategies

5

DESIGN DEVELOPMENT
Design Documents
Technical Studies

6

PROGRAMMATIC DOCUMENTS & FEDERAL NEW STARTS REQUIREMENTS
Project Management Plans
New Starts Documentation

7

GOVERNANCE & OVERSIGHT STRUCTURE
Delivery Agency
Procurement Documents

TJPA
TRANSBAY JOINT POWERS AUTHORITY

Key Schedule Targets

Date	Activity
December 2020	Design team NTP
February 2021	Facility Use and Project Benefits Report
March 2021	Phasing operations analysis complete
March 2021	Next risk workshop (followed by quarterly reviews)
March 2021	Phasing workshop No. 2
July / August 2021	Phasing / Business Case to ESC and TJPA Directors
August 2021	Design Utilities NTP
October 2021	Project delivery method recommendation
August 2024	Submit funding request to FTA leading to FFGA*

*acceleration plan in development

TJPA
TRANSBAY JOINT POWERS AUTHORITY

New Starts Process

New Starts and Core Capacity Process

Project Development

- Complete environmental review process including developing and reviewing alternatives, selecting locally preferred alternative (LPA), and adopting it into the fiscally constrained long range transportation plan

Engineering

- Gain commitments of all non-New Starts funding
- Complete sufficient engineering and design

Full Funding Grant Agreement

- Construction

Legend

◆ = FTA approval

➡ = FTA evaluation, rating, and approval

TJPA
TRANSBAY JOINT POWERS AUTHORITY

Project Development

(2-year time limit included in FAST Act)

Maximum New Starts Grant amount as a $ amount set

- Obtain commitment of at least 30 percent of the non-CIG funding
- Complete at least 30 percent design and engineering
- Cost Estimate
- 20-year financial plan
- Project Management Plan (PMP) and sub-plans
- Environmental review process required under NEPA & CEQA
- Sufficient information for FTA to develop a project rating
- Notify FTA of intent to enter Engineering
- FTA/Program Management Oversight Consultant (PMOC) reviews
  - Scope, Schedule, & Budget Review
  - Risk Review
  - Readiness Review

TJPA
TRANSBAY JOINT POWERS AUTHORITY

Questions?

TJPA
TRANSBAY JOINT POWERS AUTHORITY

425 Mission Street, San Francisco, CA 94105 • 415.597.4620 • www.tjpa.org