

File No. 240814

Committee Item No. 5
Board Item No. _____

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Budget and Finance Committee Date September 11, 2024
Board of Supervisors Meeting Date _____

Cmte Board

<input type="checkbox"/>	<input type="checkbox"/>	Motion
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Resolution
<input type="checkbox"/>	<input type="checkbox"/>	Ordinance
<input type="checkbox"/>	<input type="checkbox"/>	Legislative Digest
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Budget and Legislative Analyst Report
<input type="checkbox"/>	<input type="checkbox"/>	Youth Commission Report
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Introduction Form
<input type="checkbox"/>	<input type="checkbox"/>	Department/Agency Cover Letter and/or Report
<input type="checkbox"/>	<input type="checkbox"/>	MOU
<input type="checkbox"/>	<input type="checkbox"/>	Grant Information Form
<input type="checkbox"/>	<input type="checkbox"/>	Grant Budget
<input type="checkbox"/>	<input type="checkbox"/>	Subcontract Budget
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Contract/Agreement
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form 126 – Ethics Commission (2)
<input type="checkbox"/>	<input type="checkbox"/>	Award Letter
<input type="checkbox"/>	<input type="checkbox"/>	Application
<input type="checkbox"/>	<input type="checkbox"/>	Public Correspondence

OTHER (Use back side if additional space is needed)

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>PLN CEQA Determination 1/22/2024</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>MTAB Resolution No. 240806-098 8/6/2024</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>MTA Presentation 9/11/2024</u>
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Completed by: Brent Jalipa Date September 5, 2024
Completed by: Brent Jalipa Date _____

1 [Agreement - WSP/PGH Wong Joint Venture - Consulting Services Supporting
2 Communications-Based Train Control Upgrade Project - Not to Exceed \$36,000,000]

3 **Resolution approving an agreement with WSP/PGH Wong Joint Venture for consulting
4 services supporting the Communications-Based Train Control Upgrade Project for an
5 initial five-year term, with five options to extend the term for an additional year, for a
6 total of 10 years and an amount not to exceed \$36,000,000 over the 10-year period,
7 effective upon approval of this Resolution.**

8
9 WHEREAS, The San Francisco Municipal Transportation Agency (SFMTA) operates
10 the Muni Metro light rail system, which includes both shared surface right of way and
11 dedicated subways controlled by an outdated analog loop cable-based Automatic Train
12 Control System (ATCS), which first went into service in 1998, and has reached the end of its
13 useful life; and

14 WHEREAS, In March 2023, the SFMTA issued a Request for Proposals for a supplier
15 of a Communications-Based Train Control (CBTC) system to replace the ATCS and extend
16 train control territory to surface portions of Muni's rail network, which will leverage significant
17 technological advances in train control that will enable the SFMTA to operate its rail service
18 with greater reliability, reduced delays, and increased passenger capacity; and

19 WHEREAS, In November 2023, the SFMTA issued a Request for Proposals for
20 Consulting Services to support the SFMTA in the procurement, design, engineering, contract
21 administration, integration, construction management, deployment, and acceptance of the
22 new CBTC; and

23 WHEREAS, The requested Consulting Services will provide the SFMTA with
24 specialized CBTC knowledge and support, and assist the SFMTA with the timely delivery of
25 the new CBTC; and

1 WHEREAS, The SFMTA intends to award a single contract with an initial term of five
2 years, with five options to extend the term for an additional year, for a total of 10 years and an
3 amount not to exceed \$36,000,000 over the 10-year period; and

4 WHEREAS, On February 26, 2024, the SFMTA received three proposals in response
5 to the Request for Proposals; and

6 WHEREAS, The proposal of WSP/PGH Wong Joint Venture received the highest score
7 of the submitted proposals, and the SFMTA negotiated an agreement with WSP/PGH Wong
8 Joint Venture; and

9 WHEREAS, On August 6, 2024, the SFMTA Board of Directors adopted Resolution
10 No. 240806-098, authorizing the Director of Transportation to execute Contract No. SFMTA-
11 2024-20-FTA for Consulting Services supporting the Communications-Based Train Control
12 Upgrade Project with WSP/PGH Wong Joint Venture for an initial term of five years, with five
13 options to extend the term for an additional year, for a total of 10 years and an amount not to
14 exceed \$36,000,000 over the 10-year period; and

15 WHEREAS, The Civil Service Commission approved Personnel Services Contract
16 (PSC) request No. 44708 – 21/22 in connection with this contract on April 18, 2022; and

17 WHEREAS, On January 22, 2024, the Planning Department, determined (Case No.
18 2022-000870ENV) that the Train Control Upgrade Project is statutorily exempt under the
19 California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of
20 Regulations, Section 15275(a) and the California Public Resources Code, Sections
21 21080(b)(10) and 21080(b)(11) (Specified Mass Transit Projects); said determination is on file
22 with the clerk of the Board of Supervisors in File No. 240814 and is incorporated herein by
23 reference; the Board affirms this determination; now, therefore, be it

24 RESOLVED, That the Board of Supervisors approves the SFMTA entering into a
25 Contract with WSP/PGH Wong Joint Venture for Consulting Services supporting the

1 Communications-Based Train Control Upgrade Project for an initial term of five years, with
2 five options to extend the term for an additional year, for a total of 10 years and an amount not
3 to exceed \$36,000,000 over then 10-year period; and, be it

4 FURTHER RESOLVED, That within thirty (30) days of the agreement being fully
5 executed by all parties, the Municipal Transportation Agency shall provide the final agreement
6 to the Clerk of the Board for inclusion into the official file.

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Item 5 File 24-0814	Department: Municipal Transportation Agency (MTA)
EXECUTIVE SUMMARY	
Legislative Objectives	
<ul style="list-style-type: none"> The proposed resolution would approve an agreement with WSP/PGH Wong Joint Venture for as-needed consulting services supporting the Municipal Transportation Agency's (MTA) Train Control Upgrade Project (TCUP) for an initial five-year term with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$36,000,000. 	
Key Points	
<ul style="list-style-type: none"> In November 2023, the MTA issued a Request for Proposals (RFP) for consulting services to support the MTA's work to upgrade the Muni Metro's control system as part of the MTA's Train Control Upgrade Project (TCUP), which is a ten-year capital project to install a new train control system. WSP/PGH Wong was the highest scoring proposer. WSP and PGH Wong are the two primary consultancies on the contract, and there are 11 approved subconsultants on the contract. Under the proposed agreement, WSP/PGH Wong will provide as-needed consulting services and on-site training to MTA staff to support the implementation of the new train control system (the supplier and installer of the system will be separate contracts that will be subject to Board of Supervisor approval in the future). 	
Fiscal Impact	
<ul style="list-style-type: none"> The estimated labor costs, based on the consultants' billable rates, total \$27,547,384 for the first five years of the contract. There will be additional travel costs and direct costs. Funding for this contract comes from the Federal Transit Administration 5337 funds (State of Good Repair Grants program), an annual source of funding for the MTA that must be used for capital costs. 	
Policy Consideration	
<ul style="list-style-type: none"> MTA does not have uniform performance monitoring standards for its contracts, but rather conducts performance monitoring on a project-by-project basis. MTA should develop uniform performance monitoring standards for contracts, similar to the Public Utilities Commission, another enterprise department. 	
Recommendations	
<ul style="list-style-type: none"> Amend the proposed resolution to reduce the not to exceed amount from \$36,000,000 to \$30,000,000, to be consistent with the contract amount approved by the MTA Board of Directors, and approved the proposed resolution, as amended. 	

MANDATE STATEMENT

City Charter Section 9.118(b) states that any contract entered into by a department, board or commission that (1) has a term of more than ten years, (2) requires expenditures of \$10 million or more, or (3) requires a modification of more than \$500,000 is subject to Board of Supervisors approval.

BACKGROUND

In November 2023, the San Francisco Municipal Transportation Agency (MTA) issued a Request for Proposals (RFP) for professional consulting services to support the MTA's work upgrading the Muni Metro's control system as part of the MTA's Train Control Upgrade Project (TCUP).

In March 2024, MTA received three proposals. An MTA panel reviewed and scored the submitted proposals,¹ with the following evaluation criteria:

- Completeness and Organization of Proposal Submission (5 points)
- Project Team Organization (5 points)
- Firm Qualifications (15 points)
- Team Member Qualifications (35 points)
- Project Approach (20 points)
- Oral Interview (20 points)

According to the MTA's Train Control Upgrade Project Manager Dan Howard, cost was not an evaluation criterion for the proposals because final costs would be determined by the composition of the consultant staff for each task. MTA was concerned bidders could obscure high billing rates and create false assurance of low cost on a proposal. Instead, the MTA plans to employ cost control during the course of the contract by reviewing the proposed cost and consultant team composition for each deliverable before work begins. In addition, prior to awarding the contract, MTA developed an independent cost estimate for this service, which informed negotiations during the procurement process.

WSP/PGH Wong Joint Venture had the highest score, as shown in Exhibit 1 below.

¹ The evaluation panel for the RFP consisted of a Deputy Director for Capital Projects at San Francisco County Transportation Authority, a Chief Project Manager at MTA, a Deputy Project Manager at MTA, a Senior Engineer at MTA, and an Associate Engineer at MTA.

Exhibit 1: Qualified Proposals and Scores from RFP SFMTA-2024-29-FTA: Consulting Services Supporting the Communications-Based Train Control Upgrade Project

Proposer	Average Final Score (Out of 100)	Met Minimum Qualifications (Y/N)
WSP/PGH Wong, Joint Venture	81.80	Y
Parsons	68.60	Y
DB ECO North America*	41.40	Y

* DB ECO North America submitted a written proposal but due to its low score would not have mathematically been able to win and was thus not invited to the oral interview.

Source: SFMTA

In May 2024, MTA selected WSP/PGH Wong Joint Venture (d.b.a. San Francisco Delivery Partners). In August 2024, the MTA Board of Directors authorized the execution of a contract with WSP/PGH Wong Joint Venture for a term of five years with five one-year options to extend, for a total of ten years and an amount not to exceed \$30,000,000.

Train Control Upgrade Project (TCUP)

The MTA's Train Control Upgrade Project (TCUP) is a capital project intended to modernize its transit services, specifically the Muni Metro, and this contract is for consultant support of the project. This contract is one of three contracts to be awarded for the TCUP project. The other two contracts are for a supplier of the upgraded train system (the Supplier) and for an installer of the upgraded train system (the Installer). MTA issued a separate RFP for the Supplier contract in March 2023, which is expected to cost around \$240 million. The Supplier proposals have been submitted and scored. The MTA plans to contract separately with the Installer for around \$30 million. Both contracts would therefore be subject to separate Board of Supervisors approval.

The MTA manages the Muni Metro light rail system, which has relied on an Automatic Train Control System (ATCS) to operate trains since 1998. ATCS technology requires manual operations by control center personnel to operate its trains. The Muni's ATCS is now outdated and at the end of its useful life. As a result, the Muni has experienced delays, communications failures, train timeouts, and component failures. The MTA plans to replace the ATCS with a communications-based train control (CBTC) system. Modern CBTC technology uses Wi-Fi or cellular connections, for which the infrastructure must be installed along the entire Muni trackway, both underground and along surface streets. CBTC will replace the Muni's ATCS in seven phases over nine years and bring the entire Muni rail network under a single train control and supervision system.

This contract is for as-needed consultant services to provide expertise in train control system design and engineering to MTA staff. MTA in-house engineering staff have experience maintaining the existing ATCS system but do not have specialized knowledge of the CBTC system. The consultant services will provide MTA staff with international and domestic expertise in modern train control implementation. The consultant staff, alongside MTA staff, will oversee the Supplier and Installer of the new CBTC system. The last five years of the contract are structured as five one-year options to extend the contract to give MTA the ability to terminate the contract if the consultant services are no longer needed.

WSP/PGH Wong Joint Venture

The primary two consultant companies on the contract are WSP and PGH Wong. According to WSP/PGH Wong's proposal, WSP is an international engineering management firm and PGH Wong, which is headquartered in San Francisco, has experience in Bay Area train control projects. According to Project Manager Howard, WSP and PGH Wong teamed up for the proposal submission to combine their strengths and to meet the requisite Small Business Enterprise (SBE) goal of 15 percent in their proposal. There are 11 pre-approved subcontractors included in the draft agreement. The following table shows the expertise and experience of each of the primary consultants and subconsultants.

Exhibit 2: Primary Consultants and Subconsultants Included in the Contract

Primary Consultants	Expertise and experience
PGH Wong Engineering, Inc.	Engineering and program management firm worldwide.
WSP USA Inc	Engineering firm headquartered in San Francisco.
Subconsultants	
AECOM Technical Services, Inc	Technical engineering support in the Bay Area.
CHS Consulting Group	Transit planning and traffic engineering, including signal design and signing and striping design, in San Francisco.
Civic Edge Consulting	Outreach and communications services for technical projects in San Francisco (will be on-call with MTA).
Cornerstone Transportation Consulting, Inc.	Construction management in San Francisco.
Hatch	Transit vehicle and rail systems consulting.
Legacy Rail Operations LLC	Rail operations consultant throughout the United States.
Luster National, Inc.	Construction management and public engagement across the United States.
Raul Bravo + Associates, Inc.	Knowledge of transit industry standards and local, state, and federal regulations.
TUV Rheinland of North America, Inc.	Testing, inspection, and certification services for train control systems worldwide.
UNICO Engineering, Inc.	Engineering and construction management.
Virginkar & Associates, Inc.	Rail vehicle procurement and equipment.

Source: WSP/PGH Wong Joint Venture's submitted proposal to MTA.

DETAILS OF PROPOSED LEGISLATION

The proposed resolution would approve an agreement with WSP/PGH Wong Joint Venture for as-needed consulting services supporting the MTA's Train Control Upgrade Project (TCUP) for an initial five-year term with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$36,000,000.

Services Provided

Under the contract, WSP/PGH Wong Joint Ventures (the Consultant) will provide as-needed consulting services to the MTA for the TCUP, providing oversight and support of the execution of

the communications-based train control system (CBTC). The Consultant will be responsible for reviewing the designs and tracking the progress of the Supplier of the CBTC as well as training MTA staff on CBTC installation and maintenance. The Consultant will be integrated into the MTA project team and will provide primarily written deliverables to the MTA project team, specifically relating to the development and installation of the new CBTC on the MTA's railways.

Some Consultant staff will be co-located at MTA's offices to augment MTA staff. These co-located staff will not pay rent but rather have reduced billing rates (a discount ranging from zero to 34 percent, depending on the staff). These co-located staff will primarily be part of the MTA's project team and work full time on the project. Other Consultant staff will be called upon as needed and work remotely for the project team on deliverables. The services the Consultant will provide include primarily written deliverables, such as progress reports, documentation of progress, reviews of the designs created by the Supplier for the CBTC, quality assurance oversight, testing of the CBTC, and safety certification of the CBTC. Other as-needed services include advising MTA on technical issues, maintenance, upgrades, data collection, and keeping MTA staff up to date on CBTC industry standards.

Performance Monitoring

According to Project Manager Howard, MTA does not have a uniform process for monitoring contracts across the agency but rather conducts performance monitoring for contracts on a case-by-case basis. For this contract, evaluation of the Consultant's work will happen for each written deliverable the Consultant submits. MTA will review the quality of written deliverables and can either accept or reject the deliverable but does not have to pay the Consultant for additional rework done by the Consultant after a rejection. The proposed contract also states that MTA may provide feedback on contractor's staff.

At the beginning of each year of the contract, the MTA project team (made up of MTA staff and Consultant staff) will plan the year's deliverables, along with a cost estimate. Many of the Consultant's deliverables are expected to be reports assessing the design submissions that the train control supplier (the Supplier will hold a separate contract) will produce. The Consultant will review the designs and conduct risk assessments, cost analyses, and formal reports.

FISCAL IMPACT

The proposed agreement would approve an agreement with WSP/PGH Wong Joint Venture (the Consultant) for as-needed consulting services supporting the MTA's Train Control Upgrade Project (TCUP) for five years, with five one-year options to extend the agreement, for a total of ten years and an amount not to exceed \$36,000,000.

An estimate of annual expenditures, developed by MTA staff, for the ten years of the contract is shown in Exhibit 3 below. The contract primarily pays for labor costs of the consultants.

Exhibit 3: Ten-Year Labor Expenditure Estimate for the Consultant

Year of Contract	Core Team Labor*	Specialist Labor**	Non-Escalated Labor Costs	Escalated Labor Costs***
Year 1	\$3,628,006	\$1,613,367	\$5,241,373	\$5,241,373
Year 2	\$3,628,006	\$1,650,977	\$5,278,983	\$5,516,538
Year 3	\$3,628,006	\$1,111,524	\$4,739,530	\$5,175,686
Year 4	\$3,628,006	\$1,383,137	\$5,011,144	\$5,718,547
Year 5	\$3,628,006	\$1,315,514	\$4,943,521	\$5,895,241
5-year Total				\$27,547,384
Year 6	n/a	\$2,261,941	\$2,261,941	\$2,818,791
Year 7	n/a	\$1,813,664	\$1,813,664	\$2,361,862
Year 8	n/a	\$1,524,850	\$1,524,850	\$2,075,110
Year 9	n/a	\$478,711	\$478,711	\$680,775
Year 10	n/a	\$478,711	\$478,711	\$711,410
10-year Total				\$36,195,331

Source: MTA Cost Estimate

* Core team labor costs were calculated under the assumption that eight consultants will work full time (and co-locate with MTA staff) with their negotiated hourly rates that range from \$125.62 to \$338.27 for years one through five. These rates are inclusive of overhead and a seven percent profit.

** The specialist labor costs were calculated under the assumption that nine to 16 specialists will work on the project any given year for between 80 hours to 1920 hours per year. The specialists' negotiated hourly rates range from \$125.62 to \$463.86. These rates are inclusive of overhead, a seven percent profit, and three percent subconsultant fee (where applicable).

*** Under the contract billing rates increase by 4.5 percent each year, starting in year two.

Note: Actual contract spending will be capped by the proposed resolution's not to exceed amount.

As shown above, the cost of the proposed agreement would total \$27,547,384 for the first five years of the agreement. The estimated expenditures were developed by MTA staff based on the expected level of effort (hours) and the negotiated hourly labor rates of the consultants in Appendix B of the contract. MTA staff expect eight consultants to be staffed full-time and in-house on the project with between nine and sixteen consultants providing as-needed specialized support each year. There will be travel costs and other direct costs throughout the project in addition to the estimated labor costs.

Funding Source

This contract is funded by Federal Transit Administration (FTA) 5337 funds. Fund 5337 is the State of Good Repair Grants Program that provides capital assistance for maintenance, replacement, and rehabilitation projects for transit agencies to maintain their assets in a state of good repair. FTA 5337 funds cannot be used for operating transit services, but rather must be used for capital costs. FTA 5337 funds are an annual source of capital funding for the MTA and will cover the cost of this contract.

Not to Exceed Amount

At their meeting on August 6, 2024, the MTA's Board of Directors approved the contract for an initial term of five years, with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$30,000,000 over the ten-year period. This was less than the SFMTA staff request for a \$36 million contract and less than the proposed resolution's not to exceed amount of \$36,000,000. The Board of Supervisors should amend the proposed resolution to reduce the not to exceed amount from \$36,000,000 to \$30,000,000, to be consistent with the value of the contract approved by the MTA Board of Directors.

POLICY CONSIDERATION

MTA should develop uniform performance monitoring standards for contracts, similar to the Public Utilities Commission (PUC), another enterprise department. PUC states in its Infrastructure Construction Management Procedures Manual that consultant performance evaluations must be completed annually for all agreements over \$500,000. MTA does not have uniform performance monitoring standards for its contracts, but rather conducts performance monitoring on a project-by-project basis.

RECOMMENDATIONS

1. Amend the proposed resolution to reduce the not to exceed amount from \$36,000,000 to \$30,000,000.
2. Approve the proposed resolution as amended.

**City and County of San Francisco
Municipal Transportation Agency
One South Van Ness Ave., 7th Floor
San Francisco, California 94103**

**Agreement between the City and County of San Francisco and
WSP/PGH Wong Joint Venture**

For

**Consulting Services Supporting the Communications-Based Train
Control Upgrade Project**

Contract No. SFMTA-2024-20-FTA

Table of Contents

To be updated and inserted at a later date.

**City and County of San Francisco
Municipal Transportation Agency
One South Van Ness Ave., 7th Floor
San Francisco, California 94103**

**Agreement between the City and County of San Francisco and
WSP/PGH Wong Joint Venture
Contract No. SFMTA-2024-20-FTA**

This Agreement is made as of _____, in the City and County of San Francisco (City), State of California, by and between WSP/PGH Wong Joint Venture, a joint venture comprised of WSP USA Inc and PGH Wong Engineering, Inc. (Contractor), and City, a municipal corporation, acting by and through its Municipal Transportation Agency (SFMTA).

Recitals

A. The SFMTA wishes to obtain qualified consulting services to support the Train Control Upgrade Project in the procurement, design, engineering, contract administration, integration, construction management, deployment, and acceptance of a new Communications-Based Train Control (CBTC) system. The intent of this professional services contract is to enable the SFMTA to obtain ongoing technical assistance from the selected Contractor on an as-needed basis during the CBTC project.

B. This Agreement was competitively procured as required by San Francisco Administrative Code Chapter 21.1 through a Request for Proposals (RFP) issued on November 27, 2023, pursuant to which City selected Contractor as the highest-qualified scorer.

C. The Small Business Enterprise (SBE) subcontracting participation requirement for this Agreement is 15%.

D. Contractor represents and warrants that it is qualified to perform the Services required by City as set forth under this Agreement.

E. The City's Civil Service Commission approved Contract number 44708- 21/22 for this Agreement on April 18, 2022.

F. The City's Municipal Transportation Agency Board of Directors approved this Agreement by [insert resolution number] on [insert date of Board action].

