

BART Agreement Number: 6M8143

Approval Date: 11/21/23

Work Plan No. A.04-04 Core Capacity Project - Risk Management

Scope:

The Consultant is to provide Risk Management services to support the TCCCP Project Controls Manager. This work shall consist of implementing processes in the RCMP and providing additional expertise in related areas of risk management that may help BART achieve project objectives in light of the considerable cost and schedule uncertainty remaining on the project. Risk Manager will verify processes and procedures for Risk Management are being followed and will do Quality Checks of Project Risk Registers and Plans, also conduct Quality Assurance audits per the RCMP. This scope represents an FTE of 1.0 for the Risk Manager (not including miscellaneous support from other Consultant staff as itemized in the fee breakdown) to Core Capacity.

Specific duties and responsibilities for the Program Risk Manager shall include, but not be limited to, the following:

- a. Lead and facilitate risk identification and assessment processes for TCCCP project element that is not doing so internally. This includes coordination with project teams for revision of risk titles and risk descriptions to better define the TCCCP's risks and meet industry standards for such titles and descriptions.
- b. Updates to risk database on at least a quarterly basis based on input from risk owners within the project teams.
- c. Participate in risk meetings for projects that have their own risk facilitator. This includes facilitation of quarterly risk refresh meetings for each TCCCP project, as well as interim

meetings when necessary, such as on a monthly basis for risk mitigation progress updates from the project teams.

- d. Help project teams respond appropriately to identified risk by helping the project teams develop plans, value engineering ideas, exploring alternatives that minimize risk and maximize ability to achieve objectives. This includes facilitating focused risk meetings as needed, in addition to or in preparation for, the monthly and quarterly risk update/risk refresh meetings. The focused risk meetings will be to further evaluate aspect of TCCCP project risks, such as:
 - i. Development of new risks for a new phase of a project such as transition from the design phase to the construction phase;
 - ii. Development or refinement of the risk response (mitigation) strategy;
 - iii. Identification of specific actions to support the over-arching risk response (mitigation) strategy, including names of action owners and target dates for action completion;
 - iv. Development of the rationale for the rating of each risk within the project (ratings for probability, cost impact threat, and schedule impact threat);
 - v. Identification of risk groupings, target date ranges of potential risk occurrence, and determination of whether the risk is on the critical path or grouped with other risks that comprise a critical path grouping of select risks;
 - vi. Identification of risk categories by FTA SCC code and by categories logical BART risk groupings.
 - vii. Workshops with Project Controls to evaluate the forecast drawdown of Allocated Contingency for the TCCCP projects, and monitoring of the Allocated Contingency in accordance with the RCMP and FTA reporting requirements.
- e. Monitor the execution and progress of response plans and mitigations such as within the project's risk database and in internal risk reports to BART managers.
- f. Perform risk analyses including quantitative analysis using FTA's Beta Factor methodology (including a recommendation on targeted use of unallocated contingency for the TCCCP projects), trend assessment, and contingency assessments.
- g. Lead risk reporting including:
 - i. Providing risk data to Project Controls on a monthly basis to support the development of a risk dashboard;
 - ii. Preparation of top risk slides including summary risk description, major trends and summary mitigation efforts, for TCCCP managers' use in regular presentations to BART Executive Management;
 - iii. Preparation of risk section of BART's Monthly Project Reports (MPRs) to FTA and PMOC;
 - iv. Distribution of Risk Registers to TCCCP management teams for their use in preparing for Quarterly Risk Refresh workshops or other focused risk workshops facilitated by the Risk Manager; Participate and report out during FTA/PMOC meetings;

- v. Other focused TCCCP risk reports as directed by the TCCCP Project Controls Manager.
- h. Facilitate and lead workshops using Value Engineering techniques for risk mitigation and cost reduction strategies without compromise to FFGA commitments, and efforts as requested/needed subject to client concurrence and available budget
- i. Other work related to Project Controls as directed by the Project Controls Manager.
- j. Risk Manager will be supported by a Risk Modeler from Consultant's staff who will support the development and maintenance of the risk database, who will assist in quantitative risk forecasting, and run the Monte Carlo simulations based on the risk database updates from the Risk Manager subject to client concurrence and available budget.
- k. The TCCCP risks are maintained by the Risk Manager in a risk database that has the capability to produce risk reports in Excel or PDF format to aid BART project staff in risk reporting and updating tasks involving the project teams. The risk database is currently an Access Database tool developed by Consultant specifically for use on the BART TCCCP Project. The Access Database emulates the BART Risk Register format on Excel that BART had developed to meet the requirements of the RCMP, which was in use until FY2021 when Consultant transferred the risk data into Consultant's Access Database format. Consultant will continue to use the Access Database format, which currently meets BART's requirements until such time as the Project Controls Manager may determine that the risks should be transferred to another BART-sponsored risk database format that is currently under development by BART software consultants. If a transition of TCCCP risks to the BART-sponsored risk database is directed, then Consultant will advise BART with level-of-effort change needed in Consultant's contract to implement the change.