G. The City's Board of Supervisors approved this Agreement by [insert resolution number] on [insert date of Commission or Board action].

Now, THEREFORE, the parties agree as follows:

Article 1 Definitions

The following definitions apply to this Agreement. Where any word or phrase defined below, or a pronoun in place of the word or phrase, is used in any part of this Agreement, it shall have the meaning set forth below:

1.1 “Acceptance” means the formal written acceptance by the City that all Work, or a specific portion thereof, under the Contract has been satisfactorily completed.

1.2 “Agreement” or “Contract” means this contract document, including all attached appendices, any future amendments, and all applicable City Ordinances and Mandatory City Requirements specifically incorporated into this Agreement by reference as provided herein.

1.3 “Award” means notification from the City to Contractor of acceptance of Contractor’s Proposal, subject to the execution and approval of a satisfactory Contract and bond to secure the performance of the Contract, and to such other conditions as may be specified or otherwise required by law.

1.4 “CBTC” means the Communications-Based Train Control system described in contract SFMTA-2022-40-FTA.

1.5 “CCO” means the SFMTA Contract Compliance Office.

1.6 “City” or “the City” means the City and County of San Francisco, a municipal corporation, acting by and through its Municipal Transportation Agency.

1.7 “City Data” means that data as described in Article 13 of this Agreement, which includes, without limitation, all data collected, used, maintained, processed, stored, or generated by or on behalf of the City in connection with this Agreement, as well as Confidential Information.

1.8 “CMD” means the Contract Monitoring Division of the City.

1.9 “Confidential Information” means information, documents, schematics, plans and data that the SFMTA has identified as confidential or otherwise withheld from public access without the express written authority of the SFMTA, which includes, but is not limited to Security Sensitive Information (SSI) and Critical Infrastructure Information (CII), and proprietary information from third parties that is licensed to the SFMTA.

1.10 “Contract Administrator” means the contract administrator assigned to the Contract by the SFMTA, or his or her designated agent.

1.11 “Contract Modification” means a written amendment to the Contract, agreed to by the City and Contractor, covering changes in the Conformed Contract Documents within the general scope of the Contract and establishing the basis of payment and time adjustments for the Work affected by the changes.

1.12 “**Contractor**” or “**Consultant**” means WSP/PGH Wong Joint Venture, a joint venture comprised of WSP USA Inc. and PGH Wong Engineering, Inc.

1.13 “**Controller**” means the Controller of the City.

1.14 “**Core Project Team**” means the Consultant’s project manager and staff named in Section 4.4.2.

1.15 “**Day**” (whether or not capitalized) means a calendar day, unless otherwise designated.

1.16 “**Deliverables**” means Contractor’s work product resulting from the Services provided by Contractor to City during the course of Contractor’s performance of the Agreement, including without limitation, the work product described in the “Scope of Services” attached as Appendix A.

1.17 “**Director**” means the Director of Transportation of the SFMTA or his or her designee.

1.18 “**Disadvantage Business Enterprise**” or “**DBE**” means a for-profit, small business concern owned and controlled by a socially and economically disadvantaged person(s) as defined in 49 Code of Federal Regulations (CFR) Section 26.5.

1.19 “**Effective Date**” means the date the SFMTA notifies Contractor through a Purchase Order that the City’s Controller has certified the availability of funds for this Agreement as provided in Section 3.1. In the case of a task order contract, the “Effective Date” means the date the Director of Transportation executes the Contract.

1.20 “**FTA**” means the Federal Transit Administration.

1.21 “**Installer**” means a third-party contractor(s) that the SFMTA has engaged to install CBTC equipment on the wayside, in control rooms, and on vehicles.

1.22 “**Key Personnel**” means Contractor’s personnel named in Section 4.4.2. Key Personnel are either members of the Core Project Team or Specialist Team Leads.

1.23 “**Mandatory City Requirements**” means those City laws set forth in the San Francisco Municipal Code, including the duly authorized rules, regulations, and guidelines implementing such laws that impose specific duties and obligations upon Contractor.

1.24 “**Notice to Proceed**” means written notice to the Contractor of the date on which it shall begin prosecution of the Work to be done under the Contract.

1.25 “**Party**” and “**Parties**” mean the City and Contractor either collectively or individually.

1.26 “**Project Manager**” means the project manager assigned to the Contract for the SFMTA, or his or her designated agent.

1.27 “**Proposal**” means the technical and management information and prices

submitted by Contractor in response to the RFP.

1.28 “Purchase Order” means the written order issued by the City to the Contractor, authorizing the Effective Date as provided in Section 2.1.

1.29 “RFP” means RFP No SFMTA-2024-20-FTA, unless otherwise specified.

1.30 “San Francisco Municipal Transportation Agency” or “SFMTA” means the agency of City with jurisdiction over all surface transportation in San Francisco, as provided under Article VIIIA of the City’s Charter.

1.31 “Services” means the work performed by Contractor under this Agreement as specifically described in the “Scope of Services” attached as Appendix A, including all services, labor, supervision, materials, equipment, actions and other requirements to be performed and furnished by Contractor under this Agreement.

1.32 “Small Business Enterprise” or “SBE” means a for-profit, small business concern with a three-year average gross revenue that do not exceed the thresholds set forth in Section III.B and either: 1) is certified under any of the following programs: the State of California’s Small Business Program with the Department of General Services (State Program), the City and County of San Francisco’s LBE Program (City Program), or the California Unified Certification Program (Federal DBE program), or 2) has received written confirmation from CCO that it meets the SFMTA’s program eligibility requirements.

1.33 “Specialist Team Leads” means Contractor’s personnel listed in Section 4.4.2, other than the Core Project Team, who are experts in one or more key disciplines and who lead one or more teams of specialists to deliver the specific categories of services listed in Section I of Appendix A.

1.34 “Subconsultant” or “Subcontractor” means any firm under contract to the Contractor for services under this Agreement.

1.35 “Supplier” or “Train Control System Supplier” means the firm who has been awarded the contract described in RFP SFMTA-2022-40-FTA.

1.36 “Task Order” means a written directive from the SFMTA to the Contractor to perform specified work.

Article 2 Term of the Agreement

2.1 The term of this Agreement shall commence on the Effective Date and expire five years from the Effective Date, unless earlier terminated as otherwise provided herein.

2.2 The City has five options to renew the Agreement for an additional year each. The City may extend this Agreement beyond the expiration date by exercising an option at the Director of Transportation’s sole and absolute discretion and by modifying this Agreement as provided in Section 11.5 (Modification of this Agreement).

Article 3 Financial Matters

3.1 Certification of Funds; Budget and Fiscal Provisions; Termination in the

Event of Non-Appropriation. This Agreement is subject to the budget and fiscal provisions of the City's Charter. Charges will accrue only after prior written authorization certified by the Controller in the form of a Purchase Order, and the amount of City's obligation hereunder shall not at any time exceed the amount certified for the purpose and period stated in such advance authorization. This Agreement will terminate without penalty, liability or expense of any kind to City at the end of any fiscal year if funds are not appropriated for the next succeeding fiscal year. If funds are appropriated for a portion of the fiscal year, this Agreement will terminate, without penalty, liability or expense of any kind at the end of the term for which funds are appropriated. City has no obligation to make appropriations for this Agreement in lieu of appropriations for new or other agreements. City budget decisions are subject to the discretion of the Mayor and the Board of Supervisors. Contractor's assumption of risk of possible non-appropriation is part of the consideration for this Agreement.

THIS SECTION CONTROLS AGAINST ANY AND ALL OTHER PROVISIONS OF THIS AGREEMENT.

3.2 Guaranteed Maximum Costs. The City's payment obligation to Contractor

cannot at any time exceed the amount certified by City's Controller for the purpose and period stated in such certification. Absent an authorized Emergency per the City Charter or applicable Code, no City representative is authorized to offer or promise, nor is the City required to honor, any offered or promised payments to Contractor under this Agreement in excess of the certified maximum amount without the Controller having first certified the additional promised amount and the Parties having modified this Agreement as provided in Section 11.5 (Modification of this Agreement).

3.3 Compensation. The SFMTA will pay Contractor on a task-order basis for Services it performs under this Agreement.

3.3.1 Amount. Contractor's compensation for the Services it performs under Task Orders shall be based on:

(a) a negotiated lump-sum price (that includes all direct hourly labor rates, overhead, profit, and all other costs) for the Task Order; or

(b) a negotiated number of hours per Task Order (using the hourly labor rates set forth in Appendix B (Calculation of Charges) plus a fixed percent Subcontractor markup and profit negotiated in accordance with Appendix B) subject to a total not to exceed amount for the Task Order.

(c) In no event shall the amount of this Agreement exceed Thirty Six Million Dollars (\$36,000,000).

3.3.2 Method of Computing Compensation. Contractor's compensation for Task Orders based on a negotiated number of hours shall be as described below:

(a) Negotiated Hourly Labor Rates. The Negotiated Hourly Labor Rates in Appendix B shall be fixed at that level until 12 months after the award date of this Agreement. The Negotiated Hourly Labor Rates do not include the subconsultant markup of 3% or profit. Thereafter, during the term of this Agreement, the Negotiated Hourly Labor Rates shall increase by 4.5% on each anniversary of the award date of this Agreement.

(b) Overhead Rates

(i) Overhead is included in the Negotiated Hourly Labor Rates described above. The Contractor's and Subcontractors' overhead rates are subject to audit in compliance with Federal requirements.

(c) Reimbursable Costs. This Agreement is subject to federal regulations concerning the reimbursement and audit of expenses, costs and overhead as set forth in the "Uniform Administrative Requirements, Cost Principles, And Audit Requirements For Federal Awards," 2 CFR Part 200 (Federal Cost Requirements). The Contractor acknowledges that it is familiar with the Federal Cost Requirements. Contractor shall not seek reimbursement and the City shall not pay reimbursement to Contractor for costs (including but not limited to direct costs, indirect costs, and overhead) that are not compensable under the Federal Cost Requirements. Contractor understands and acknowledges that the City shall not reimburse Contractor for Contractor's costs under this Agreement that are not reimbursable to City from its funding agencies in accordance with the Federal Cost Requirements. All payments to Contractor under this Agreement are subject to audit and adjustment in accordance with the requirements and standards set out in the Federal Cost Requirements.

(d) Out-of-Pocket Expenses. The SFMTA will reimburse Contractor for the actual cost of approved other direct costs ("ODCs") for Contractor and its subcontractors, except travel as noted in subsection (e). Compensation for ODCs shall be at direct cost, without any mark-ups. All ODCs required to perform a task must be described in detail in the Task Order scope of work and identified as a line item in the Task Order budget. If unforeseen ODCs are required to perform the Task Order scope of work after the Task Order has been issued as a Purchase Order, such costs must be documented in detail and pre-approved in writing by the SFMTA.

(e) Travel. The SFMTA will compensate Contractor for travel expenses using GSA rates according to the procedures included in Appendix B. All travel required to perform a task must be described in detail in the Task Order scope of work and identified as a line item in the Task Order budget. Current GSA rates shall be included in the Task Order documentation.

(f) Non-Reimbursable Expenses. The SFMTA will not reimburse the

Proposer for any of the following expenses:

- (i) Consultant and Subconsultants' personnel relocation costs.
- (ii) Purchases of office and field supplies/equipment, unless the supplies/equipment are not ordinary/typical supplies and equipment AND uniquely required of this Project AND serving only this Project, in which case the costs shall be separately identified in the Cost Proposal. These items will then need to be turned over to the SFMTA at the end of the Contract.
- (iii) Vehicle expenses that are beyond those calculated on a cost-per-mile or lease basis. Vehicle expenses calculated on a cost-per-mile basis for travel within a 100-mile radius of the City will not be reimbursable unless otherwise approved by the SFMTA in advance as being necessary (e.g., no viable public transit options available).
- (iv) Any travel expenses, including transportation, meals, and lodging costs, that are not approved by the SFMTA.
- (v) Any overnight courier services extending outside of the Bay Area between Proposer offices except as approved by the SFMTA.
- (vi) Any personal or entertainment expenses.
- (vii) Computer usage.
- (viii) Facsimile and telecommunications expenses.

(g) Use of Public Transportation. San Francisco is a transit-first city, and the SFMTA encourages Contractor and Subcontractors to use public transit in performance of its services to the maximum extent possible. The SFMTA will closely review the Contractor's requests for reimbursement of travel expenses. Travel from and to airports must be by public transit to the maximum extent possible. Hired cars are not considered public transit. The City reserves the right to refuse to reimburse travel expenses that are not in accord with these policies.

3.4 Calculation of Charges. For Task Orders based on a negotiated number of hours, Contractor shall provide an invoice to the SFMTA on a monthly basis for Services (including goods delivered, if any) completed in the immediately preceding month, unless a different schedule is set out in Appendix B (Calculation of Charges). For Task Orders based on a lump- sum price, Contractor shall provide an invoice to the SFMTA as a one-time lump sum amount upon completion of the Task Order, or a percentage or dollar amount per milestone each month, in either case as defined in the Task Order. Compensation shall be made for goods and/or Services identified in the invoice that the Director of Transportation, or his or her designee, in his or her sole discretion, concludes have been satisfactorily performed. The City may withhold a

portion of payment as retention until the conclusion of the Agreement if agreed to by both Parties. In no event shall City be liable for interest or late charges for any late payments. City will not honor minimum service order charges for any Services covered by this Agreement.

3.4.1 Payment Limited to Satisfactory Services and Delivery of Goods.

Contractor is not entitled to any payments from City until the SFMTA approves the goods and/or Services, including any furnished Deliverables delivered under this Agreement. Payments to Contractor by City shall not excuse Contractor from its obligation to replace unsatisfactory Deliverables, including equipment, components, materials or other goods and/or Services even if the unsatisfactory character of such Deliverables, equipment, components, materials, goods or Services may not have been apparent or detected at the time such payment was made. The City may reject Deliverables, equipment, components, materials, goods and/or Services delivered under this Agreement that do not conform to the requirements of this Agreement. In such case, Contractor must replace the non-conforming Deliverables, equipment, components, materials, goods and/or Services without delay and at no cost to the City.

3.4.2 Withhold Payments. If Contractor fails to provide Deliverables, equipment, components, materials, other goods and/or Services in accordance with Contractor's obligations under this Agreement, the City may withhold any and all payments due Contractor until such failure to perform is cured, and Contractor shall not stop work as a result of City's withholding of payments as provided herein.

3.4.3 Invoice Format. Invoices furnished by Contractor under this Agreement must be in a form acceptable to the City's Controller and the SFMTA, and must include a unique invoice number. Contractor shall submit invoices for all allowable charges incurred in the performance of each Task Order. No more than one invoice shall be submitted per Task Order in a month. Each Contractor invoice shall contain the following information:

- (a)** Contract Number
- (b)** Task Order Number
- (c)** Purchase Order Number for the Task Order
- (d)** A copy of the receipts for all ODCs invoiced
- (e)** Description of the Services performed and/or goods delivered
- (f)** Name, position, direct hourly rate and hours worked of employee(s) whose labor is invoiced except where Contractor invoices for a deliverable that is priced in the Task Order as a lump sum, or as estimated milestone payments described in the Task Order budget.
- (g)** Profit for current invoice period. Profit will be calculated as a prorated portion of the total profit (total profit not to exceed 7%) for the task for which Contractor seeks payment.
- (h)** Total mark-up for current invoice period for all Subcontractor's

work effort for that invoice period as the amount of 3% of Subcontractor's total labor charges.

- (i) Travel expenses as described in Appendix B
- (j) Contract payment terms
- (k) Sales/use tax (if applicable)
- (l) Total costs
- (m) Progress Payment Form – SFMTA Form No. 6

3.4.4 Payment Terms

(a) **Payment Due Date:** Unless the SFMTA notifies the Contractor that a dispute exists, Payment will be made within 30 Days, measured from (1) the delivery of goods and/or the rendering of services or (2) the date of receipt of the invoice, whichever is later. Payment is deemed to be made on the date on which City has issued a check to Contractor or, if Contractor has agreed to electronic payment, the date on which City has posted the electronic payment to Contractor.

(b) **Reserved. (Payment Discount Terms)**

(c) No additional charge shall accrue against City in the event City does not make payment within any time specified by Contractor.

3.4.5 Progress Payment Form. The Controller is not authorized to pay invoices submitted by Contractor prior to Contractor's submission of the SFMTA Progress Payment Form (SFMTA SBE/DBE Form No. 6). If the Progress Payment Form is not submitted with Contractor's invoice, the Controller will notify the SFMTA and Contractor of the omission. If Contractor's failure to provide the SFMTA Progress Payment Form is not explained to the Controller's satisfaction, the Controller will withhold 20 percent of the payment due pursuant to that invoice until the SFMTA Progress Payment Form is provided.

3.4.6 SBE/DBE Payment and Utilization Tracking System. Contractor shall pay SBE/DBE subcontractors within three business days of receipt of payment from the City. Within ten business days of the SFMTA's payment of an invoice, Contractor shall confirm that all subcontractors have been paid via the B2GNow System (<https://sfmta.diversitycompliance.com/>). Failure to submit all required payment information to the City's Financial System with each payment request may result in the withholding of 20% of the payment due.

3.4.7 Getting Paid by the City Payment for Goods and/or Services

(a) The City utilizes the Paymode-X® service offered by Bank of America Merrill Lynch to pay City contractors. Contractor must sign up to receive electronic payments to be paid under this Agreement. To sign up for electronic payments, visit http://portal.paymode.com/city_countyofsanfrancisco.

(b) At the option of the City, Contractor may be required to submit invoices directly in the City's financial and procurement system (PeopleSoft) via eSettlement. Refer to <https://sfcitypartner.sfgov.org/pages/training.aspx> for more information on eSettlement. For access to PeopleSoft eSettlement, submit a request through sfemployeeportalsupport@sfgov.org.

3.4.8 Grant-Funded Contracts

(a) **Disallowance.** If Contractor requests or receives payment from City for Services, reimbursement for which is later determined to be unallowable by the State of California or United States Government, Contractor shall promptly refund the disallowed amount to City upon City's request. At its option, City may offset the amount disallowed from any payment due or to become due to Contractor under this Agreement.

(b) **Grant Terms.** The funding for this Agreement is provided to the SFMTA in full or in part by a Federal or State grant. As part of the terms of receiving the funds, the SFMTA must incorporate some of the terms into this Agreement (Grant Terms). The incorporated Grant Terms may be found in Appendix D, FTA Requirements for Personal Services Contracts). To the extent that any Grant Term is inconsistent with any other provisions of this Agreement such that Contractor is unable to comply with both the Grant Terms and the other provision(s), the Grant Terms shall apply.

(c) **Subcontractors.** As required by the Grant Terms, Contractor shall insert applicable provisions into each lower-tier subcontract. Contractor is responsible for compliance with the Grant Terms by any subcontractor, lower-tier subcontractor, or service provider.

3.5 Audit and Inspection of Records. Contractor agrees to maintain and make available to the City, during regular business hours, accurate books and accounting records relating to its Services. Contractor will permit City to audit, examine and make excerpts and transcripts from such books and records, and to make audits of all invoices, materials, payrolls, records or personnel and other data related to all other matters covered by this Agreement, whether funded in whole or in part under this Agreement. Contractor shall maintain such data and records in an accessible location and condition for a period of not less than five years after final payment under this Agreement or until after final audit has been resolved, whichever is later. The State of California or any Federal agency having an interest in the subject matter of this Agreement shall have the same rights as conferred upon City by this Section. Contractor shall include the same audit and inspection rights and record retention requirements in all subcontracts.

3.6 Submitting False Claims. The full text of San Francisco Administrative Code Chapter 21, Section 21.35, including the enforcement and penalty provisions, is incorporated into this Agreement. Pursuant to San Francisco Administrative Code §21.35, any contractor or subcontractor who submits a false claim shall be liable to the City for the statutory penalties set

forth in that section. A contractor or subcontractor will be deemed to have submitted a false claim to the City if the contractor or subcontractor: (a) knowingly presents or causes to be presented to an officer or employee of the City a false claim or request for payment or approval; (b) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by the City; (c) conspires to defraud the City by getting a false claim allowed or paid by the City; (d) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to pay or transmit money or property to the City; or (e) is a beneficiary of an inadvertent submission of a false claim to the City, subsequently discovers the falsity of the claim, and fails to disclose the false claim to the City within a reasonable time after discovery of the false claim.

3.7 Reserved. (Payment of Prevailing Wages)

Article 4 Services and Resources

4.1 Services Contractor Agrees to Perform. Contractor agrees to perform the Services stated in Appendix A (Scope of Services). Officers and employees of the City are not authorized to request, and the City is not required to reimburse the Contractor for, Services beyond the Scope of Services listed in Appendix A, unless Appendix A is modified as provided in Section 11.5 (Modification of this Agreement).

4.2 Changes. The SFMTA may at any time, by a written order, make changes within the general scope of this Agreement. If SFMTA intends to issue a written order prior to the time in which the parties have negotiated a contract amendment, prior to that written order, the parties will negotiate in good faith for 5 business days, modifications to the scope, schedule, and compensation for the services at issue. At the end of the 5 business days if no agreement amendment is negotiated, the Contractor will proceed with the services at issue while the parties continue negotiating a contract amendment. Such change shall serve to modify this Agreement to the extent necessary to execute the change as directed. If any such change causes an increase or decrease in the cost of, or the time required for, the performance of any part of the Services under this Agreement, whether changed or not changed by the order, the SFMTA shall make an equitable adjustment in the contract price, the delivery schedule, or both, and shall modify the Agreement accordingly. The Contractor must assert its right to an adjustment under this article within three working days from the date of receipt of the written order. Failure by Contractor to give timely notice of the change could constitute waiver of a claim for an equitable adjustment. However, if the SFMTA decides that the facts justify it, the SFMTA may receive and act upon a proposal submitted at any time before final payment of the Agreement. If the Contractor's proposal includes the cost of equipment or materials made obsolete or excess by the change, the SFMTA shall have the right to prescribe the manner of the disposition of such equipment or materials. Failure to agree to any adjustment shall be a dispute under Section 11.6, Dispute Resolution Procedure. However, nothing in this provision shall excuse the Contractor from proceeding with the Agreement as changed.

4.3 Task Order Requirements. Contractor shall perform the Services under Task Orders the SFMTA issues in accordance with the process described below. The SFMTA will define requirements for Task Orders. The scope of work, cost and estimated time to perform the task fully will be agreed upon in advance of the start of work on the task in accordance with the terms and conditions of this Agreement, generally following the procedures outlined below. The cost of preparing invoices, including required SBE/DBE forms, and the Contractor proposal must be incorporated into the overhead rate (as approved in Appendix B). Additionally, project management costs may incorporate, but not be limited to, preparation of meeting materials, summary of meeting notes, a task monitoring system (e.g., bi-weekly project reports or monthly status updates). Contractor time spent managing or overseeing work performed by Subcontractors will not be compensable.

4.3.1 Task Order Request. The SFMTA will provide Contractor a Task Order request, using the form in Appendix C, that includes the following: (a) the scope of Services, including any deliverables; (b) the deadline to respond to the Task Order request (i.e., deadline to prepare and submit Task Order proposal); and (c) the expected timeline (including any milestones) to complete the task.

4.3.2 Contractor Request for Information. Upon receiving a Task Order Request Form, Contractor shall request in writing any information or data it requires to complete the proposal and perform the Services under the Task Order. The Parties will reach agreement as to the availability and delivery time for this data and information during initial task negotiations.

4.3.3 Contractor Proposal. By no later than the deadline set forth in the Task Order request, Contractor shall prepare and submit to the SFMTA a Task Order proposal that includes, at minimum, the following items:

(a) A work plan that includes the following: (i) a detailed description, by task, and, if applicable, subtask of the scope of Services to be performed under the Task Order; (ii) Contractor's approach to perform the Services and complete the Task Order; and (iii) any information or data Contractor requires to perform the Task Order.

(b) A schedule to complete the Task Order, including key milestone dates to complete each task, subtask, and deliverable, as applicable.

(c) A list of personnel and Subcontractors Contractor proposes to work on each Task Order; and, for each personnel and Subcontractor, a description of the task(s) or subtask(s) they will perform, and a resume indicating the personnel or Subcontractor is qualified to perform that work. Resumes shall describe experience performing similar work.

(d) A detailed cost estimate for each task, subtask or deliverable showing:

(i) Estimated number of hours and fully burdened hourly labor rates (as listed in Appendix B) for each personnel and

Subcontractor proposed to work on the Task Order. The following labor costs are not allowed, and shall not be included in Contractor's cost estimates: labor to prepare monthly invoices, labor to fill out required SBE/DBE forms, and labor to manage Subcontractors.

- (ii) Estimated reasonable ODCs;
- (iii) Any travel expenses necessary to carry out the task as described in Appendix B;
- (iv) Profit and mark-up, as follows:
 - Proposed profit of Contractor's work effort as a fixed fee amount not to exceed 7% of Contractor's estimated NHLRs; and
 - For work performed by all Subcontractors total mark-up for Contractor on Subcontractor's work effort as 3% of Subcontractor's total labor charges (does not include travel and ODCs).

4.3.4 Negotiation of Cost and Profit. The SFMTA Project Manager will review the Task Order proposal and negotiate with Contractor pricing for the Task Order, which shall be consistent with Section 3.3.1 above.

4.3.5 Record of Negotiations. The SFMTA Project Manager will document the negotiations and any agreement in a Record of Negotiations.

4.3.6 SBE Goals. Upon completion of negotiations, Contractor shall provide Project Manager a memo describing the proposed SBE goal associated with the Task Order. The memo shall include a table that lists (1) all firms performing work on the Task Order, (2) if the firm is a SBE, (3) the dollar value and percentage of work attributed with each firm, and (4) the overall calculated SBE goal for the Task Order. CCO will review the final negotiated Task Order scope and Contractor's SBE goal memo, approve or deny the goal, and issue a memo to the SFMTA Project Manager. SBE goals assigned to each Task Order shall be tracked by the CCO as part of the overall goal set forth in the Agreement.

4.3.7 Notice to Proceed. The SFMTA will issue and send to Contractor a written notice to proceed (NTP), Task Order number, and Purchase Order after verifying that sufficient funds are available to pay for the Task Order. Contractor shall not commence work under any Task Order until it receives a corresponding NTP and Purchase Order from the SFMTA. Proposer shall use this Task Order number when submitting invoices to the SFMTA's project manager for payment under the Task Order.

4.3.8 Changes to Task Order Pricing. Task Order pricing shall not be modified unless there is a material change in the Task Order's scope of Services, in which case a

new Task Order proposal, pricing negotiation, record of negotiations, and notice to proceed shall be required before SFMTA approves the change in pricing.

4.3.9 Failure to Agree on Terms of Task Order. In the event that the SFMTA and Contractor cannot reach agreement on the terms of the Task Order, the SFMTA may either cancel the Task Order and have the work accomplished through other available sources, or may direct the Contractor to proceed with the task under such conditions as City may require to assure quality and timeliness of the task performance. Under no circumstances may the Contractor refuse to undertake a City-ordered task.

4.3.10 Presentations. In the performance of assigned tasks, the Contractor, if requested by City, shall prepare graphic and written presentations, and participate in presentations of said material to various City departments, commissions, and interested community groups.

4.4 Personnel

4.4.1 Qualified Personnel. Contractor shall use only competent personnel under the supervision of, and in the employment of, Contractor (or Contractor's authorized subcontractors) to perform the Services. Contractor will comply with City's reasonable requests regarding assignment and/or removal of personnel, but all personnel, including those assigned at City's request, must be supervised by Contractor. Contractor shall commit adequate resources to allow timely completion within the schedule specified in a Task Order.

4.4.2 Key Personnel. The SFMTA selected Contractor in large part due to the particular experience and expertise of the Key Personnel listed below. Key Personnel designated as members of the Core Project Team are required to be engaged in work on this Contract for at least 75% of their time for the entire term of the Contract. Contractor shall not reassign Core Project Team members to other Projects or assignments without the express written approval of the SFMTA. If SFMTA's Task Order Request identifies specific specialist teams to participate in the task, Contractor shall advise SFMTA in their Task Order Proposal if any of the Specialist Team Leads listed below are unavailable to lead the specified task. The SFMTA may in turn require Contractor to provide a remedy and/or corrective actions (such as temporary substitution of the Specialist Team Lead with an equally qualified and experienced person) for such deviations. After a Specialist Team Lead has been identified in an issued Task Order, Contractor shall not substitute another person for the position without the express written approval of the SFMTA.

Core Project Team

Siv Bhamra, Project Manager

Sabine van der Sluis, Commercial Manager

Jonathan Hu, Lead Engineer

Steven Kyauk, Construction Manager

Srini Katreddi, Project Engineering

Vincent Kwong, System Engineering and Delivery
Hugh Vassar, Scheduling
Marcus Christian, Document Control

Specialist Team Leads

Bryce Little, Contract Management Lead
Steven Kyauk, Construction Manager
Jonathan Hu, Lead Engineer
Benjamin Holland, Lead Vehicle Engineer
Dale Brown, System Integration Lead
Michael Towey, Quality Assurance Lead
Galen Roberts, Testing and Commissioning Lead
Lou Baxter, Safety Lead
Chris Johnson, Security Lead
David Knights, Post-Delivery, Maintenance and Support Lead
Frank Jezycki, Service and Operations Planning Lead

4.5 Current Workload and Available Resources. The Contractor covenants that its current workload and the workload of its Subcontractors will not affect the commencement and the progress of the work under this Agreement. The Contractor shall have all the necessary professional, technical and support personnel, including those of the Subcontractors, available, ready and mobilized to perform actual work within two weeks of the receipt of NTP on a particular task. In addition, the Contractor shall make good faith efforts to have all contracts signed with Subcontractors within three weeks of NTP. Contractor shall provide copies of said subcontracts to the SFMTA upon request.

4.6 Transmittal of Work Product. When requested by Agency's Project Manager, and after completion of each task and subtask, the Contractor shall transmit to Agency all Work Product (duplicates and originals) produced or accumulated in the course of its and its Subcontractors' work on this Agreement. The Contractor's Project Manager and applicable Specialist Team Leads shall have thoroughly reviewed and approved all Work Product and signed off as such prior to transmitting them to Agency.

4.7 Agency's Responsibilities Regarding Submittals. The Agency will review and comment on Contractor's submittals generally within two calendar weeks of submittal. The Agency and Contractor will establish a timetable of submittals and reviews in the initial coordination meetings and include such a timetable in the approved Task Order. The Agency's review and comments of Contractor submittals shall in no way relieve the Contractor of its independent responsibility to perform its own quality checks and review, nor shall any comment or review by the Agency relieve the Contractor of its independent responsibility to provide submittals and deliverables in full compliance with local, state and federal codes, regulations and standards.

If Contractor considers certain Agency review comments or directives, either written or oral, to require work efforts not included in the approved Task Order, the Contractor shall provide Agency with either a written request for clarification of intended work or a proposal to proceed with additional work within five working days of discovering the perceived extra work, in strict accordance with the procedures specified in subsection 4.3.3 above.

4.8 Subcontracting

4.8.1 Contractor may subcontract portions of the Services only upon prior written approval of City. Contractor is responsible for its Subcontractors throughout the course of the work required to perform the Services. All subcontracts must incorporate the terms of Article 10 (Additional Requirements Incorporated by Reference) of this Agreement, unless inapplicable. Neither Party shall, on the basis of this Agreement, contract on behalf of, or in the name of, the other Party. Any agreement made in violation of this provision shall be null and void.

4.8.2 City's execution of this Agreement constitutes its approval of the Subcontractors listed below.

AECOM Technical Services, Inc.
CHS Consulting Group
Civic Edge Consulting
Cornerstone Transportation Consulting, Inc.
Hatch
Legacy Rail Operations LLC
Luster National, Inc.
Raul Bravo + Associates, Inc.
TUV Rheinland of North America, Inc.
UNICO Engineering, Inc.
Virginkar & Associates, Inc.

4.9 Independent Contractor; Payment of Employment Taxes and Other Expenses

4.9.1 Independent Contractor. For the purposes of this Section 4.9, "Contractor" shall be deemed to include not only Contractor, but also any agent or employee of Contractor. Contractor acknowledges and agrees that at all times, Contractor or any agent or employee of Contractor shall be deemed at all times to be an independent contractor and is wholly responsible for the manner in which it performs the services and work requested by City under this Agreement. Contractor, its agents, and employees will not represent or hold themselves out to be employees of the City at any time. Contractor or any agent or employee of Contractor shall not have employee status with City, nor be entitled to participate in any plans, arrangements, or distributions by City pertaining to or in connection with any retirement, health or other benefits that City may offer its employees. Contractor or any agent or employee of Contractor is liable for the acts and omissions of itself, its employees and its agents. Contractor shall be responsible for all obligations and payments, whether imposed by federal, state or local

law, including, but not limited to, FICA, income tax withholdings, unemployment compensation, insurance, and other similar responsibilities related to Contractor's performing services and work, or any agent or employee of Contractor providing same. Nothing in this Agreement shall be construed as creating an employment or agency relationship between City and Contractor or any agent or employee of Contractor. Any terms in this Agreement referring to direction from City shall be construed as providing for direction as to policy and the result of Contractor's work only, and not as to the means by which such a result is obtained. City does not retain the right to control the means or the method by which Contractor performs work under this Agreement. Contractor agrees to maintain and make available to City, upon request and during regular business hours, accurate books and accounting records demonstrating Contractor's compliance with this Section. Should City determine that Contractor, or any agent or employee of Contractor, is not performing in accordance with the requirements of this Agreement, City shall provide Contractor with written notice of such failure. Within five business days of Contractor's receipt of such notice, and in accordance with Contractor policy and procedure, Contractor shall remedy the deficiency. Notwithstanding, if City believes that an action of Contractor, or any agent or employee of Contractor, warrants immediate remedial action by Contractor, City shall contact Contractor and provide Contractor in writing with the reason for requesting such immediate action.

4.9.2 Payment of Employment Taxes and Other Expenses. Should City, in its discretion, or a relevant taxing authority such as the Internal Revenue Service or the State Employment Development Division, or both, determine that Contractor is an employee for purposes of collection of any employment taxes, the amounts payable under this Agreement shall be reduced by amounts equal to both the employee and employer portions of the tax due (and offsetting any credits for amounts already paid by Contractor which can be applied against this liability). City shall then forward those amounts to the relevant taxing authority. Should a relevant taxing authority determine a liability for past services performed by Contractor for City, upon notification of such fact by City, Contractor shall promptly remit such amount due or arrange with City to have the amount due withheld from future payments to Contractor under this Agreement (again, offsetting any amounts already paid by Contractor which can be applied as a credit against such liability). A determination of employment status pursuant to this Section 4.8 shall be solely limited to the purposes of the particular tax in question, and for all other purposes of this Agreement, Contractor shall not be considered an employee of City. Notwithstanding the foregoing, Contractor agrees to indemnify and save harmless City and its officers, agents and employees from, and, if requested, shall defend them against any and all claims, losses, costs, damages, and expenses, including attorneys' fees, arising from this Section.

4.10 Assignment. The Services to be performed by Contractor are personal in character. Neither this Agreement nor any duties or obligations hereunder may be directly or indirectly assigned, novated, hypothecated, transferred, or delegated by Contractor, or where the Contractor is a joint venture, a joint venture partner (collectively referred to as an "Assignment"), unless first approved by City by written instrument executed and approved as

required under City law and under the policy of the SFMTA Board of Directors. The City's approval of any such Assignment is subject to the Contractor demonstrating to City's reasonable satisfaction that the proposed transferee is: (a) reputable and capable, financially and otherwise, of performing each of Contractor's obligations under this Agreement and any other documents to be assigned, (b) not forbidden by applicable law from transacting business or entering into contracts with City; and (c) subject to the jurisdiction of the courts of the State of California. A change of ownership or control of Contractor or a sale or transfer of substantially all of the assets of Contractor shall be deemed an Assignment for purposes of this Agreement. Contractor shall immediately notify City about any Assignment. Any purported Assignment made in violation of this provision shall be null and void.

4.11 Standard of Care. Contractor represents to City that the Services will be performed with the degree of skill and care that is required by current, good and sound professional procedures and practices, and in conformance with generally accepted professional standards prevailing at the time the Services are performed.

Article 5 Insurance and Indemnity

5.1 Insurance

5.1.1 Required Coverages. Without in any way limiting Contractor's liability pursuant to the "Indemnification" section of this Agreement, Contractor must maintain in force, during the full term of the Agreement, insurance in the following amounts and coverages:

(a) Commercial General Liability Insurance with limits not less than \$2,000,000 each occurrence for Bodily Injury and Property Damage, including Contractual Liability, Personal Injury, Products and Completed Operations.

(b) Commercial Automobile Liability Insurance with limits not less than \$5,000,000 each occurrence, "Combined Single Limit" for Bodily Injury and Property Damage, including Owned, Non-Owned and Hired auto coverage, as applicable.

(c) Workers' Compensation, in statutory amounts, with Employers' Liability Limits not less than \$1,000,000 each accident, injury, or illness.

(d) Professional liability insurance, applicable to Contractor's profession, with limits not less than \$5,000,000 for each claim with respect to negligent acts, errors or omissions in connection with the Services.

(e) Technology errors and omissions liability coverage (whether through a separate policy or Contractor's Professional liability and/or cyber liability policy), with limits of \$5,000,000 for each claim and each loss. The policy shall at a minimum cover professional misconduct or lack of the requisite skill required for the performance of services defined in the Agreement and shall also provide coverage for the following risks:

(i) Network security liability arising from the unauthorized access to, use of, or tampering with computers or computer systems, including hacker attacks.

(ii) Liability arising from the introduction of any form of malicious software including computer viruses into, or otherwise causing damage to the City's or third person's computer, computer system, network, or similar computer related property and the data, software, and programs thereon.

(iii) Cyber and privacy insurance with limits of not less than \$5,000,000 per claim. Such insurance shall include coverage for liability arising from theft, dissemination, and/or use of confidential information, including but not limited to, bank and credit card account information or personal information, such as name, address, social security numbers, protected health information or other personally identifying information, stored or transmitted in electronic form.

5.1.2 Additional Insured Endorsements

(a) The Commercial General Liability policy must be endorsed to name as Additional Insured the City and County of San Francisco, its Officers, Agents, and Employees.

(b) The Commercial Automobile Liability Insurance policy must be endorsed to name as Additional Insured the City and County of San Francisco, its Officers, Agents, and Employees.

(c) Reserved. (Pollution Auto Liability Insurance Additional Insured Endorsement)

5.1.3 Waiver of Subrogation Endorsements

(a) The Workers' Compensation policy(ies) shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Contractor, its employees, agents and subcontractors.

5.1.4 Primary Insurance Endorsements

(a) The Commercial General Liability policy shall provide that such policies are primary insurance to any other insurance available to the Additional Insureds, with respect to any claims arising out of this Agreement.

(b) The Commercial Automobile Liability Insurance policy shall provide that such policies are primary insurance to any other insurance available to the Additional Insureds, with respect to any claims arising out of this Agreement.

(c) Reserved. (Pollution Liability Insurance Primary Insurance Endorsement)

5.1.5 Other Insurance Requirements

(a) Thirty days' advance written notice shall be provided to the City of cancellation, intended non-renewal, or reduction in coverages, except for non-payment, for which no less than 10 Days' notice shall be provided to City. Notices shall be sent to the City

address set forth in Section 11.1 (Notices to the Parties). All notices, certificates and endorsements shall include the SFMTA contract number and title on the cover page.

(b) Should any of the required insurance be provided under a claims-made form, Contractor shall maintain such coverage continuously throughout the term of this Agreement and, without lapse, for a period of three years beyond the expiration of this Agreement, to the effect that, should occurrences during the Agreement term give rise to claims made after expiration of the Agreement, such claims shall be covered by such claims-made policies.

(c) Should any of the required insurance be provided under a form of coverage that includes a general annual aggregate limit or provides that claims investigation or legal defense costs be included in such general annual aggregate limit, such general annual aggregate limit shall be double the occurrence or claims limits specified above. Umbrella/excess policies may be used to reach applicable dollar limit requirements for the underlying policies' limits specified herein.

(d) Should any required insurance lapse during the term of this Agreement, requests for payments originating after such lapse shall not be processed until the City receives satisfactory evidence of reinstated coverage as required by this Agreement, effective as of the lapse date. If insurance is not reinstated, the City may, at its sole option, terminate this Agreement effective on the date of such lapse of insurance.

(e) Before commencing any Services, Contractor shall furnish to City certificates of insurance and additional insured policy endorsements from insurers with ratings comparable to A-, VIII or higher that are authorized to do business in the State of California, and that are satisfactory to City, in form evidencing all coverages set forth above. Approval of the insurance by City shall not relieve or decrease Contractor's liability hereunder.

(f) If Contractor will use any Subcontractor(s) to provide Services, Contractor shall require the Subcontractor(s) to provide all necessary insurance and to name the City and County of San Francisco, its officers, agents and employees and the Contractor as additional insureds.

5.2 Indemnification. Contractor shall indemnify and hold harmless City and its officers, agents and employees from, and, if requested, shall defend them from and against any and all liabilities (legal, contractual, or otherwise), losses, damages, costs, expenses, or claims for injury or damages (collectively, "Claims"), arising from Contractor's negligent performance of the Agreement, including but not limited to, any: (i) injury to or death of a person, including employees of City or Contractor; (ii) loss of or damage to property; (iii) violation of local, state, or federal common law, statute or regulation, including but not limited to privacy or personally identifiable information, health information, disability and labor laws or regulations; or (iv) losses arising from Contractor's execution of subcontracts not in accordance with the requirements of this Agreement applicable to Subcontractors; except to the extent that such

indemnity is void or otherwise unenforceable under applicable law, and except where such Claims are the result of the active negligence or willful misconduct of City and are not contributed to by any act of, or by any omission to perform some duty imposed by law or agreement on Contractor, its Subcontractors, or either's agent or employee. The foregoing indemnity shall include, without limitation, reasonable fees of attorneys, litigation consultants, experts and related costs and City's costs of investigating any claims against the City.

In addition to Contractor's obligation to indemnify City, Contractor specifically acknowledges and agrees that it has an immediate and independent obligation to defend City from any claim which falls within this indemnification provision, even if the allegations are or may be groundless, false or fraudulent, which obligation arises at the time such claim is tendered to Contractor by City and continues at all times thereafter.

Contractor shall indemnify and hold City harmless from all loss and liability, including attorneys' fees, court costs and all other litigation expenses for any infringement of the patent rights, copyright, trade secret or any other proprietary right or trademark, and all other intellectual property claims of any person or persons arising directly or indirectly from the receipt by City, or any of its officers or agents, of Contractor's Services.

5.2.1 Limitations. No insurance policy covering the Contractor's performance under this Agreement shall operate to limit the Contractor's Liabilities under this provision. Nor shall the amount of insurance coverage operate to limit the extent of such Liabilities.

5.2.2 Intellectual Property Infringement. Contractor shall also indemnify, defend and hold harmless all Indemnitees from all suits or claims for infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark, or any other proprietary right of any person or persons in consequence of the use by the City, or any of its boards, commissions, officers, or employees of articles, work or deliverables supplied in the performance of Services. Infringement of patent rights, copyrights, or other proprietary rights in the performance of this Agreement, if not the basis for indemnification under the law, shall nevertheless be considered a material breach of contract.