Recovery Plan Development Support to BART in FY2024

Additional services requested by BART in FY2024, as an extension of the Risk Management work, includes Recovery Plan Development Support to BART.

Specific duties and responsibilities for the Program Risk Manager, with support from HDR Subject Matter Experts (SME's) in Recovery Plan Development, shall include, but not be limited to, the following:

- a. Assemble a team of HDR SME's with experience in Recovery Plan Development, including but not limited to: Mark McLaren- - Senior Advisor, Mark Fuhrmann – Recovery Plan Strategies, Stephanie McVey – Recovery Plan Development and Coordination. Paul Johnson – BART TCCCP Risk Manager, will facilitate Recovery Plan meetings with BART and drafting of the Recovery Plan for review and approval by BART. Additional HDR staff will include CAD Technician, Document Processing, Technical Publications, and Graphics Support with staff TBD.

- b. Facilitate meetings (virtual and/or in-person) with BART staff to obtain input on current and forecast status of various topics including:
 - 1) Funding and grants (committed and potential) for the TCCCP.
 - 2) Train storage options throughout the BART system in lieu of the full scope of the planned HMC2 project.
 - 3) Cost and schedule status of the Core Capacity Project Elements (CBTC, TPSS, Vehicles Purchase, HMC2, Program Oversight) in discussion with BART TCCCP Project Controls staff.
 - 4) BART Department Managers and appropriate staff including RS&S and M&E for input on the viability of recovery plan strategies, such as alternative train storage to meet the goal stated in the FFGA.
 - 5) BART Senior Managers for HDR to receive input on the recommended strategy to include in the Recovery Plan, with the ultimate goal of obtaining approval from FTA on the Recovery Plan, without jeopardizing the committed \$1.2 Billion in funding from FTA.
- c. Draft the Recovery Plan within 3 months of approval of this Work Plan for FY2024. For all sections specific information is to be provided by BART to HDR. HDR will draft the Recovery Plan. Major sections are envisioned to include:
 - 1) Executive Summary (introduction; request for interim train storage solution to satisfy BART's FFGA commitment); summary of project costs; project funding and financing; BART's management capacity and capability; key changes since 2020 FFGA; Recovery Plan summary.
 - 2) Project Status (project description; design and construction status; adjustment of FFGA scope for train storage and functionality of the system; delivery of a functional system – purpose and need; elimination, modification or deferral of HMC2 project.
 - 3) Joint train storage development opportunities with adjacent rail systems (VTA, others).
 - 4) Funding (project funding summary; federal funding; state and local funding; risks to funding).
 - 5) Estimated Cost to Complete (estimate at completion; cost and schedule assessment; cost for the adjusted FFGA scope; PMOC Risk Assessment; adequacy of contingency).
 - 6) Financing and Financial Plan.
 - 7) Rail Ridership status.
 - 8) Management Capacity and Capability (BART Management Team; recent reorganization of management team to best meet project objectives and goals; organizational culture and communication; support staffing strategy to fulfill project requirements for CBTC and other project elements; PMOC's Management Capacity and Capability Review per 2022 Risk Refresh; BART organization).
 - 9) Rail Operations and Maintenance (how trains will be maintained cleaned with possible decentralized interim storage).

- 10) Figures (BART rail transit project map; capital funding sources for adjusted FFGA scope; federal, state, local funding collections to fund the Core Capacity project; P65 Probability project cost; P65 Probability schedule cost; BART Organization Chart (overall and for Core Capacity); (rail operations and maintenance costs – differences with alternative train storage system).
 - 11) Tables (summary of project funding; obligated and unobligated funding by FY; financial tables as necessary; project element status tables as necessary.
 - 12) Appendices (list of acronyms and abbreviations; BART staff biographies for management team of the Core Capacity Project; PMOC's Management Capacity and Capability Review from 2022 Risk Refresh); Operating Plan with alternative train storage; operating plan annual costs).
- d. Finalize the Final Draft of the Recovery Plan within 1 month of BART's review and comment on the Draft Recovery Plan.
 - e. Support BART in discussion and delivery of the Final Draft Recovery Plan to FTA for review, including coordination with PMOC as necessary.
 - f. Support BART in preparing updates to the Final Draft Recovery Plan to FTA, in order to finalize the plan into a Final Recovery Plan for submittal to FTA.
 - g. Await response from FTA to the Final Recovery Plan. Support BART in any further revisions to the Recovery Plan as necessary. Note that this task may be in a future Fiscal Year, so hours for support will be included in a future renewal of this Work Plan.

Prime: HDR

Subconsultants: None

Total Work Plan Value: \$ 1,291,906