Article 6 Liability of the Parties

6.1 Liability of City. CITY'S PAYMENT OBLIGATIONS UNDER THIS AGREEMENT SHALL BE LIMITED TO THE PAYMENT OF THE COMPENSATION PROVIDED FOR IN SECTION 3.3.1 (PAYMENT) OF THIS AGREEMENT. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, IN NO EVENT SHALL CITY BE LIABLE, REGARDLESS OF WHETHER ANY CLAIM IS BASED ON CONTRACT OR TORT, FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR THE SERVICES PERFORMED IN CONNECTION WITH THIS AGREEMENT.

6.2 Liability for Use of Equipment. City shall not be liable for any damage to persons or property as a result of the use, misuse or failure of any equipment used by Contractor, or any of its Subcontractors, or by any of their employees, even though such equipment is furnished, rented or loaned by City.

6.3 Liability for Incidental and Consequential Damages. Contractor shall be responsible for incidental and consequential damages resulting in whole or in part from Contractor's acts or omissions.

Article 7 Payment of Taxes

7.1 Contractor to Pay All Taxes. Except for any applicable California sales and use taxes charged by Contractor to City, Contractor shall pay all taxes, including possessory interest taxes levied upon or as a result of this Agreement, or the Services delivered pursuant hereto.

Contractor shall remit to the State of California any sales or use taxes paid by City to Contractor under this Agreement. Contractor agrees to promptly provide information requested by the City to verify Contractor's compliance with any State requirements for reporting sales and use tax paid by City under this Agreement.

7.2 Possessory Interest Taxes. Contractor acknowledges that this Agreement may create a "possessory interest" for property tax purposes. Generally, such a possessory interest is not created unless the Agreement entitles the Contractor to possession, occupancy, or use of City property for private gain. If such a possessory interest is created, then the following shall apply:

7.2.1 Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that Contractor, and any permitted successors and assigns, may be subject to real property tax assessments on the possessory interest.

7.2.2 Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that the creation, extension, renewal, or assignment of this Agreement may result in a "change in ownership" for purposes of real property taxes, and therefore may result in a revaluation of any possessory interest created by this Agreement. Contractor accordingly agrees on behalf of itself and its permitted successors and assigns to report on behalf of the City to the County Assessor the information required by Revenue and Taxation Code Section 480.5, as amended from time to time, and any successor provision.

7.2.3 Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that other events also may cause a change of ownership of the possessory interest and result in the revaluation of the possessory interest. (see, e.g., Rev. & Tax. Code Section 64, as amended from time to time). Contractor accordingly agrees on behalf of itself and its permitted successors and assigns to report any change in ownership to the County Assessor, the State Board of Equalization or other public agency as required by law.

7.2.4 Contractor further agrees to provide such other information as may be requested by the City to enable the City to comply with any reporting requirements for

possessory interests that are imposed by applicable law.

7.3 Withholding. Contractor agrees that it is obligated to pay all amounts due to the City under the San Francisco Business and Tax Regulations Code during the term of this Agreement. Pursuant to Section 6.10-2 of the San Francisco Business and Tax Regulations Code, Contractor further acknowledges and agrees that City may withhold any payments due to Contractor under this Agreement if Contractor is delinquent in the payment of any amount required to be paid to the City under the San Francisco Business and Tax Regulations Code. Any payments withheld under this paragraph shall be made to Contractor, without interest, upon Contractor coming back into compliance with its obligations.

Article 8 Termination and Default

8.1 Termination for Convenience

8.1.1 City shall have the option, in its sole discretion, to terminate this Agreement, at any time during the term hereof, for convenience and without cause. City shall exercise this option by giving Contractor written notice of termination. The notice shall specify the date on which termination shall become effective.

8.1.2 Upon receipt of the notice of termination, Contractor shall commence and perform, with diligence, all actions necessary on the part of Contractor to effect the termination of this Agreement on the date specified by City and to minimize the liability of Contractor and City to third parties as a result of termination. All such actions shall be subject to the prior approval of City. Such actions may include any or all of the following, without limitation:

(a) Halting the performance of all Services under this Agreement on the date(s) and in the manner specified by the SFMTA.

(b) Terminating all existing orders and subcontracts, and not placing any further orders or subcontracts for materials, Services, equipment or other items.

(c) At the SFMTA's direction, assigning to City any or all of Contractor's right, title, and interest under the orders and subcontracts terminated. Upon such assignment, the SFMTA shall have the right, in its sole discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.

(d) Subject to the SFMTA's approval, settling all outstanding liabilities and all claims arising out of the termination of orders and subcontracts.

(e) Completing performance of any Services that the SFMTA designates to be completed prior to the date of termination specified by the SFMTA.

(f) Taking such action as may be necessary, or as the SFMTA may direct, for the protection and preservation of any property related to this Agreement which is in the possession of Contractor and in which the SFMTA has or may acquire an interest.

8.1.3 Within 30 Days after the specified termination date, Contractor shall submit to the SFMTA an invoice, which shall set forth each of the following as a separate line item:

(a) The reasonable cost to Contractor, without profit, for all Services prior to the specified termination date, for which Services the SFMTA has not already tendered payment. Reasonable costs may include a reasonable allowance for actual overhead, not to exceed a total of 10% of Contractor's direct costs for Services. Any overhead allowance shall be separately itemized. Contractor may also recover the reasonable cost of preparing the invoice.

(b) A reasonable allowance for profit on the cost of the Services described in the immediately preceding subsection (a), provided that Contractor can establish, to the satisfaction of the SFMTA, that Contractor would have made a profit had all Services under this Agreement been completed, and provided further, that the profit allowed shall in no event exceed 5% of such cost.

(c) The reasonable cost to Contractor of handling material or equipment returned to the vendor, delivered to the SFMTA or otherwise disposed of as directed by the SFMTA.

(d) A deduction for the cost of materials to be retained by Contractor, amounts realized from the sale of materials and not otherwise recovered by or credited to the SFMTA, and any other appropriate credits to the SFMTA against the cost of the Services or other work.

8.1.4 In no event shall the City be liable for costs incurred by Contractor or any of its Subcontractors after the termination date specified by the SFMTA, except for those costs specifically listed in Section 8.1.3. Such non-recoverable costs include, but are not limited to, anticipated profits on the Services under this Agreement, post-termination employee salaries, post-termination administrative expenses, post-termination overhead or unabsorbed overhead, attorneys' fees or other costs relating to the prosecution of a claim or lawsuit, prejudgment interest, or any other expense which is not reasonable or authorized under Section 8.1.3.

8.1.5 In arriving at the amount due to Contractor under this Section, the SFMTA may deduct: (i) all payments previously made by the SFMTA for Services covered by Contractor's final invoice; (ii) any claim which the SFMTA may have against Contractor in connection with this Agreement; (iii) any invoiced costs or expenses excluded pursuant to the immediately preceding subsection 8.1.4; and (iv) in instances in which, in the opinion of the SFMTA, the cost of any Service performed under this Agreement is excessively high due to costs incurred to remedy or replace defective or rejected Services, the difference between the invoiced amount and the SFMTA's estimate of the reasonable cost of performing the invoiced Services in compliance with the requirements of this Agreement.

8.1.6 Payment Obligation. The City's payment obligation under this Section shall survive termination of this Agreement.

8.2 Termination for Default; Remedies

8.2.1 Each of the following shall constitute an immediate event of default (Event of Default) under this Agreement:

(a) Contractor fails or refuses to perform or observe any term, covenant or condition contained in any of the following Sections of this Agreement:

3.5	Submitting False Claims
4.10	Assignment
Article 5	Insurance and Indemnity
Article 7	Payment of Taxes
10.10	Alcohol and Drug-Free Workplace
11.10	Compliance with Laws
Article 13	Data and Security

(b) Contractor fails or refuses to perform or observe any other term, covenant or condition contained in this Agreement, including any obligation imposed by ordinance or statute and incorporated by reference herein, and such default is not cured within 10 days after written notice thereof from the SFMTA to Contractor. If Contractor defaults a second time in the same manner as a prior default cured by Contractor, the SFMTA may in its sole discretion immediately terminate the Agreement for default or grant an additional period not to exceed five days for Contractor to cure the default.

(c) Contractor (i) is generally not paying its debts as they become due; (ii) files, or consents by answer or otherwise to the filing against it of a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction; (iii) makes an assignment for the benefit of its creditors; (iv) consents to the appointment of a custodian, receiver, trustee or other officer with similar powers of Contractor or of any substantial part of Contractor's property; or (v) takes action for the purpose of any of the foregoing.

(d) A court or government authority enters an order (i) appointing a custodian, receiver, trustee or other officer with similar powers with respect to Contractor or with respect to any substantial part of Contractor's property, (ii) constituting an order for relief or approving a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction or (iii) ordering the dissolution, winding-up or liquidation of Contractor.

8.2.2 On and after any Event of Default, City shall have the right to exercise its legal and equitable remedies, including, without limitation, the right to terminate this Agreement or to seek specific performance of all or any part of this Agreement. In addition,

where applicable, City shall have the right (but no obligation) to cure (or cause to be cured) on behalf of Contractor any Event of Default; Contractor shall pay to City on demand all costs and expenses incurred by City in effecting such cure, with interest thereon from the date of incurrence at the maximum rate then permitted by law. City shall have the right to offset from any amounts due to Contractor under this Agreement or any other agreement between City and Contractor: (i) all damages, losses, costs or expenses incurred by City as a result of an Event of Default; and (ii) any liquidated damages levied upon Contractor pursuant to the terms of this Agreement; and (iii), any damages imposed by any ordinance or statute that is incorporated into this Agreement by reference, or into any other agreement with the City. This Section 8.2.2 shall survive termination of this Agreement.

8.2.3 All remedies provided for in this Agreement may be exercised individually or in combination with any other remedy available hereunder or under applicable laws, rules and regulations. The exercise of any remedy shall not preclude or in any way be deemed to waive any other remedy. Nothing in this Agreement shall constitute a waiver or limitation of any rights that City may have under applicable law.

8.2.4 Any notice of default must be sent to the address set forth in Article 11, and in the manner prescribed in Article 11.

8.3 Non-Waiver of Rights. The omission by either Party at any time to enforce any default or right reserved to it, or to require performance of any of the terms, covenants, or provisions hereof by the other Party at the time designated, shall not be a waiver of any such default or right to which the Party is entitled, nor shall it in any way affect the right of the Party to enforce such provisions thereafter.

8.4 Rights and Duties upon Termination or Expiration

8.4.1 This Section and the following Sections of this Agreement listed below, shall survive termination or expiration of this Agreement:

- 3.4.1 Payment Limited to Satisfactory Services and Delivery of Goods
- 3.4.8 Grant Funded Contracts - Disallowance
- 3.5 Audit and Inspection of Records
- 3.6 Submitting False Claims
- Article 5 Insurance and Indemnity
- 6.1 Liability of City
- 6.3 Liability for Incidental and Consequential Damages
- Article 7 Payment of Taxes
- 8.1.6 Payment Obligation
- 9.1 Ownership of Results
- 9.2 Works for Hire
- 11.6 Dispute Resolution Procedure

11.7	Agreement Made in California; Venue
11.8	Construction
11.9	Entire Agreement
11.10	Compliance with Laws
11.11	Severability
Article 13	Data and Security

8.4.2 Subject to the survival of the Sections identified in Section 8.4.1 above, if this Agreement is terminated prior to expiration of the term specified in Article 2, this Agreement shall be of no further force or effect. Contractor shall transfer title to City, and deliver in the manner, at the times, and to the extent, if any, directed by City, any work in progress, completed work, supplies, equipment, and other materials produced as a part of, or acquired in connection with the performance of this Agreement, and any completed or partially completed work which, if this Agreement had been completed, would have been required to be furnished to City.

Article 9 Rights In Deliverables

9.1 Ownership of Results. Any interest of Contractor or its Subcontractors, in the Deliverables, including any drawings, plans, specifications, blueprints, studies, reports, memoranda, computation sheets, computer files and media or other documents prepared by Contractor or its Subcontractors for the purposes of this Agreement, shall become the property of and will be transmitted to City. However, unless expressly prohibited elsewhere in this Agreement, Contractor may retain and use copies for reference and as documentation of its experience and capabilities.

9.2 Works for Hire. If, in connection with Services, Contractor or its Subcontractors creates Deliverables including, without limitation, artwork, copy, posters, billboards, photographs, videotapes, audiotapes, systems designs, software, reports, diagrams, surveys, blueprints, source codes, or any other original works of authorship, whether in digital or any other format, such works of authorship shall be works for hire as defined under Title 17 of the United States Code, and all copyrights in such works shall be the property of the City. If any Deliverables created by Contractor or its Subcontractor(s) under this Agreement are ever determined not to be works for hire under U.S. law, Contractor hereby assigns all Contractor's copyrights to such Deliverables to the City, agrees to provide any material and execute any documents necessary to effectuate such assignment, and agrees to include a clause in every subcontract imposing the same duties upon Subcontractor(s). With City's prior written approval, Contractor and its Subcontractor(s) may retain and use copies of such works for reference and as documentation of their respective experience and capabilities.

Article 10 Additional Requirements Incorporated by Reference

10.1 Laws Incorporated by Reference. The full text of the laws listed in this Article 10, including enforcement and penalty provisions, are incorporated by reference into this Agreement. The full text of the San Francisco Municipal Code provisions incorporated by

reference in this Article and elsewhere in the Agreement (Mandatory City Requirements) are available at http://www.amlegal.com/codes/client/san-francisco_ca.

10.2 Conflict of Interest. By executing this Agreement, Contractor certifies that it does not know of any fact which constitutes a violation of Section 15.103 of the City's Charter; Article III, Chapter 2 of City's Campaign and Governmental Conduct Code; Title 9, Chapter 7 of the California Government Code (Section 87100 *et seq.*), or Title 1, Division 4, Chapter 1, Article 4 of the California Government Code (Section 1090 *et seq.*), and further agrees promptly to notify the City if it becomes aware of any such fact during the term of this Agreement.

10.3 Prohibition on Use of Public Funds for Political Activity. In performing the Services, Contractor shall comply with San Francisco Administrative Code Chapter 12G, which prohibits funds appropriated by the City for this Agreement from being expended to participate in, support, or attempt to influence any political campaign for a candidate or for a ballot measure. Contractor is subject to the enforcement and penalty provisions in Chapter 12G.

10.4 Consideration of Salary History. Contractor shall comply with San Francisco Labor and Employment Code Article 141, the Consideration of Salary History Ordinance or "Pay Parity Act." Contractor is prohibited from considering current or past salary of an applicant in determining whether to hire the applicant or what salary to offer the applicant to the extent that such applicant is applying for employment to be performed on this Agreement or in furtherance of this Agreement, and whose application, in whole or part, will be solicited, received, processed or considered, whether or not through an interview, in the City or on City property. The ordinance also prohibits employers from (a) asking such applicants about their current or past salary or (b) disclosing a current or former employee's salary history without that employee's authorization unless the salary history is publicly available. Contractor is subject to the enforcement and penalty provisions in Article 141. Information about and the text of Article 141 is available on the web at <https://sfgov.org/olse/consideration-salary-history>. Contractor is required to comply with all of the applicable provisions of Article 141, irrespective of the listing of obligations in this Section.

10.5 Nondiscrimination Requirements

10.5.1 Nondiscrimination in Contracts. Contractor shall comply with the provisions of the San Francisco Labor and Employment Code Articles 131 and 132. Contractor shall incorporate by reference in all subcontracts the provisions of Articles 131.2(a), 131.2(c)-(k), and 132.3 of the San Francisco Labor and Employment Code and shall require all Subcontractors to comply with such provisions. Contractor is subject to the enforcement and penalty provisions in Articles 131 and 132.

10.5.2 Nondiscrimination in the Provision of Employee Benefits. San Francisco Labor and Employment Code Article 131.2. Contractor does not as of the date of this Agreement, and will not during the term of this Agreement, in any of its operations in San Francisco, on real property owned by San Francisco, or where work is being performed for the

City elsewhere in the United States, discriminate in the provision of employee benefits between employees with domestic partners and employees with spouses and/or between the domestic partners and spouses of such employees, subject to the conditions set forth in San Francisco Labor and Employment Code Article 131.2.

10.5.3 Non-Discrimination in Hiring. Pursuant to City and SFMTA policy, Contractor is encouraged to recruit actively minorities and women for its workforce and take other steps within the law, such as on-the-job training and education, to ensure non-discrimination in Contractor's employment practices.

10.6 Small Business Enterprise Program

10.6.1 General. The SFMTA is committed to a Small Business Enterprise Program (SBE Program) for the participation of SBEs in contracting opportunities. In addition, the Contractor must comply with all applicable federal regulations regarding Small Business Enterprise (SBE) participation, as set out in Title 49, Part 26 of the Code of Federal Regulations, with respect to SBEs performing work under this Agreement. More information on federal SBE requirements can be found on the internet at: <http://www.fta.dot.gov/civilrights/12326.html>.

10.6.2 Compliance with SBE Program. Contractor shall comply with the SBE provisions contained in Appendix E attached to this Agreement and incorporated by reference as though fully set forth, including, but not limited to, achieving and maintaining the SBE goal set for the total dollar amount awarded for the services to be performed under this Agreement. Failure of Contractor to comply with any of these requirements shall be deemed a material breach of this Agreement.

10.6.3 Nondiscrimination in Hiring. Pursuant to City and SFMTA policy, Contractor is encouraged to recruit actively minorities and women for its workforce and take other steps within the law, such as on-the-job training and education, to ensure nondiscrimination in Contractor's employment practices.

10.7 Minimum Compensation Ordinance. If San Francisco Labor and Employment Code Article 111 applies to this contract, Contractor shall pay covered employees no less than the minimum compensation required by San Francisco Labor and Employment Code Article 111, including a minimum hourly gross compensation, compensated time off, and uncompensated time off. Contractor is subject to the enforcement and penalty provisions in Article 111. Information about and the text of Article 111 is available on the web at <http://sfgov.org/olse/mco>. Contractor is required to comply with all of the applicable provisions of Article 111, irrespective of the listing of obligations in this Section. By signing and executing this Agreement, Contractor certifies that it complies with Chapter Article 111.

10.8 Reserved (Health Care Accountability Ordinance)

10.9 First Source Hiring Program. Contractor must comply with all of the provisions of the First Source Hiring Program, Chapter 83 of the San Francisco Administrative Code, that apply to this Agreement, and Contractor is subject to the enforcement and penalty provisions in

Chapter 83.

10.10 Alcohol and Drug-Free Workplace. City reserves the right to deny access to, or require Contractor to remove from, City facilities personnel of any Contractor or Subcontractor who City has reasonable grounds to believe has engaged in alcohol abuse or illegal drug activity which in any way impairs City's ability to maintain safe work facilities or to protect the health and well-being of City employees and the general public. City shall have the right of final approval for the entry or re-entry of any such person previously denied access to, or removed from, City facilities. Illegal drug activity means possessing, furnishing, selling, offering, purchasing, using or being under the influence of illegal drugs or other controlled substances for which the individual lacks a valid prescription. Alcohol abuse means possessing, furnishing, selling, offering, or using alcoholic beverages, or being under the influence of alcohol. Contractor agrees in the performance of this Agreement to maintain a drug-free workplace by notifying employees that unlawful drug use is prohibited and specifying what actions will be taken against employees for violations; establishing an on-going drug-free awareness program that includes employee notification and, as appropriate, rehabilitation. Contractor can comply with this requirement by implementing a drug-free workplace program that complies with the Federal Drug-Free Workplace Act of 1988 (41 U.S.C. § 701).

10.11 Limitations on Contributions. By executing this Agreement, Contractor acknowledges its obligations under Section 1.126 of the City's Campaign and Governmental Conduct Code, which prohibits any person who contracts with, or is seeking a contract with, any department of the City for the rendition of personal services, for the furnishing of any material, supplies or equipment, for the sale or lease of any land or building, for a grant, loan or loan guarantee, or for a development agreement, from making any campaign contribution to (a) a City elected official if the contract must be approved by that official, a board on which that official serves, or the board of a state agency on which an appointee of that official serves, (b) a candidate for that City elective office, or (c) a committee controlled by such elected official or a candidate for that office, at any time from the submission of a proposal for the contract until the later of either the termination of negotiations for such contract or twelve months after the date the City approves the contract. The prohibition on contributions applies to each prospective party to the contract; each member of Contractor's board of directors; Contractor's chairperson, chief executive officer, chief financial officer and chief operating officer; any person with an ownership interest of more than 10% in Contractor; any Subcontractor listed in the bid or contract; and any committee that is sponsored or controlled by Contractor. Contractor certifies that it has informed each such person of the limitation on contributions imposed by Section 1.126 by the time it submitted a proposal for the contract, and has provided the names of the persons required to be informed to the City department with whom it is contracting.

10.12 Reserved. (Slavery Era Disclosure)

10.13 Reserved. (Working with Minors)

10.14 Consideration of Criminal History in Hiring and Employment Decisions

10.14.1 Contractor agrees to comply fully with and be bound by all of the provisions of Article 142 (City Contractor/Subcontractor Consideration of Criminal History in Hiring and Employment Decisions) of the San Francisco Labor and Employment Code (Article 142), including the remedies provided, and implementing regulations, as may be amended from time to time. The provisions of Article 142 are incorporated by reference and made a part of this Agreement as though fully set forth herein. The text of the Article 142 is available on the web at <http://sfgov.org/olse/fco>. Contractor is required to comply with all of the applicable provisions of Article 142, irrespective of the listing of obligations in this Section. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Article 142.

10.14.2 The requirements of Article 142 shall only apply to a Contractor's or Subcontractor's operations to the extent those operations are in furtherance of the performance of this Agreement, shall apply only to applicants and employees who would be or are performing work in furtherance of this Agreement, and shall apply when the physical location of the employment or prospective employment of an individual is wholly or substantially within the City of San Francisco. Article 142 shall not apply when the application in a particular context would conflict with federal or state law or with a requirement of a government agency implementing federal or state law.

10.15 Reserved. (Public Access to Nonprofit Records and Meetings)

10.16 Food Service Waste Reduction Requirements. Contractor shall comply with the Food Service Waste Reduction Ordinance, as set forth in San Francisco Environment Code Chapter 16, including but not limited to the remedies for noncompliance provided therein.

10.17 Reserved. (Distribution of Beverages and Water)

10.18 Reserved. (Tropical Hardwood and Virgin Redwood Ban)

10.19 Reserved. (Preservative-Treated Wood Products)

Article 11 General Provisions

11.1 Notices to the Parties. Unless otherwise indicated in this Agreement, all written communications sent by the Parties may be by U.S. mail or e-mail, and shall be addressed as follows:

To City: San Francisco Municipal
Transportation Agency 1455 Market
Street, 7th Floor
San Francisco, CA 94103
Attn: Dan Howard, Project Manager
dan.howard@sfmta.com

To Contractor: WSP/PGH Wong Joint Venture
c/o 25 Market Street, 17th Floor
San Francisco, CA, 94105
Attn: Siv Bhamra
siv.bhamra@wsp.com

Any notice of default must be sent by overnight delivery service or courier, with a signature obtained at delivery. Either Party may change the address to which notice is to be sent by giving written notice thereof to the other Party. If email notification is used, the sender must specify a receipt notice.

11.2 Compliance with Americans with Disabilities Act. Contractor shall provide the Services in a manner that complies with the Americans with Disabilities Act (ADA), including but not limited to Title II's program access requirements, and all other applicable federal, state and local disability rights legislation.

11.3 Incorporation of Recitals. The Recitals are incorporated into and made part of this Agreement.

11.4 Sunshine Ordinance. Contractor acknowledges that this Agreement and all records related to its formation, Contractor's performance of Services, and City's payment are subject to the California Public Records Act, (California Government Code §6250 et. seq.), and the San Francisco Sunshine Ordinance, (San Francisco Administrative Code Chapter 67). Such records are subject to public inspection and copying unless exempt from disclosure under federal, state or local law.

11.5 Modification of this Agreement. This Agreement may not be modified, nor may compliance with any of its terms be waived, except as noted in Section 11.1 (Notices to Parties) regarding change in personnel or place, and except by written instrument executed and approved as required under City law and under the policy of the SFMTA Board of Directors. Contractor shall cooperate with the SFMTA to submit to the CCO any amendment, modification, supplement or change order that would result in a cumulative increase of the original amount of this Agreement by more than 20% (CMD Contract Modification Form).

11.6 Dispute Resolution Procedure

11.6.1 Negotiation; Alternative Dispute Resolution. The Parties will attempt in good faith to resolve any dispute or controversy arising out of or relating to the performance of services under this Agreement. If the Parties are unable to resolve the dispute, then, pursuant to San Francisco Administrative Code Section 21.36, Contractor may submit to the Contract Administrator a written request for administrative review and documentation of the Contractor's claim(s). Upon such request, the Contract Administrator shall promptly issue an administrative decision in writing, stating the reasons for the action taken and informing the Contractor of its right to judicial review. If agreed by both Parties in writing, disputes may be resolved by a mutually agreed-upon alternative dispute resolution process. If the Parties do not mutually agree to an alternative dispute resolution process or such efforts do not resolve the dispute, then either Party may pursue any remedy available under California law. The status of any dispute or controversy notwithstanding, Contractor shall proceed diligently with the performance of its obligations under this Agreement in accordance with the Agreement and the written directions of the City. Neither Party will be entitled to legal fees or costs for matters resolved under this Section.

11.6.2 Government Code Claim Requirement. No suit for money or damages may be brought against the City until a written claim therefor has been presented to and rejected by the City in conformity with the provisions of San Francisco Administrative Code Chapter 10 and California Government Code Section 900, et seq. Nothing set forth in this Agreement shall operate to toll, waive or excuse Contractor's compliance with the California Government Code Claim requirements set forth in San Francisco Administrative Code Chapter 10 and California Government Code Section 900, et seq.

11.7 Agreement Made in California; Venue. The formation, interpretation and performance of this Agreement shall be governed by the laws of the State of California. Venue for all litigation relative to the formation, interpretation and performance of this Agreement shall be in San Francisco.

11.8 Construction. All paragraph captions are for reference only and shall not be considered in construing this Agreement.

11.9 Entire Agreement. This Contract sets forth the entire agreement between the Parties, and supersedes all other oral or written provisions. All appendices to this Agreement are incorporated by reference as though fully set forth. This Agreement may be modified only as provided in Section 11.5 (Modification of this Agreement).

11.10 Compliance with Laws. Contractor shall keep itself fully informed of the City's Charter, codes, ordinances and duly adopted rules and regulations of the City and of all state, and federal laws in any manner affecting the performance of this Agreement, and must at all times comply with such local codes, ordinances, and regulations and all applicable laws as they may be amended from time to time.

11.11 Severability. Should the application of any provision of this Agreement to any particular facts or circumstances be found by a court of competent jurisdiction to be invalid or unenforceable, then (a) the validity of other provisions of this Agreement shall not be affected or impaired thereby, and (b) such provision shall be enforced to the maximum extent possible so as to effect the intent of the Parties and shall be reformed without further action by the Parties to the extent necessary to make such provision valid and enforceable.

11.12 Cooperative Drafting. This Agreement has been drafted through a cooperative effort of City and Contractor, and both Parties have had an opportunity to have the Agreement reviewed and revised by legal counsel. No Party shall be considered the drafter of this Agreement, and no presumption or rule that an ambiguity shall be construed against the Party drafting the clause shall apply to the interpretation or enforcement of this Agreement.

11.13 Order of Precedence. Contractor agrees to perform the services described below in accordance with the terms and conditions of this Agreement, implementing Task Orders, the RFP, and Contractor's proposal dated February 26, 2024. The RFP and Contractor's proposal are incorporated by reference as though fully set forth herein. Should there be a conflict of terms or conditions, this Agreement, and any implementing Task Orders shall control over the RFP and

the Contractor's proposal. If the Appendices to this Agreement include any standard printed terms from the Contractor, Contractor agrees that in the event of discrepancy, inconsistency, gap, ambiguity, or conflicting language between the City's terms and Contractor's printed terms attached, the City's terms shall take precedence, followed by the procurement issued by the department, Contractor's proposal, and Contractor's printed terms, respectively.

11.14 Notification of Legal Requests. Contractor shall immediately notify City upon receipt of any subpoenas, service of process, litigation holds, discovery requests, and other legal requests (Legal Requests) related to all City Data given by City to Contractor in the performance of this Agreement, or which in any way might reasonably require access to City Data, and in no event later than 24 hours after it receives the request. Contractor shall not respond to Legal Requests related to City without first notifying City other than to notify the requestor that the information sought is potentially covered under a non-disclosure agreement. Contractor shall retain and preserve City Data in accordance with the City's instruction and requests, including, without limitation, any retention schedules and/or litigation hold orders provided by the City to Contractor, independent of where the City Data is stored.

Article 12 SFMTA Specific Terms

12.1 Large Vehicle Driver Safety Training Requirements

12.1.1 Contractor agrees that before any of its employees and Subcontractors drive large vehicles within the City and County of San Francisco, those employees and Subcontractors shall successfully complete either (a) the SFMTA's Large Vehicle Urban Driving Safety training program or (b) a training program that meets the SFMTA's approved standards for large vehicle urban driving safety. The SFMTA's approved standards for large vehicle urban driving safety is available for download at www.SFMTA.com/largevehicletrainingstandards. This requirement does not apply to drivers providing delivery services who are not employees or Subcontractors of the Contractor. For purposes of this section, "large vehicle" means any single vehicle or combination of vehicle and trailer with an unladen weight of 10,000 pounds or more, or a van designed to carry 10 or more people.

12.1.2 By entering into this Agreement, Contractor agrees that in the event the Contractor fails to comply with the Large Vehicle Driver Safety Training Requirements, the City will suffer actual damages that will be impractical or extremely difficult to determine; further, Contractor agrees that the sum of up to One Thousand Dollars (\$1,000) per employee or Subcontractor who is permitted to drive a large vehicle in violation of these requirements is not a penalty, but is a reasonable estimate of the loss that City will incur based on the Contractor's failure to comply with this requirement, established in light of the circumstances existing at the time this Contract was awarded. City may deduct a sum representing the liquidated damages from any money due to Contractor. Such deductions shall not be considered a penalty, but rather agreed monetary damages sustained by City because of Contractor's failure to comply.

Article 13 Data and Security

13.1 Nondisclosure of Private, Proprietary or Confidential Information

13.1.1 Protection of Private Information. If this Agreement requires City to disclose "Private Information" to Contractor within the meaning of San Francisco Administrative Code Chapter 12M, Contractor and Subcontractor shall use such information only in accordance with the restrictions stated in Chapter 12M and in this Agreement and only as necessary in performing the Services. Contractor is subject to the enforcement and penalty provisions in Chapter 12M.

13.1.2 Confidential Information. In the performance of Services, Contractor may have access to, or collect on City's behalf, City's proprietary or Confidential Information, the disclosure of which to third parties may damage City. If City discloses proprietary or Confidential Information to Contractor, or Contractor collects such information on City's behalf, such information must be held by Contractor in confidence and used only in performing the Agreement. Contractor shall exercise the same standard of care to protect such information as a reasonably prudent contractor would use to protect its own proprietary or Confidential Information.

13.2 Reserved. (Payment Card Industry (PCI) Requirements)

13.3 Reserved. (Business Associate Agreement)

13.4 Ownership of City Data. The Parties agree that as between them, all rights, including all intellectual property rights, in and to the City Data and any derivative works of the City Data is the exclusive property of the City.

13.5 Management of City Data and Confidential Information

13.5.1 Access to City Data. City shall at all times have access to and control of City Data, and shall be able to retrieve it in a readable format, in electronic form and/or print, at any time, at no additional cost.

13.5.2 Use of City Data and Confidential Information. Contractor agrees to hold City Data received from, or collected on behalf of the City, in strictest confidence. Contractor shall not use or disclose City Data except as permitted or required by the Agreement or as otherwise authorized in writing by the City. Any work using, or sharing or storage of, City Data outside the United States is subject to prior written authorization by the City. Access to City Data must be strictly controlled and limited to Contractor's staff assigned to this project on a need-to-know basis only. Contractor is provided a limited non-exclusive license to use the City Data solely for performing its obligations under the Agreement and not for Contractor's own purposes or later use. Nothing herein shall be construed to confer any license or right to the City Data or Confidential Information, by implication, estoppel or otherwise, under copyright or other intellectual property rights, to any third-party. Unauthorized use of City Data by Contractor, Subcontractors, or other third parties is prohibited. For purpose of this requirement, the phrase

“unauthorized use” means the data mining or processing of data, stored or transmitted by the service, for commercial purposes, advertising or advertising-related purposes, or for any purpose other than security or service delivery analysis that is not explicitly authorized.

13.5.3 Disposition of Confidential Information. Upon request of City or termination or expiration of this Agreement, and pursuant to any document retention period required by this Agreement, Contractor shall promptly, but in no event later than 30 Days, return all Data given to or collected by Contractor on City’s behalf, which includes all original media. Once Contractor has received written confirmation from City that the City Data has been successfully transferred to City, Contractor shall within 10 Days clear or purge all City Data from its servers, any hosted environment Contractor has used in performance of this Agreement, including its subcontractors’ environment(s), work stations that were used to process the Data or for production of the Data, and any other work files stored by Contractor in whatever medium. Contractor shall provide City with written certification that such purge occurred within five Days of the purge. Secure disposal shall be accomplished by “clearing,” “purging” or “physical destruction,” in accordance with National Institute of Standards and Technology (NIST) Special Publication 800-88, or the most current industry standard.

Article 14 MacBride and Signature

14.1 MacBride Principles - Northern Ireland. The provisions of San Francisco Administrative Code §12F are incorporated herein by this reference and made part of this Agreement. By signing this Agreement, Contractor confirms that Contractor has read and understood that the City urges companies doing business in Northern Ireland to resolve employment inequities and to abide by the MacBride Principles, and urges San Francisco companies to do business with corporations that abide by the MacBride Principles.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the day first mentioned above.

CITY	CONTRACTOR
San Francisco Municipal Transportation Agency	WSP/PGH Wong Joint Venture
Jeffrey P. Tumlin Director of Transportation	 Shalonda Baldwin Senior Vice President Northern California Transportation Business Line Lead WSP USA Inc. 425 Market Street, 17th Floor San Francisco, CA 94105
Authorized By:	 Clifford Wong, P.E. President PGH Wong Engineering, Inc. 182 2nd Street San Francisco, CA 94105-3801
Resolution No: _____	<u>Acknowledgement of Large Vehicle Driver Safety Training Requirements:</u> By signing this Agreement, Contractor acknowledges that it has read and understands Section 12.1: Large Vehicle Driver Safety Training Requirements.
Adopted: _____	
Attest: _____ Secretary to the Board	
Board of Supervisors	
Resolution No: _____	
Adopted: _____	
Attest: _____ Clerk of the Board	
Approved as to Form:	
David Chiu City Attorney	
By: _____ David F. Innis Deputy City Attorney	City Supplier Number: 0000054817

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Appendices

- A: Scope of Services
- B: Calculation of Charges
- C: Task Order Request Form
- D: FTA Requirements
- E: SBE Requirements

Appendix A

Scope of Services

I. Description of Services

The Consultant shall provide as-needed specialized consulting services supporting the SFMTA in the following categories:

- A. Project Management
- B. Contract Management
- C. Construction Management
- D. Design and Engineering
- E. System Integration
- F. Quality Assurance
- G. Testing
- H. Safety and Security
- I. Commissioning
- J. Post-Delivery
- K. Operations and Maintenance
- L. Other Services

The types of services which comprise these categories are described in the following sections A through K. Additional services are also described in Section L (“Other Services”). These sections reference the Supplier Contract Specifications and other Project documents, copies of which are included in the Reference Materials in RFP Appendix J. All references to documents not included in this Agreement refer to the most current version of those documents provided to Consultant at the time of execution of the Task Order.

All services described in this Agreement will be performed under Task Orders. Each year, the SFMTA will issue a Task Order covering all the Consultant services SFMTA envisions will be needed for the year. SFMTA may at any time issue additional Task Orders to cover emerging needs not covered in the annual Task Order. All Task Orders will be broken down into sub-tasks matching the categories of services described in Sections A through L. Individual Task Orders will be tailored to the circumstances and therefore each Task Order may not include every category listed. However, the SFMTA will include category A (Project Management Support) in each annual Task Order which is designed to describe the activities of Consultant’s core Project Team. Task Orders may specify Deliverables or may specify the provision of Consultant staff on a time and materials basis.

The Consultant and the SFMTA shall agree on the services and level of effort required to deliver the scope of each Task Order. The Parties shall agree on a schedule, including timelines for submission of any Deliverables, and include this schedule in the Task Order. The Consultant shall dedicate the resources necessary to provide the services described the Task Order for the entire term described therein.

A. Project Management Support

The Consultant will support the SFMTA in the day-to-day execution of the CBTC Project. Deliverables and services may include the following:

1. Project Planning Support

Assist SFMTA staff with developing and maintaining the Project Management Plan and other CBTC Project plans, such as the Concept of Operations and Maintenance, System Engineering Management Plan, Systems Integration Plan, Failure Management Plan, Vehicle and Wayside Integration Plans, Reliability, Availability, and Maintainability Plan, including all related and supporting management documents as described in the Supplier Contract Specifications. Progress Reports.

Assist SFMTA staff with writing reports that summarize the progress of project activities. The reports will track any issues that may have occurred during the past reporting period, their status and resolution. Reports may include, but not be limited to bi-weekly reports, monthly reports, QA reports, trip reports, Federal Transit Administration (FTA) Quarterly Reports, and other reports required by funding agencies.

2. Meetings

Schedule, attend, and document meetings, conference calls, or other review sessions.

3. Documentation

Prepare documentation and correspondence according to the procedures in the Project Management Plan (such as letters, reports, and presentations).

4. Tracking Systems

Set up and maintain systems to track all Project information which allows a Project to be effectively managed. Items to be tracked include correspondence, project decisions/actions, and change orders.

5. Stakeholder Outreach

Draft presentations, reports, and responses to requests from stakeholders, such as the FTA, state and local funding agencies, internal SFMTA stakeholders, elected officials, and the public.

B. Contract Management Support

The Consultant will provide staff to support the SFMTA Project Manager in managing the contracts related to the Project, including performing tasks such as:

1. Contract Management Support

Support SFMTA oversight and enforcement of the CBTC System Supplier and/or Installer contracts, including performing industry outreach and surveys; and verifying requirements, change orders, deliverables, claims, and payments.

2. Schedule Management Support

Assist SFMTA with development and maintenance of the overall schedule for the Project as needed. Project schedule requirements are described in Supplier Contract Specifications Section 3.2.4 and the Project Management Plan. In addition, support integration of the Train Control Upgrade Project schedules into and coordination with other projects, such as Muni Forward, Next-Generation Customer Information System, Siemens LRV4 Project, traffic signal and transit signal priority projects, and maintenance-of-way projects.

3. Compliance

Conduct reviews as specified in the task order to verify that the system designs, software, and equipment conform to their respective contract requirements and technical specifications, as well as all federal, state and local requirements. Activities and deliverables may include:

- a.** Pre-award and post-delivery Buy America audits, in compliance with 49 CFR Part 663.
- b.** Other audits and reviews, as required, to verify that the CBTC contracts are being performed in accordance with all applicable federal, state, and local requirements.

4. Cost Estimates

Prepare independent cost estimates and cost analyses for any proposed contracts or contract change orders (in accordance with FTA requirements, as applicable); identify responsibilities for the changes, and advise on any resulting impacts in scope, schedule, and budget.

5. Change Order Support

- a.** Assist the SFMTA with scoping and development of change orders to the CBTC System Supplier, Installer, or third-party vendor contracts.
- b.** Assist the SFMTA with evaluating Change Order Requests (CORs) initiated by the Train Control System Supplier, as described in Appendix E to the Supplier Agreement, or initiated by Installers, or other third-party vendors. Perform analyses such as cost-benefit analyses, feasibility studies, etc. to help SFMTA make decisions on whether to accept CORs.
- c.** Recommend mitigations of the effects of change orders on the Project schedule, including setting milestone dates for tasks, coordination with the overall Project schedule, and management of SFMTA and Supplier resources.
- d.** Support the contract modification process for the Supplier and Installer contracts, including preparing independent cost estimates, preparing reports and presentations supporting the Board approval.

C. Construction Management Support

The Consultant will provide staff to support the SFMTA Project Manager in managing issues that arise during installation of the CBTC System and related installation and construction activities, including performing tasks such as:

1. Construction Management Support

- a.** Provide staff to support SFMTA oversight of construction activities. Ensure that the Supplier and Installers are aware of and comply with all SFMTA and CPUC regulations and requirements related to installation, track access, and construction.
- b.** Advise the SFMTA in its managing the relationship between the CBTC System Supplier and the Installers.
- c.** Assist the SFMTA in ensuring that SFMTA-furnished items as described in Supplier Contract Specifications Section 9 such as vehicles, wayside infrastructure, network infrastructure, and fiber optic cable are prepared and quality-checked prior to CBTC system installation.
- d.** Assist in communicating Project needs and timing to SFMTA staff where SFMTA- provided elements are on the critical path for installation.
- e.** Perform field surveys using licensed surveyors as needed.

2. Migration Plan

Provide staff to support the SFMTA during the planned migration of the Thales Seltrac ATCS to the new CBTC, including reviews of the cutover and migration plans to ensure that they conform to the SFMTA's requirements and expectations. This effort will include tasks such as helping manage the CBTC System Supplier and/or Installer's access to SFMTA tracks, tunnels, rail vehicles or other SFMTA resources, and helping manage impacts to routing operations and maintenance activities.

3. Issue Resolution

Conduct research into peer agencies, best practices, required standards, and federal, state, and local requirements to provide advice and counsel with regards to issues that may arise. Reports or presentations shall be provided as requested by the SFMTA.

4. Construction Scheduling

Assist in coordinating installation activities with SFMTA's operations and maintenance departments. Assist the CBTC System Supplier and Installers in maintaining an up-to-date installation calendar of activities that looks at least one month ahead and deconflicts CBTC installation activities with revenue service, maintenance activities, and other projects in the Project area. Project schedule requirements are described in Supplier Contract Specifications Section 3.2.4 and the Project Management Plan.

5. Change Management Oversight

- a.** Review the Supplier's change control, configuration management, and document management systems to verify that they are capable of complying with the contract provisions and are able to monitor changes from the baseline specification.
- b.** Maintain the Project's change control, configuration management, and document management systems, as directed by the SFMTA Project Manager.

D. Design and Engineering

Consultant shall provide technical experts to support the design and engineering functions of the project, support SFMTA's review of written submissions and communications such as RFIs and CDRLs, and participate in design reviews. This may include performing tasks such as:

1. Augment SFMTA's engineering staff

Provide experienced train control and vehicle engineers to augment SFMTA's project engineering team, including a principal engineer to act as the Owner's Engineer for the CBTC system. These staff would be integrated into SFMTA project organizational structure.

2. Review and comment on Supplier CDRL Items.

Review CDRL submittals for compliance with the Supplier Contract Specifications and recommend disposition to the SFMTA. Draft SFMTA responses to CDRL submittals and facilitate meetings between the SFMTA and its Supplier to drive consensus.

3. Review and comment on RFIs

Review RFIs from the CBTC System Supplier, Installer, or third-party vendors related to the CBTC system, and work with SFMTA staff to develop a response.

4. System Design Reviews

Attend systems design reviews, such as CDR, PDR, FDR and CFDRs. Provide technical advice to SFMTA during design reviews and verify that the CBTC System is designed according to the SFMTA's requirements and expectations.

5. Issue Resolution

- a.** Assist the SFMTA in managing issues which arise during the project by conducting research and providing advice concerning industry best practices, required standards, and federal, state, and local requirements.
- b.** Advise SFMTA on best course of action during disputes between SFMTA and Supplier or Installers. Provide reports or presentations as requested by the SFMTA.
- c.** Work with the SFMTA Project team to drive consensus among internal stakeholders to develop an agreed SFMTA position on issues as they arise.

6. Change Control Committee Support

Review submittals from the CBTC System Supplier to the Rail Change Control Board, the Technology Change Advisory Board, and the CBTC Change Control Committee, and provide technical advice and guidance to those committees regarding the proposed changes.

E. System Integration Support

Consultant shall provide technical experts to support SFMTA's integration of the CBTC System with other SFMTA systems, including data communications systems, passenger information systems, vehicle telematics systems, asset management systems, roadway traffic signal systems, computer-aided dispatch (CAD) systems, scheduling systems, signaling systems, switch machines, interlockings, and their associated equipment. This may include performing tasks such as:

1. Design and Engineering Support for System Integration

Review design submittals from the CBTC System Supplier and third-party system vendors, and advise the SFMTA of potential integration issues, discontinuity between the system design and SFMTA's plans such as the Concept of Operations and Maintenance, or potential design deficiencies. The Consultant shall suggest solutions in the design phase so designs may be corrected with a minimum of delay and expense to the Project, and ensure that the SFMTA's integration objectives are met, as stated in the Project Integration Management Plan.

2. System Integration Design Reviews

Attend systems integration reviews and provides comments to SFMTA which are focused on ensuring that the CBTC System performs according to the SFMTA's requirements and expectations. Comments shall include highlighting interface issues with the LRV4 vehicles and the SFMTA's existing systems and projects, such as Muni Forward, Cubic Umo IQ Next-Generation Customer Information System, Conduent OrbCAD / AVL system, Trapeze scheduling system, database and communications systems, traffic signal and transit signal priority projects, and Maintenance-of-Way projects. This task includes evaluating and commenting on any responses to Consultant's comments.

3. Onboard Systems Integration

Support SFMTA staff in the integration of the new CBTC system with the other systems present on the SFMTA's light rail vehicles (LRVs). Provide recommendations to the SFMTA relating to the integration of the new system with existing vehicle systems when there is conflict between the Supplier, Vehicle Manufacturer, and Installer.

4. Test Integration Solutions

Assist the SFMTA in testing its integration solutions for conformance to functional

requirements. Assist with developing testing and validation plans for SFMTA-led integrations. Provide test resources (such as a test environment or sandbox) as requested by SFMTA.

F. Quality Assurance Support

The Consultant will provide Quality Assurance (QA) oversight services as to the quality of the Supplier and Installers' work and equipment, and the Supplier and Installers' compliance with contract specifications, designs and requirements. QA activities and deliverables may include:

1. QA Program Oversight

Review CBTC Supplier's QA programs to ensure that the CBTC Supplier meets the requirements in Supplier Contract Specifications Section 5. Provide advice and recommendations to SFMTA QA oversight team regarding actions or communications they should take with respect to the Supplier's QA programs.

2. QA Installation Oversight

Conduct checks, as necessary, to ensure that quality records are maintained throughout the installation process. Witness installation activities, Installer QA actions and Post-Installation Check-Out (PICO) tests. Inspect installed components as directed by SFMTA. Assess quality trends and review with SFMTA staff and the Supplier to determine any corrective actions.

3. QA Change Management Oversight

- a.** Review the Supplier's change control, configuration management, and document management systems to verify that they are capable of complying with the contract provisions and are able to monitor changes from the baseline specification.
- b.** Maintain the Project's change control, configuration management, and document management systems, as directed by the SFMTA Project Manager.

4. Receiving Inspection

Provide incoming or receiving inspection at the SFMTA delivery location to determine whether equipment has been damaged in transport or at any other time. Once equipment has been delivered to the SFMTA but before it is accepted, Consultant shall perform a final audit to verify that the necessary documentation is included, highlighting any discrepancies to the SFMTA Project Manager.

5. Audits

Support SFMTA audits of Supplier and Installers in accordance with SFMTA's QA plans and the requirements in the respective contracts, such as Supplier Contract Specifications, Section 5.

6. Punchlist Support

Establish, manage and maintain punchlists on behalf of SFMTA for Supplier items due to be completed and resolved in each phase. Record and document bugs and issues noted by SFMTA and Consultant during testing and operations as part of the punchlist. Help Supplier understand the nature of the punchlist items and work with Supplier to resolve them.

G. Test Program Support

The Consultant shall provide test program oversight services to ensure that the train control system meets the requirements in the Supplier Contract Specifications, and any applicable federal, state and local requirements. Activities and deliverables may include:

1. Test Documentation Review

Review and recommend for acceptance the Supplier's test and evaluation plans and procedures for all materials, components, subsystems, and completed work as described in Supplier Contract Specifications Section 31.

2. Test Witnessing

Witness design, software tests or demonstrations, factory tests, site acceptance tests, electrical/megger tests, vehicle tests, PICO tests, acceptance and commissioning tests, as required, including tests at the Supplier's or its subcontractors' facilities, the SFMTA site, or third-party location. Provide SFMTA with independent reports corroborating the Supplier's test report and explain any discrepancies.

3. Schedule Management

Coordinate testing activities requiring the use of SFMTA revenue vehicles and/or right-of-way with the SFMTA's operations and maintenance departments. With the CBTC System Supplier and/or Installer, maintain an up-to-date testing calendar of activities that looks at least one month ahead and deconflicts CBTC test activities with revenue service, maintenance activities, and other projects in the Project area. Project schedule requirements are described in Supplier Contract Specifications Section 3.2.4 and the Project Management Plan.

4. System Acceptance

Support the SFMTA in acceptance activities, documenting discrepancies identified during testing or in operation during pilot or warranty periods. Assist SFMTA in developing a punchlist for Installers and Supplier prior to SFMTA Conditional or Final Acceptance as described in Supplier Contract Specifications Section 8.

5. Operational Testing

- a.** Support SFMTA-directed operational testing as described in Supplier Contract Specifications Section 31.8 and to confirm compatibility with the SFMTA's existing system, facilities, and equipment; assist with train controller / operator / maintenance technician orientation.

- b. Assist with start-up and commissioning of CBTC system sections, including integration and pre-revenue “dry-run” testing, developing test scenarios and procedures, instrumenting vehicles and equipment, conducting tests, and providing test reports and analyses.

H. Safety and Security Program Support

The Consultant shall support safety certification, including monitoring Supplier and Installers' safety programs, and supporting the development of required documentation to obtain CPUC certification of the CBTC System as described in the SFMTA CBTC Safety and Security Management Plan and Supplier Contract Specifications Section 6. The scope of work may include:

1. Research current relevant safety standards and review safety plans for compliance.
2. Review the Project System Safety Program.
3. Review the Supplier's hazard analyses.
4. Evaluate the CBTC Safety and Security Management Plan and CBTC Safety and Security Certification Plan for conformance with all applicable rules and regulations, suggest edits to ensure compliance with the latest safety standards.
5. Participate in the Safety and Security Certification Review Committee as a technical advisor, enforce compliance with established safety plans and drive consensus on solutions.
6. Support SFMTA in maintaining the Audit Conformance Checklist (ongoing).
7. Review the safety requirements.
8. Audit implementation of safety requirements.
9. Audit resolution of hazards (ongoing).
10. Perform preliminary and system hazard analyses, failure modes and effects analyses, hazard level classification, and single-point-of-failure analyses.
11. Develop safety checklists, conduct necessary safety verifications, and prepare mitigation plans as necessary.
12. Provide information, guidance and recommendations for changes to the safety plans and program based on Consultant industry experience and the latest applicable safety standards and regulatory requirements.

I. Commissioning and Start-up Activities

The Consultant shall support SFMTA commissioning and start-up activities prior to the start of revenue service for each phase of the CBTC System installation. Activities and deliverables may include:

1. Review and comment on all support services submittals, including maintenance manuals, parts and operations manuals, training programs, and safety program plans.
2. Verify delivery and configuration of as-built drawings and associated documentation.

3. Provide staff to support the training program, including testing and acceptance of the training simulators as identified in the Supplier Contract Specifications Section 31.
4. Provide staff to support revenue readiness activities, including maintenance shop readiness, and verification that the train control system design will meet its operational requirements.
5. Provide staff to support activities relating to the cutover of the ATCS system to the CBTC system as described in the Supplier Contract Specifications Section 8.3.2.6, including participating in the development of cutover plans, technical support, scheduling and sequencing, and management of activities in the field.
6. Provide staff to support coordination activities with interrelated projects, such as the Cubic NextBus Next-Generation Customer Information System, OrbCAD / AVL system, Trapeze scheduling system, database and communications systems, traffic signal and transit signal priority projects, and Maintenance-of-Way projects.

J. Post-Delivery Support

Consultant shall assist the SFMTA in managing the Supplier's provision of CBTC Support Services as described in the Supplier Contract Specifications Section 32, as required by SFMTA. This contract will cover all post-delivery support requirements, including warranty administration, regular software and/or hardware updates, support requests and tertiary maintenance. Activities and deliverables may include:

1. Assist with ensuring that all training, spare parts, special tools, special test equipment, maintenance and operation manuals, and other deliverables are properly provided in accordance with the requirements of the applicable procurement contract.
2. Support the oversight and tracking of all field modification work, including review of documentation, verification of configuration management, QA oversight of re-work, re-testing, and spare parts reconfiguration.
3. Monitor the reliability of the CBTC System and work with the SFMTA and the Supplier to assure compliance of the train control system with performance requirements specified in the Supplier Contract Specifications Section 30 and Appendix I to the Supplier Sample Agreement.
4. Assist in the set-up, execution, administration, and monitoring of Supplier and Installer warranty programs as defined in the Supplier Contract Specifications Section 13, and the Installer contracts, including identification and resolution of defects.
5. Review the SFMTA's preventive maintenance plans and maintenance policies, practices and procedures to confirm they are clearly defined, complete and meet SFMTA's obligations under the Supplier Contract.
6. Alert SFMTA when different components, subsystems, sections, or installations are entering or leaving a warranty period.
7. Assist in the set-up, administration, and monitoring of CBTC data in asset management programs such as SFMTA EAMS (Enterprise Asset Management System), including configuration, integration with CBTC CMMS, and data entry

necessary (such as asset definitions) necessary to set up the system for regular use by SFMTA maintenance.

K. Operations and Maintenance Support

Consultant shall provide other services as needed by the SFMTA to support the maintenance and operation of the train control system for the term of this contract. Activities may include:

1. Review plans, checklists and procedures related to system operation and preventive maintenance.
2. Perform audits of preventive maintenance and inspections performed by the SFMTA. Produce audit reports, as needed, to highlight areas that the SFMTA needs to address in order to meet its obligations under the Supplier Contract.
3. Evaluate and assist with the implementation of CBTC Supplier-led adaptive maintenance methods.
4. Evaluate the Supplier's CBTC Product Roadmap and Obsolescence Management Plan, as defined in the Supplier Contract Specifications Sections 4.2.1 and 14, highlight potential conflicts or trouble areas, and recommend modifications.
5. Assist SFMTA staff with data analysis to verify system performance is meeting requirements specified in the Supplier Contract Specifications Section 30.
6. Review and suggest edits to SFMTA standard operating procedures (SOPs) as necessary to accommodate the capabilities of the CBTC System.
7. Assist with the development or updating of training, operating practices, and procedures for maintenance and operations staff.
8. Provide expert opinions on modifications or system upgrades to improve operations and service delivery or keep pace with the CBTC Product Roadmap.
9. Perform strategic consulting, analysis, and recommendations for addressing key operations issues. Recommend changes in operations plans, staffing, workflow and procedures to best take advantage of the CBTC system's capabilities.
10. Oversight of maintenance support services provided by Supplier as described in the Supplier Contract Specifications Section 32, such as review of root cause analyses and other reports, confirming parts delivery and inventory provided as specified in the Supplier Contract, reviewing new releases, obsolescence plans, and product roadmaps.

L. Other Services

Consultant shall provide other services as needed by the SFMTA for the implementation and completion of the Project. Tasks may include:

1. Advise the SFMTA on key issues regarding vehicle and equipment installation, including compliance, systems integration, and deviation from Contract requirements.
2. Assist with Project integration into existing systems and emerging programs; these may include maintenance management systems, Project management systems, asset

management tracking, or other Agency-wide systems.

3. Suggest plans for CBTC-related upgrades to infrastructure and facilities, such as the yard layout, training rooms, equipment rooms, control centers, maintenance facilities, traffic signals and network infrastructure.
4. Provide suggestions for long-term system support plans, including options, timing and procurement strategies required to maintain the system in both a state of good repair and to keep pace with the advancement of technology.
5. Collect data and perform field observations, such as traffic counts and pedestrian or ridership counts.
6. Assist the Agency's Communications & Marketing Division with graphics for maps, posters, reports, one-pagers, marketing material, and other documents.
7. Perform data analyses pertaining to service planning activities, including before/after comparisons and trends.
8. Provide staff to assist the Agency's Communications & Marketing Division with outreach efforts, including facilitating public meetings and providing logistical support.
9. Produce or assist with peer reviews and best practice reviews for train control-related operations and maintenance.
10. Provide staff to assist with asset management of train control equipment, to include data entry in the asset management system.
11. Produce or assist with the production of operational scenario models. Models may take into account train control management schemes, service plans, available ridership, and grade or route data.
12. Provide the SFMTA with the most up-to-date copies of engineering codes and standards such as those referenced in the Supplier Contract Specifications Section 7 and advise SFMTA when updates to those standards affect design requirements.
13. Advise SFMTA on developments in the CBTC industry, including producing market analyses, advising SFMTA on updates to state and federal laws, rules and regulations, such as FTA or CPUC regulations which affect the Project or the CBTC System design.

All written Deliverables shall be submitted electronically in PDF format and shall be in a ready-to-print format including all images, diagrams and final formatting in the document. Submission may be over email, or in the event of large file sizes, over a Microsoft Sharepoint folder or other shared folder hosted by SFMTA.

II. Evaluation of Work

Unless a different evaluation process is specified in a Task Order, Contractor shall submit a draft of each written Deliverable to the SFMTA for review. The SFMTA will review and return the accepted draft with comments after a minimum two-week review

period. Contractor will make changes to the document to address SFMTA's comments and submit the revised document as a final draft. SFMTA will then indicate whether the document has been accepted.

SFMTA may also reject either the draft or final document as unsatisfactory. Contractor may resubmit rejected Deliverables for acceptance, but SFMTA will not pay Contractor for any additional rework Contractor performed on the Deliverable after the document was rejected.

SFMTA may offer feedback on the performance of Contractor's personnel assigned to this Contract, such as those personnel assigned to augment SFMTA's staff, for Contractor to consider. In addition, Contractor may solicit feedback from SFMTA on the performance of its staff, such as to facilitate Contractor's internal performance reviews.

III. Location of Work

Unless a location is specified in a Task Order, Contractor may perform the Services remotely. SFMTA may require Contractor to attend meetings in-person at SFMTA's offices or perform on-site work on SFMTA's right of way or in its facilities. SFMTA expects the Core Project Team to be available to meet in-person any time during the Contract Term. Accordingly, travel expenses for Core Project Team members to the San Francisco Bay Area will not be authorized. Travel expenses for Specialist Team Leads, and other team members with specialized experience who need to be present on-site, to travel to San Francisco shall be authorized by SFMTA prior to the travel on a case-by-case basis, depending on the need. Travel expense reimbursements shall follow the SFMTA travel guidelines or FTA travel guideline whichever is more stringent. The Contractor shall schedule all work and meetings according to business hours in the Pacific Time Zone unless specified in the Task Order.

IV. Services Provided by Attorneys

Any services to be provided by a law firm or attorney must be reviewed and approved in writing in advance by the City Attorney. No invoices for services provided by law firms or attorneys, including, without limitation, as subcontractors of Contractor, will be paid unless the provider received advance written approval from the City Attorney.

V. Reports

Contractor shall submit written reports as requested by the SFMTA. Format for the content of such reports shall be determined by the SFMTA. The timely submission of all reports is a necessary and material term and condition of this Agreement. The

reports, including any copies, shall be submitted electronically in PDF format and shall be in a ready-to-print format including all images, diagrams and final formatting in the document. Submission may be over email, or in the event of large file sizes, over a Microsoft SharePoint folder or other shared folder hosted by SFMTA.

VI. Department Liaison

In performing the Services provided for in this Agreement, Contractor's liaison with the **SFMTA** will be the Project Manager.

Appendix B

Calculation of Charges

Table 1: Negotiated Hourly Labor Rates (NHLRs) by Position for Contractor and all Subcontractors.

			Negotiated Hourly Labor Rate (NHLR) Effective 11/1/2024	
Firm	Name (¹ added since proposal)	Position/Classification (Work to be Performed)	Office Billing Rate	Field Billing Rate
WSP USA Inc	Ajay Raman	Scheduling	\$207.30	\$176.14
WSP USA Inc	Alistair Blankey ¹	Scheduling	\$247.95	\$210.67
WSP USA Inc	Aurora Jackson	Talent Development/ First Source	\$301.42	\$256.11
WSP USA Inc	Bryce Little	Contract Management Lead	\$385.45	\$327.51
WSP USA Inc	Chamara Johnson	Requirements Management	\$232.62	\$197.65
WSP USA Inc	Chris Johnson	Security Lead	\$207.08	\$175.95
WSP USA Inc	Christine Glavasich	Value Engineering	\$219.31	\$186.34
WSP USA Inc	Daniel Olotua	Scheduling	\$195.12	\$165.79
WSP USA Inc	David Knights	Post Delivery, Maintenance and Support Lead	\$408.62	\$347.19
WSP USA Inc	Davy Leung	Wireless Radio Network	\$249.82	\$212.27
WSP USA Inc	Douglas Stevenson	Enterprise Asset Management System (EAMS)	\$333.80	\$283.62
WSP USA Inc	Duncan Watry	Operational Services	\$240.03	\$203.95
WSP USA Inc	Eunice Lovi	FTA Procurement	\$200.46	\$170.33
WSP USA Inc	Frank Jezycki	Service and Operations Planning Lead	\$433.51	\$368.34
WSP USA Inc	Gabe Halladay	Office Engineer	\$131.81	\$112.00
WSP USA Inc	Geraldine Diver	Procurement Coordination	\$214.57	\$182.31
WSP USA Inc	Gino Spadafore	Field Engineering	\$269.84	\$229.28
WSP USA Inc	Heather Ferguson	Operations Planning	\$268.47	\$228.11
WSP USA Inc	Jalal Gohari	EMC/EMI	\$224.18	\$190.48
WSP USA Inc	James Brooks	Estimating	\$198.42	\$168.59
WSP USA Inc	Jenifer Ross-Amato	Change Management	\$295.10	\$250.74
WSP USA Inc	Jill Fauss	Requirements Management	\$192.05	\$163.18
WSP USA Inc	Jim Stitt	RAM Engineering	\$212.20	\$180.30

			Negotiated Hourly Labor Rate (NHLR) Effective 11/1/2024	
Firm	Name (¹ added since proposal)	Position/Classification (Work to be Performed)	Office Billing Rate	Field Billing Rate
WSP USA Inc	Joe Black	Operations Planning	\$309.31	\$262.81
WSP USA Inc	Jon Spiteri	Power	\$224.48	\$190.74
WSP USA Inc	Jonathan Hu	Lead Engineer [CORE]	\$189.00	\$160.59
WSP USA Inc	Kathleen Carr	Production Management Reporting	\$89.02	\$75.64
WSP USA Inc	Kenneth Feldman	FTA Procurement	\$281.47	\$239.16
WSP USA Inc	Kevin Lim	PIS, Platform AV, CAD/AVL Interfaces	\$297.77	\$253.01
WSP USA Inc	Kit Powis	Public/Community Outreach	\$220.11	\$187.02
WSP USA Inc	Lalit Narang	Wayside Signaling Equipment	\$252.04	\$214.15
WSP USA Inc	Laurence Michael	TPSS	\$278.48	\$236.62
WSP USA Inc	Lurae Stuart	Systems Safety & Security	\$282.40	\$239.95
WSP USA Inc	Makis Palamitzoglou	Risk Management	\$276.50	\$234.94
WSP USA Inc	Marcus Christian	Document Control	\$169.31	\$143.86
WSP USA Inc	Matthew Lewis	Operations Modeling	\$203.21	\$172.66
WSP USA Inc	Michael Berman	Corrosion Control	\$248.00	\$210.72
WSP USA Inc	Michael Macniven	MEP	\$219.19	\$186.24
WSP USA Inc	Minh Nguyen	ATS, Data, SCADA	\$163.09	\$138.58
WSP USA Inc	Raylene Moreno	Construction Safety	\$214.44	\$182.21
WSP USA Inc	Rony Philip	Transition/Close-out	\$199.99	\$169.93
WSP USA Inc	Sabine van der Sluis	Commercial Management [CORE]	\$267.09	\$226.94
WSP USA Inc	Salvador Mercado	Value Engineering	\$274.61	\$233.33
WSP USA Inc	Sarah Zhang ¹	Project Accounting	\$114.49	\$97.28
WSP USA Inc	Saral Dwivedi	Commissioning	\$227.13	\$192.98
WSP USA Inc	Sean Wicks	Track Intrusion Detection Systems	\$182.09	\$154.72
WSP USA Inc	Siv Bhamra	Project Manager [CORE]	\$372.07	\$316.14
WSP USA Inc	Srini Katireddi	Project Engineering [CORE]	\$310.06	\$263.45
WSP USA Inc	Stacy Taylor	Cost Control	\$133.83	\$113.72
WSP USA Inc	Steve Eget	Environmental	\$276.55	\$234.98
WSP USA Inc	Steve Witthaus	Track Intrusion Detection Systems	\$249.77	\$212.22

			Negotiated Hourly Labor Rate (NHLR) Effective 11/1/2024	
Firm	Name (¹ added since proposal)	Position/Classification (Work to be Performed)	Office Billing Rate	Field Billing Rate
WSP USA Inc	Taiwo Gray	Inspection	\$201.56	\$171.26
WSP USA Inc	TBD ¹	Project Controls Management [CORE]	\$337.02	\$286.36
WSP USA Inc	Terry Brunner	Fleet Coordination	\$259.88	\$220.81
WSP USA Inc	Tom Colacioppo	ATS, Data, SCADA	\$313.00	\$265.95
WSP USA Inc	Tom Taylor	Track	\$238.38	\$202.55
WSP USA Inc	Tony Felitsky	Project Controls Management	\$255.58	\$217.17
WSP USA Inc	Wayne Terry	Operations Planning	\$360.06	\$305.94
WSP USA Inc	Wes Burns	Configuration Management	\$264.95	\$225.12
WSP USA Inc	Will Hii	Reporting	\$149.56	\$127.08
PGH Wong Engineering, Inc.	Andrew Fernandez	Utilities	\$203.54	\$203.54
PGH Wong Engineering, Inc.	Ardavan Jahed Motlagh	Civil/Structural	\$154.36	\$154.36
PGH Wong Engineering, Inc.	Bill Hearne	Track	\$217.81	\$217.81
PGH Wong Engineering, Inc.	Courtney Gonzalez	QA/QC	\$274.39	\$274.39
PGH Wong Engineering, Inc.	Felix Marten	Operations & Maintenance	\$248.58	\$248.58
PGH Wong Engineering, Inc.	Gary Smith	Wireless Radio Network	\$215.61	\$215.61
PGH Wong Engineering, Inc.	Hamid Danafar	Communication Networks	\$215.69	\$215.69
PGH Wong Engineering, Inc.	Jamie Chan	Track	\$155.40	\$155.40
PGH Wong Engineering, Inc.	John Beatty	Civil/Structural	\$171.41	\$171.41
PGH Wong Engineering, Inc.	Juan Gimenez	PIS, Platform AV, CAD/AVL Interfaces	\$164.84	\$164.84
PGH Wong Engineering, Inc.	Karim Aboud ¹	Estimating (Systems)	\$252.66	\$252.66
PGH Wong Engineering, Inc.	Ken Miller	Inspection	\$141.57	\$141.57
PGH Wong Engineering, Inc.	Kyle Strickland	Risk Management	\$239.59	\$239.59

			Negotiated Hourly Labor Rate (NHLR) Effective 11/1/2024	
Firm	Name (¹ added since proposal)	Position/Classification (Work to be Performed)	Office Billing Rate	Field Billing Rate
PGH Wong Engineering, Inc.	Lee Mitchell	Enterprise Asset Management System (EAMS)	\$217.81	\$217.81
PGH Wong Engineering, Inc.	Lydia Yeung	Track	\$182.81	\$182.81
PGH Wong Engineering, Inc.	Marcia Sagami	Configuration Management	\$202.49	\$202.49
PGH Wong Engineering, Inc.	Maria Valdes	D/W/MBE Coordination	\$175.60	\$175.60
PGH Wong Engineering, Inc.	Mark Engels	Wayside Signaling Equipment	\$226.52	\$226.52
PGH Wong Engineering, Inc.	Mark Velasquez	Claims	\$196.03	\$196.03
PGH Wong Engineering, Inc.	Matthew Kyauk	Resident Engineer	\$228.70	\$228.70
PGH Wong Engineering, Inc.	Mike Tashker	Operations Modeling	\$224.34	\$224.34
PGH Wong Engineering, Inc.	Mimi Hearne	Document Control	\$117.40	\$117.40
PGH Wong Engineering, Inc.	Nick Pappas	Communication Networks	\$201.19	\$201.19
PGH Wong Engineering, Inc.	Raymond Lee	Architecture	\$181.65	\$181.65
PGH Wong Engineering, Inc.	Richard Wells	MEP	\$209.64	\$209.64
PGH Wong Engineering, Inc.	Rodney Phann	Resident Engineer	\$187.05	\$187.05
PGH Wong Engineering, Inc.	Stanley Mak	Civil/Structural	\$147.22	\$147.22
PGH Wong Engineering, Inc.	Steven Kyauk	Construction Manager [CORE]	\$287.50	\$287.50
PGH Wong Engineering, Inc.	Tim Findley	Estimating	\$246.99	\$246.99
PGH Wong Engineering, Inc.	Vincent Kwong	System Engineering & Delivery	\$217.81	\$217.81
PGH Wong Engineering, Inc.	Wayne Blake	Wireless Radio Network	\$196.03	\$196.03
Hatch	Adrian Peach	Wayside Signaling Equipment	\$231.76	\$206.70
Hatch	Alice Fang	Human Factors	\$165.33	\$147.46
Hatch	Anil Balan	Verification & Validation	\$233.12	\$207.91

			Negotiated Hourly Labor Rate (NHLR) Effective 11/1/2024	
Firm	Name (¹ added since proposal)	Position/Classification (Work to be Performed)	Office Billing Rate	Field Billing Rate
Hatch	Dale Brown	System Integration Lead	\$306.67	\$273.51
Hatch	Galen Roberts	Testing & Commissioning Lead	\$157.45	\$140.42
Hatch	Ray Shanks	Commissioning	\$180.95	\$161.38
Hatch	Richard Whitwell	ATC System	\$313.33	\$279.45
Hatch	Todd Ellis	Cybersecurity	\$220.95	\$197.06
TUV Rheinland of North America, Inc.	Anthony LaPolla	Systems Safety & Security	\$200.72	\$200.72
TUV Rheinland of North America, Inc.	Eric Cutright	RAM Engineering	\$193.39	\$193.39
TUV Rheinland of North America, Inc.	Lin Liu	Cybersecurity	\$200.81	\$200.81
TUV Rheinland of North America, Inc.	Lou Baxter	Safety Lead	\$206.38	\$206.38
TUV Rheinland of North America, Inc.	Mike Towey	Quality Assurance Lead	\$181.74	\$181.74
TUV Rheinland of North America, Inc.	Wilton Alston	Systems Safety & Security	\$177.89	\$177.89
Virginkar & Associates, Inc.	Ajay Nayyar	PIS, Platform AV, CAD/AVL Interfaces	\$198.90	\$198.90
Virginkar & Associates, Inc.	Benjamin Holland	Lead Vehicle Engineer	\$198.90	\$198.90
Virginkar & Associates, Inc.	James Zehm	Fleet Coordination	\$193.31	\$193.31
Virginkar & Associates, Inc.	Scott Rodda	Fleet Coordination	\$224.64	\$224.64
Cornerstone Transportation Consulting, Inc.	Mohammad (Aijaz) Usmani	Scheduling	\$179.65	\$179.65
Cornerstone Transportation Consulting, Inc.	Sunil Shah	Lead Estimator	\$204.75	\$204.75
Luster National, Inc.	Bobby Butler	QA/QC	\$139.00	\$126.13
Luster National, Inc.	Hugh Vassar	Scheduling	\$221.56	\$201.04
CHS Consulting Group	Chi-Hsin Shao	Traffic Control Systems	\$392.27	\$392.27
CHS Consulting Group	Frank Feng	Traffic Control Systems	\$155.04	\$155.04
Civic Edge Consulting	Lisbet Sunshine	Public/Community Outreach	\$330.65	\$330.65

			Negotiated Hourly Labor Rate (NHLR) Effective 11/1/2024	
Firm	Name (¹ added since proposal)	Position/Classification (Work to be Performed)	Office Billing Rate	Field Billing Rate
Legacy Rail Operations LLC	David Moore	Operations & Maintenance	\$196.27	\$174.46
Legacy Rail Operations LLC	Jeffrey White	Operational Services	\$196.27	\$174.46
Legacy Rail Operations LLC	Richard Newton	Operational Services	\$196.27	\$174.46
UNICO Engineering, Inc.	Simon Hughes	Requirements Management	\$232.67	\$153.59
UNICO Engineering, Inc.	Paul Padegimas	RAM Engineering	\$230.22	\$151.97
UNICO Engineering, Inc.	Enrique Cacho	Survey Engineering	\$78.37	\$51.73
UNICO Engineering, Inc.	Kendall Dobson ¹	Systems Engineer	\$152.83	\$100.88
AECOM Technical Services, Inc.	Samuel Iadicicco	Wayside Signaling Equipment	\$284.97	\$259.92
AECOM Technical Services, Inc.	Wilson Milian	ATC Systems	\$277.50	\$253.11
Raul Bravo + Associates, Inc	James LaRusch	Federal Compliance	\$298.22	\$298.22

Procedures for requesting travel under Contract No. SFMTA-2024-20-FTA:

The Contractor will be paid a travel fee composed of a flat rate for trip published in the GSA City-Pair Program plus the GSA per diem rates based on the length of stay. The flat rates will be recalculated annually during the annual work planning process. Travel to cities not identified in Table 1 accompanying the Task Order shall be handled with a standard travel reimbursement in compliance with the City guidelines (see below).

Prior to travel, the Contractor shall email the following request to the SFMTA Project Manager:

Subject: Contract No. SFMTA-2024-20-FTA: Travel Authorization for Task No. #.#. (For example, 1.1)

We are requesting travel authorization for (Name of Consultant personnel and firm) to travel to (SFMTA facilities). The purpose of the visit is to (details). The visit is planned for (start date) to (return date, assuming 4 nights in this example). Overnight stay is required for (reason).

The travel cost breakdown per person according to the GSA rates set forth in Appendix C, Tables 1 and 2:

- Round trip flight from Atlanta, GA, to SFO = \$464
- 4 nights hotel = $\$291.75 \times 4 = \$1,167$
- M&IE = $\$59.25 + \$79 \times 3 + \$59.25 = \355.50
- Total = \$1,986.50

The SFMTA Project Manager will review and approve the travel request via email, and encumber the cost in the Task Order budget. Anticipated travel expenses shall also be included in the Task Order Proposal using the forms provided in Appendix C.

Within 30 days from return of travel, the Consultant shall identify the total travel expense as a separate line item in the monthly invoice and include proof of travel as a supporting document (such as a boarding pass for one of the legs of the journey). The total travel expense shall match the pre-authorized amount based on the published federal rates shown in the Appendix C Tables 1 & 2 for the flight, hotel, M&IE and will be paid without itemization of expenses or accompanying receipts. The project team will attach Tables 1 & 2 of the Task Order as supporting documents for these rates.

If the destination city is any city other than San Francisco, or the origin city is not included in Table 1 of the Task Order, then travel shall be reimbursed based on actual expenditures for flight and hotel, and the federal per diem rates for M&IE. In that case, hotel and flight receipts shall be required as supporting documents.

Appendix C

TASK ORDER REQUEST FORM

Task Title: <u>Enter Task Title</u>	Date Initiated: <u>xx/xx/xx</u>		
Type of Request:			
<input type="checkbox"/> New Task Order- No. <u>XX</u>			
<input type="checkbox"/> Modification No. _____ (attach approved original and all modifications to date)			
Total Amount Being Requested:	<u>\$ x,xxx.xx</u>		
Total approved task to date (including all mods.):	<u>\$ _____</u>		
Total task amount including this request:	<u>\$ x,xxx.xx</u>		
Task Start Date: <u>xx/xx/xx</u>	Modification Start Date: _____		
Estimated Completion Date: <u>xx/xx/xx</u>			
Funding Source:	Proposed Task SBE Goal: <u>xxx.xx %</u>		
Account: _____	Fund: _____	Dept: _____	Authority: _____
Project: _____	Activity: _____		
Project Title: _____			
Work to be Performed:			

APPROVALS

Requested by: _____ **Date** _____
Name, Project Manager

Approved by: _____ **Date** _____
Name, Contract Manager

Reviewed by: _____ **Date** _____
Name, Manager Contracts & Procurement, Federal

Reviewed by: _____ **Date** _____
Name, Contract Compliance Office

Approved by: _____ **Date** _____
Division Director, Title

Summary of Proposed Staff and Budget:			
Labor			
Task	Description	Hours	Total
Task 1.1			\$0.00
	Subtotal Labor	0	\$0.00
	Profit (NTE 7%)		\$0.00
	Subcontractor Markup	3%	\$0.00
	Subtotal Labor		\$0.00
Travel			
Task	Description	Days	Total
Task 1.1		0	\$0.00
		0	\$0.00
	Subtotal Travel		\$0.00
Expenses - ODCs			
Task	Description	Quantity	Total
Task 1.1		n/a	\$0.00
<i>List Expense here</i>		n/a	\$0.00
		n/a	\$0.00
	Subtotal Expenses		\$0.00
Grand Total This Task:			\$0.00
Notes:			
Approved by Requestor:			
Signature:	Date:		

Subtask of Proposed Staff and Budget:

**Add additional copies as necessary to cover each subtask.*

Task #.1: Title

Brief description of scope

Labor

Name	Title	Office / Field	Firm	Hours	Negotiated Hourly Labor Rate	Total
					\$ -	\$ -
					\$ -	\$ -
					\$ -	\$ -
					\$ -	\$ -
Subtotal Labor						\$0.00
Profit (NTE 7%)						\$0.00
Subcontractor Markup						\$0.00
Subtotal Labor						\$0.00

Travel

Name	Origin	Days	Roundtrip Airfare	Lodging	M&IE	Total
						\$0.00
Subtotal Travel						\$0.00

Expenses- ODCs				
Expenses			Quantity	Cost
<i>List Expense here</i>			n/a	
<i>List Expense here</i>			n/a	
			n/a	
Subtotal Expenses				\$0.00
				Total Cost of Subtask
				\$0.00
Notes:				
Approved by Requestor:				
Signature:	Date:			

Table 1: GSA City Pair Program Rates to/from SFO (Oct. 1, 2023 - Sep. 30, 2024)**Sample, To be updated annually with each Task Order.*

Origin	Roundtrip Airfare
Atlanta, GA	\$ 464.00
Austin, TX	\$ 430.00
Boise, ID	\$ 388.00
Boston, MA	\$ 474.00
Buffalo, NY	\$ 568.00
Charlotte, NC	\$ 1,066.00
Chicago, IL	\$ 556.00
Cleveland, OH	\$ 656.00
Dallas, TX	\$ 800.00
Denver, CO	\$ 348.00
Irvine, CA	\$ 258.00
Los Angeles, CA	\$ 150.00
Long Beach, CA	\$ 422.00
Miami, FL	\$ 476.00
New York, NY	\$ 458.00
Newark, NJ	\$ 420.00
Orlando, FL	\$ 680.00
Phoenix, AZ	\$ 292.00
Pittsburgh, PA	\$ 540.00
Portland, ME	\$ 404.00
San Antonio, TX	\$ 654.00
San Diego, CA	\$ 144.00
Seattle, WA	\$ 188.00
St. Louis, MO	\$ 556.00
Toronto, Canada	\$ 372.00
Washington DC	\$ 814.00

Data from: City Pair Program (CPP) / GSARev 06/2024***Table 2.** GSA Per Diem Rates (Oct. 1, 2023 - Sep. 30, 2024)**Sample, To be updated annually with each Task Order.*

Primary Destination	Lodging (*Monthly Average of the year)	M&IE Total	Breakfast	Lunch	Dinner	Incidental Expenses	First & Last Day of Travel
San Francisco	\$291.75	\$79	\$18	\$20	\$36	\$5	\$59.25

Data from: GSA Per Diem RatesRev 06/2024*

Appendix D

FTA REQUIREMENTS FOR PERSONAL SERVICES CONTRACTS

I. DEFINITIONS

- A. Approved Project Budget** means the most recent statement, approved by the FTA, of the costs of the Project, the maximum amount of Federal assistance for which the City is currently eligible, the specific tasks (including specified contingencies) covered, and the estimated cost of each task.
- B. Contractor** means the individual or entity awarded a third-party contract financed in whole or in part with Federal assistance originally derived from FTA.
- C. Cooperative Agreement** means the instrument by which FTA awards Federal assistance to a specific Recipient to support a particular Project or Program, and in which FTA takes an active role or retains substantial control.
- D. Federal Transit Administration (FTA)** is an operating administration of the U.S. DOT.
- E. FTA Directive** includes any FTA circular, notice, order or guidance providing information about FTA's programs, application processing procedures, and Project management guidelines. In addition to FTA directives, certain U.S. DOT directives also apply to the Project.
- F. Grant Agreement** means the instrument by which FTA awards Federal assistance to a specific Recipient to support a particular Project, and in which FTA does not take an active role or retain substantial control, in accordance with 31 U.S.C. § 6304.
- G. Government** means the United States of America and any executive department or agency thereof.
- H. Project** means the task or set of tasks listed in the Approved Project Budget, and any modifications stated in the Conditions to the Grant Agreement or Cooperative Agreement applicable to the Project. In the case of the formula assistance program for urbanized areas, for elderly and persons with disabilities, and non-urbanized areas, 49 U.S.C. §§ 5307, 5310, and 5311, respectively, the term "Project" encompasses both "Program" and "each Project within the Program," as the context may require, to effectuate the requirements of the Grant Agreement or Cooperative Agreement.
- I. Recipient** means any entity that receives Federal assistance directly from FTA to accomplish the Project. The term "Recipient" includes each FTA "Grantee" as well as each FTA Recipient of a Cooperative Agreement. For the purpose of this Agreement, Recipient is the City.
- J. Secretary** means the U.S. DOT Secretary, including his or her duly authorized designee.

- K. Third Party Contract** means a contract or purchase order awarded by the Recipient to a vendor or contractor, financed in whole or in part with Federal assistance awarded by FTA.
- L. Third Party Subcontract** means a subcontract at any tier entered into by Contractor or third party subcontractor, financed in whole or in part with Federal assistance originally derived from FTA.
- M. U.S. DOT** is the acronym for the U.S. Department of Transportation, including its operating administrations.

II. FEDERAL CHANGES

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between the City and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

III. ACCESS TO RECORDS

- A.** The Contractor agrees to provide the City and County of San Francisco, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this Agreement for the purposes of making audits, examinations, excerpts and transcriptions.
- B.** The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- C.** The Contractor agrees to maintain all books, records, accounts and reports required under this Agreement for a period of not less than three years after the date of termination or expiration of this Agreement, except in the event of litigation or settlement of claims arising from the performance of this Agreement, in which case Contractor agrees to maintain same until the City, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. 49 CFR 18.36(i)(11).

IV. DEBARMENT AND SUSPENSION

- A.** The Contractor shall comply and facilitate compliance with U.S. DOT regulations, "Nonprocurement Suspension and Debarment," 2 C.F.R. part 1200, which adopts and supplements the U.S. Office of Management and Budget (U.S. OMB) "Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," 2 C.F.R. part 180. These provisions apply to each contract at any tier of \$25,000 or more, and to each contract at any tier for a federally required audit (irrespective of the contract amount), and to each contract at any tier that must be approved by an FTA official irrespective of the contract amount. As such, the Contractor shall verify that its principals, affiliates, and subcontractors are eligible to

participate in this federally funded contract and are not presently declared by any Federal department or agency to be:

- a)** Debarred from participation in any federally assisted Award;
- b)** Suspended from participation in any federally assisted Award;
- c)** Proposed for debarment from participation in any federally assisted Award;
- d)** Declared ineligible to participate in any federally assisted Award;
- e)** Voluntarily excluded from participation in any federally assisted Award; or
- f)** Disqualified from participation in any federally assisted Award.

See Appendix D, Certification Regarding Debarment, Suspension, and Other Responsibility Matters

- B.** The Contractor agrees to include a provision in its lower-tier covered transactions requiring lower-tier participants to comply with the requirements of 2 CFR Part 180, Subpart C, and Part 1200, Subpart C.

V. NO FEDERAL GOVERNMENT OBLIGATIONS TO CONTRACTOR

- A.** The City and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the City, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.
- B.** The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

VI. CIVIL RIGHTS

- A. Nondiscrimination** – In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 41 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the
- B.** Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.
- C. Equal Employment Opportunity** – The following equal employment opportunity requirements apply to the underlying contract:

- 1. Race, Color, Creed, National Origin, Sex** – In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOT) regulations, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor,” 41 CFR Parts 60 et seq., (which implement Executive Order No. 11246, “Equal Employment Opportunity,” as amended by Executive Order No. 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
- 2. Age** – In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
- 3. Disabilities** – In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, “Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act,” 29 CFR Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

D. The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

VII. DBE/SBE ASSURANCES

Pursuant to 49 C.F.R. Section 26.13, the Contractor is required to make the following assurance in its agreement with SFMTA and to include this assurance in any agreements it makes with subcontractors in the performance of this contract:

The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The

Contractor shall carry out applicable requirements of 49 C.F.R. Part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor or Subcontractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as SFMTA deems appropriate.

VIII. PATENT RIGHTS (*applicable to contracts for experimental, research, or development projects financed by FTA*)

- A. General.** If any invention, improvement, or discovery is conceived or first actually reduced to practice in the course of or under this Agreement, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, the City and Contractor agree to take actions necessary to provide immediate notice and a detailed report to the FTA.
- B.** Unless the Federal Government later makes a contrary determination in writing, irrespective of the Contractor's status (large business, small business, state government or instrumentality, local government, nonprofit organization, institution of higher education, individual), the City and Contractor agree to take the necessary actions to provide, through FTA, those rights in that invention due the Federal Government described in U.S. Department of Commerce regulations, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," 37 CFR Part 401.
- C.** The Contractor also agrees to include the requirements of this clause in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.

IX. RIGHTS IN DATA AND COPYRIGHTS (*Applicable to contracts for planning, research, or development financed by FTA*)

- A. Definition.** The term "subject data" used in this section means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under this Agreement. The term includes graphic or pictorial delineation in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards, magnetic tape, or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to, computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term "subject data" does not include financial reports, cost analyses, and similar information incidental to contract administration.
- B. Federal Restrictions.** The following restrictions apply to all subject data first produced in the performance of this Agreement.
 - 1. Publication of Data.** Except for its own internal use in conjunction with the Agreement, Contractor may not publish or reproduce subject data in whole or in part, or in any manner or form, nor may Contractor authorize

others to do so, without the written consent of the Federal Government, until such time as the Federal Government may have either released or approved the release of such data to the public; this restriction on publication, however, does not apply to any contract with an academic institution.

2. **Federal License.** The Federal Government reserves a royalty-free, non-exclusive and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, “for Federal Government purposes,” any subject data or copyright described below. As used in the previous sentence, “for Federal Government purposes” means use only for the direct purposes of the Federal Government. Without the copyright owner’s consent, the Federal Government may not extend its Federal license to any other party:
 - a. Any subject data developed under this Agreement, whether or not a copyright has been obtained; and
 - b. Any rights of copyright purchased by City or Contractor using Federal assistance in whole or in part provided by FTA.
3. **FTA Intention.** When FTA awards Federal assistance for an experimental, research or developmental work, it is FTA’s general intention to increase transportation knowledge available to the public, rather than to restrict the benefits resulting from the work to participants in the work. Therefore, unless FTA determines otherwise, the Contractor performing experimental, research, or developmental work required by the underlying Agreement agrees to permit FTA to make available to the public, either FTA’s license in the copyright to any subject data developed in the course of the Agreement, or a copy of the subject data first produced under the Agreement for which a copyright has not been obtained. If the experimental, research, or developmental work which is the subject of this Agreement is not completed for any reason whatsoever, all data developed under this Agreement shall become subject data as defined in Subsection a. above and shall be delivered as the Federal Government may direct. This subsection does not apply to adaptations of automatic data processing equipment or programs for the City’s use the costs of which are financed with Federal transportation funds for capital projects.
4. **Hold Harmless.** Unless prohibited by state law, upon request by the Federal Government, the Contractor agrees to indemnify, save, and hold harmless the Federal Government, its officers, agents, and employees acting within the scope of their official duties, against any liability, including costs and expenses, resulting from any willful or intentional violation by the Contractor of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under this Agreement. The Contractor shall not be required to indemnify the Federal Government for any such liability arising out of the wrongful acts of employees or agents of the Federal Government.

5. **Restrictions on Access to Patent Rights.** Nothing contained in this section on rights in data shall imply a license to the Federal Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Federal Government under any patent.
6. **Application to Data Incorporated into Work.** The requirements of Subsections (2), (3) and (4) of this Section do not apply to data developed by the City or Contractor and incorporated into the work carried out under this Agreement, provided that the City or Contractor identifies the data in writing at the time of delivery of the work.
7. **Application to Subcontractors.** Unless FTA determines otherwise, the Contractor agrees to include these requirements in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.

C. Flow Down. The Contractor also agrees to include these requirements in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.

D. Provision of Rights to Government. Unless the Federal Government later makes a contrary determination in writing, irrespective of the Contractor's status (large business, small business, state government or instrumentality, local government, nonprofit organization, institution of higher education, individual, etc.), the City and Contractor agree to take the necessary actions to provide, through FTA, those rights in that invention due the Federal Government described in U.S. Department of Commerce regulations, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," 37 CFR Part 401.

X. CONTRACT WORK HOURS AND SAFETY STANDARDS (*applicable to nonconstruction contracts in excess of \$100,000 that employ laborers or mechanics on a public work*)

- A. Overtime requirements** – No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- B. Violation; liability for unpaid wages; liquidated damages** – In the event of any violation of the clause set forth in paragraph A of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph A of this section, in

the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph A of this section.

- C. Withholding for unpaid wages and liquidated damages** – The City and County of San Francisco shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
- D. Subcontracts** – The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs A through D of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs A through D of this section.

XI. ENERGY CONSERVATION REQUIREMENTS

The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

XII. CLEAN WATER REQUIREMENTS (*applicable to all contracts in excess of \$100,000*)

- A.** The Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251 et seq. Contractor agrees to report each violation of these requirements to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA regional office.
- B.** The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

XIII. CLEAN AIR (*applicable to all contracts and subcontracts in excess of \$100,000, including indefinite quantities where the amount is expected to exceed \$100,000 in any year.*)

- A.** Contractor agrees to comply with applicable standards, orders, or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Contractor agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure

notification to FTA and the appropriate EPA Regional Office.

B. The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

XIV. PRIVACY

If Contractor or its employees administer any system of records on behalf of the Federal Government, Contractor and its employees agree to comply with the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a (the Privacy Act). Specifically, Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Government. Contractor acknowledges that the requirements of the Privacy Act, including the civil and criminal penalties for violations of the Privacy Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of this Agreement. The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

XV. DRUG AND ALCOHOL TESTING

To the extent Contractor, its subcontractors or their employees perform a safety-sensitive function under the Agreement, Contractor agrees to comply with, and assure compliance of its subcontractors, and their employees, with 49 U.S.C. § 5331, and FTA regulations, “Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations,” 49 CFR Part 655.

XVI. TERMINATION FOR CONVENIENCE OF CITY *(required for all contracts in excess of \$10,000)*

See Agreement Terms and Conditions.

XVII. TERMINATION FOR DEFAULT *(required for all contracts in excess of \$10,000)*

See Agreement Terms and Conditions.

XVIII. BUY AMERICA

The Contractor agrees to comply with 49 U.S.C. 5323(j) and 49 CFR Part 661, which provide that Federal funds may not be obligated unless steel, iron, manufactured products, and construction materials (*excluding* cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives) used in FTA-funded projects are produced in the

United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. “Construction materials” include an article, material, or supply that is or consists primarily of:

- Non-ferrous metals;
- Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- Glass (including optic glass);
- Lumber; or
- Drywall.

General waivers are listed in 49 CFR 661.7, and include microcomputer equipment, software, and small purchases (\$150,000 or less) made with capital, operating, or planning funds. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 CFR 661.11. Rolling stock not subject to a general waiver must be manufactured in the United States and have a 60 percent domestic content.

XIX. PROHIBITION AGAINST USE OF CONTRACT FUNDS FOR COVERED TELECOMMUNICATIONS EQUIPMENT

Under 2 CFR Section 216, Contractors and Subcontractors are prohibited from using Contract funds to:

- A. Procure or obtain;**
- B. Extend or renew a contract to procure or obtain; or**
- C. Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Section 889 of Public Law 115- 232, covered telecommunications equipment is:**
 - 1. Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).**
 - 2. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).**
 - 3. Telecommunications or video surveillance services provided by such entities or using such equipment.**
 - 4. Telecommunications or video surveillance equipment or services produced**

or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

XX. CARGO PREFERENCE - USE OF UNITED STATES FLAG VESSELS

The Contractor agrees: (a) to use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying Agreement to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels; (b) to furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of leading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described above to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the Contractor in the case of a subcontractor's bill-of-lading.); and (c) to include these requirements in all subcontracts issued pursuant to this Agreement when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

XXI. RECYCLED PRODUCTS

The Contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including, but not limited to, the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

XXII. PRE-AWARD AND POST-DELIVERY AUDIT REQUIREMENTS *(applies to contracts for rolling stock)*

To the extent applicable, Contractor agrees to comply with the requirements of 49 U.S.C. § 5323(l) and FTA implementing regulations at 49 CFR Part 663, and to submit the following certifications:

- A. Buy America Requirements:** The Contractor shall complete and submit a declaration certifying either compliance or noncompliance with Buy America. If the Bidder/Offeror certifies compliance with Buy America, it shall submit documentation which lists (1) component and subcomponent parts of the rolling stock to be purchased identified by manufacturer of the parts, their country of origin and costs; and (2) the location of the final assembly point for the rolling stock, including a description of the activities that are planned to

take place and actually took place at the final assembly point and the cost of final assembly.

- B. Solicitation Specification Requirements:** The Contractor shall submit evidence that it will be capable of meeting the bid specifications and provide information and access to Recipient and its agents to enable them to conduct post-award and post- delivery audits.
- C. Federal Motor Vehicle Safety Standards (FMVSS):** The Contractor shall submit (1) manufacturer's FMVSS self-certification sticker information that the vehicle complies with relevant FMVSS or (2) manufacturer's certified statement that the contracted buses will not be subject to FMVSS regulations.

XXIII. FALSE OR FRAUDULENT STATEMENTS AND CLAIMS

- A.** The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §§ 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying Agreement, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA-assisted Project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.
- B.** The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a Project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.
- C.** The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

XXIV. FLY AMERICA

The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301- 10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property, to

the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

XXV. INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS

The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any (name of grantee) requests which would cause (name of grantee) to be in violation of the FTA terms and conditions.

XXVI. TRANSIT EMPLOYEE PROTECTIVE AGREEMENTS (*applicable to each contract for transit operations performed by employees of a Contractor recognized by FTA to be a transit operator*)

A. The Contractor agrees to the comply with applicable transit employee protective requirements as follows:

- 1. General Transit Employee Protective Requirements** – To the extent that FTA determines that transit operations are involved, the Contractor agrees to carry out the transit operations work on the underlying contract in compliance with terms and conditions determined by the U.S. Secretary of Labor to be fair and equitable to protect the interests of employees employed under this contract and to meet the employee protective requirements of 49 U.S.C. A 5333(b), and U.S. DOL guidelines at 29 C.F.R. Part 215, and any amendments thereto. These terms and conditions are identified in the letter of certification from the U.S. DOL to FTA applicable to the FTA Recipient's Project from which Federal assistance is provided to support work on the underlying contract. The Contractor agrees to carry out that work in compliance with the conditions stated in that U.S. DOL letter. The requirements of this subsection A, however, do not apply to any contract financed with Federal assistance provided by FTA either for projects for elderly individuals and individuals with disabilities authorized by 49 U.S.C. § 5310(a)(2), or for projects for nonurbanized areas authorized by 49

U.S.C. § 5311. Alternate provisions for those projects are set forth in subsections (2) and (3) of this clause.

2. **Transit Employee Protective Requirements for Projects Authorized by 49 U.S.C. § 5310(a)(2) for Elderly Individuals and Individuals with Disabilities** – If the contract involves transit operations financed in whole or in part with Federal assistance authorized by 49 U.S.C. § 5310(a)(2), and if the U.S. Secretary of Transportation has determined or determines in the future that the employee protective requirements of 49 U.S.C. § 5333(b) are necessary or appropriate for the state and the public body subrecipient for which work is performed on the underlying contract, the Contractor agrees to carry out the Project in compliance with the terms and conditions determined by the U.S. Secretary of Labor to meet the requirements of 49 U.S.C. § 5333(b), U.S. DOL guidelines at 29 C.F.R. Part 215, and any amendments thereto. These terms and conditions are identified in the U.S. DOL’s letter of certification to FTA, the date of which is set forth Grant Agreement or Cooperative Agreement with the state. The Contractor agrees to perform transit operations in connection with the underlying contract in compliance with the conditions stated in that U.S. DOL letter.
3. **Transit Employee Protective Requirements for Projects Authorized by 49 U.S.C. § 5311 in Nonurbanized Areas** – If the contract involves transit operations financed in whole or in part with Federal assistance authorized by 49 U.S.C. § 5311, the Contractor agrees to comply with the terms and conditions of the Special Warranty for the Nonurbanized Area Program agreed to by the U.S. Secretaries of Transportation and Labor, dated May 31, 1979, and the procedures implemented by U.S. DOL or any revision thereto.
 - B. The Contractor also agrees to include the any applicable requirements in each subcontract involving transit operations financed in whole or in part with Federal assistance provided by FTA.

XXVII. NATIONAL ITS ARCHITECTURE POLICY (*Applicable to contracts for ITS projects*)

If providing Intelligent Transportation Systems (ITS) property or services, Contactor shall comply with the National ITS Architecture and standards to the extent required by 23 U.S.C. § 512, FTA Notice, “FTA National ITS Architecture Policy on Transit Projects,” 66 FR 1455, et seq., January 8, 2001, and later published policies or implementing directives FTA may issue.

XXVIII. TEXTING WHILE DRIVING; DISTRACTED DRIVING

Consistent with Executive Order 13513 “Federal Leadership on Reducing Text Messaging While Driving”, Oct. 1, 2009 (available at <http://edocket.access.gpo.gov/2009/E9-24203.htm>) and DOT Order 3902.10 “Text Messaging While Driving”, Dec. 30, 2009, SFMTA encourages Contractor to

promote policies and initiatives for employees and other personnel that adopt and promote safety policies to decrease crashes by distracted drivers, including policies to ban text messaging while driving, and to include this provision in each third party subcontract involving the Project.

XXIX. SEAT BELT USE

In compliance with Executive Order 13043 “Increasing Seat Belt Use in the United States,” April 16, 1997, 23 U.S.C. Section 402 note, the SFMTA encourages Contractor to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company owned, rented, or personally operated vehicles, and to include this provision in each third party subcontract involving the Project.

XXX. LOBBYING (*To be submitted with each bid or offer exceeding \$100,000*)

Certification Regarding Lobbying required (See RFP Appendix E).

XXXI. PROMPT PAYMENT

- A.** In accordance with SFMTA’s SBE/DBE Program, no later than three days from the date of Contractor’s receipt of progress payments by SFMTA, the Contractor shall pay any subcontractors for work that has been satisfactorily performed by said subcontractors. Unless the prime Contractor notifies the CCO Director in writing within 10 working days prior to receiving payment from the City that there is a bona fide dispute between the prime Contractor and the subcontractor. Within five working days of such payment, Contractor shall provide City with a declaration under penalty of perjury that it has promptly paid such subcontractors for the work they have performed. Failure to provide such evidence shall be cause for City to suspend future progress payments to Contractors.
- B.** Contractor may withhold retention from subcontractors if City withholds retention from Contractor. Should retention be withheld from Contractor, within 30 days of City’s payment of retention to Contractor for satisfactory completion of all work required of a subcontractor, Contractor shall release any retention withheld to the subcontractor. Satisfactory completion shall mean when all the tasks called for in the subcontract with subcontractor have been accomplished and documented as required by City. If the Contractor does not pay its subcontractor as required under the above paragraph, it shall pay interest to the subcontractor at the legal rate set forth in subdivision (a) of Section 685.010 of the California Code of Civil Procedure.

XXXII. VETERANS EMPLOYMENT (*applicable to Capital Projects*)

As provided by 49 U.S.C. § 5325(k):

- A.** To the extent practicable, Contractor agrees that it:

- 1.** Will give a hiring preference to veterans (as defined in 5 U.S.C. § 2108), who have the skills and abilities required to perform construction

work required under a third party contract in connection with a capital Project supported with funds made available or appropriated for 49 U.S.C. chapter 53, and

2. Will not require an employer to give a preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or a former employee, and

B. Contractor also assures that its subcontractor will:

1. Will give a hiring preference to veterans (as defined in 5 U.S.C. § 2108), who have the skills and abilities required to perform construction work required under a third party contract in connection with a capital Project supported with funds made available or appropriated for 49 U.S.C. chapter 53, to the extent practicable, and
2. Will not require an employer to give a preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or a former employee.



SFMTA

Train Control Upgrade Project

San Francisco Board of Supervisors
Budget and Finance Committee
September 11, 2024



What we are asking the Budget and Finance Committee to recommend today:

As-needed consultant services contract for Train Control Upgrade Project:

- Five-year term
- Five options to extend term an additional year, for a total of ten years
- Not to exceed \$30,000,000

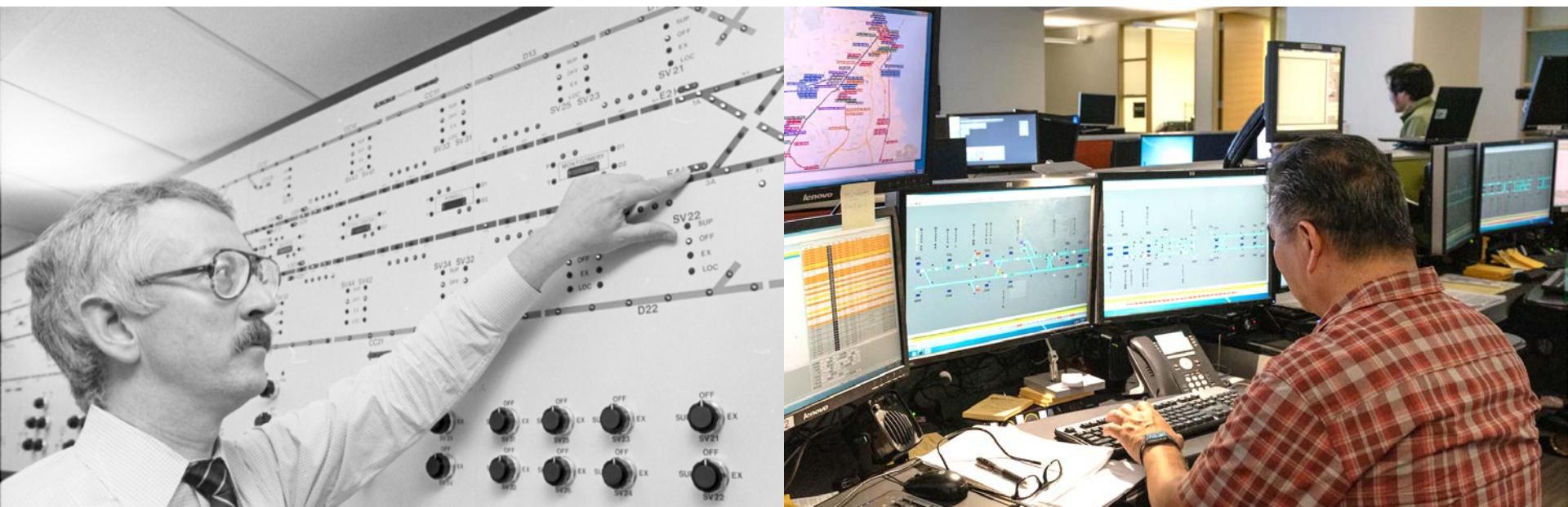
Train control technical experts will assist in the design and engineering of the new technology, quality assurance, construction management, and knowledge transfer.

Consultant will help SFMTA avoid preventable risks and add capacity and expertise to SFMTA's staff.

Why upgrade Muni Metro's train control?

Critical need: Replace the outdated Automatic Train Control System to prevent critical failure and keep Muni Metro running.

Unique opportunity: Modernize the technology that make Muni Metro work, improve service and enable future Metro growth. Centerpiece of subway renewal plan.





TCUP Benefits to Muni Metro Riders

Fewer delays

Customers no longer “stuck” due to subway congestion or slow-moving trains

Faster trips, less time waiting

Better traffic signal management for less waiting at red lights

More reliable service

More consistent frequencies and travel times making trip-planning more reliable

More efficient connections

Metro reliability will improve existing connections to crosstown routes and between neighborhoods

Better service management

More flexibility for train controllers to manage bunching and gaps

Consultant Contract

Consultants support project delivery, bring needed global expertise.

We need the consultant's knowledge to avoid preventable risks. It would be irresponsible not to add this critical resource to support our staff.



Help identify and reduce project risks



Support and transfer knowledge to SFMTA staff



Help hold supplier & installers accountable

WSP/PGH Wong Joint Venture

- Local ties and international experience
- Know the Bay Area contracting environment
- Experience with SFMTA peer agencies
- Strong relationships with all likely suppliers, installers and other vendors
- Small businesses and minority-owned businesses are key part of the team



Trusted to Deliver CBTC Projects Worldwide

Experience with all 9 SFMTA-Identified Peer Transit Agencies

U.S. Peers



Boston



Bay Area



New York

Canadian Peers



Edmonton



Toronto



Vancouver

International Peers



London



Frankfurt am Main



Amsterdam

ALSTOM

HITACHI
Inspire the Next

SIEMENS

TALES

Strong CBTC Vendor Relationships

Extensive experience with Alstom, Hitachi Rail, Siemens and Thales. Team members include past CBTC vendor employees.

Funds Authorization Amendment

SFMTA Board **reduced** the staff-recommended ~~not -to -exceed amount from \$36M to \$30M.~~

Gives the SFMTA Board and Board of Supervisors **additional contract oversight with a review at roughly the five -year mark.**

Staff will need to seek approval to use funds beyond \$30M, if necessary.

The amendment does not change the cost of the consultant.

Staff feel comfortable that \$30M will cover at least the first five years of the project.

The overall project funding plan budgets sufficient funds to prevent shortfalls.

Funding Approach

\$400M : Capital Improvement Plan (CIP) FY25-29 Funding Plan

\$700M : Full Funding Plan

Funding Highlights:

- Current project funding plan still relies heavily on infrastructure formula funds that are also needed for other deferred capital projects
- To date, TCUP has been **successful in competitive grants and discretionary funding** sources and will continue to pursue new grant opportunities.
- **10-year funding plan shows commitment to the project** necessary to execute supplier and consultant contracts and compete for new funding.
- Staff anticipate the strength of this project **will continue to attract competitive funding** sources and local opportunities.

Questions?





Allocated Funds To Date

Funding Source	Funds	
FY18 Operating Savings	\$2,095,000	Local
2021 Revenue Bond	\$18,137,549	Regional
Prop B (General Fund)	\$340,000	State
TSF Developer Fee	\$10,000	Federal
AB 664 (Bridge Tolls)	\$1,312,500	
Total	\$21,895,049	



Future Funding Sources

2021 Revenue Bond

Prop B (General Fund)

TSF Developer Fee

Prop L

GO Bond

Congested Corridors Grant

TIRCP Grant

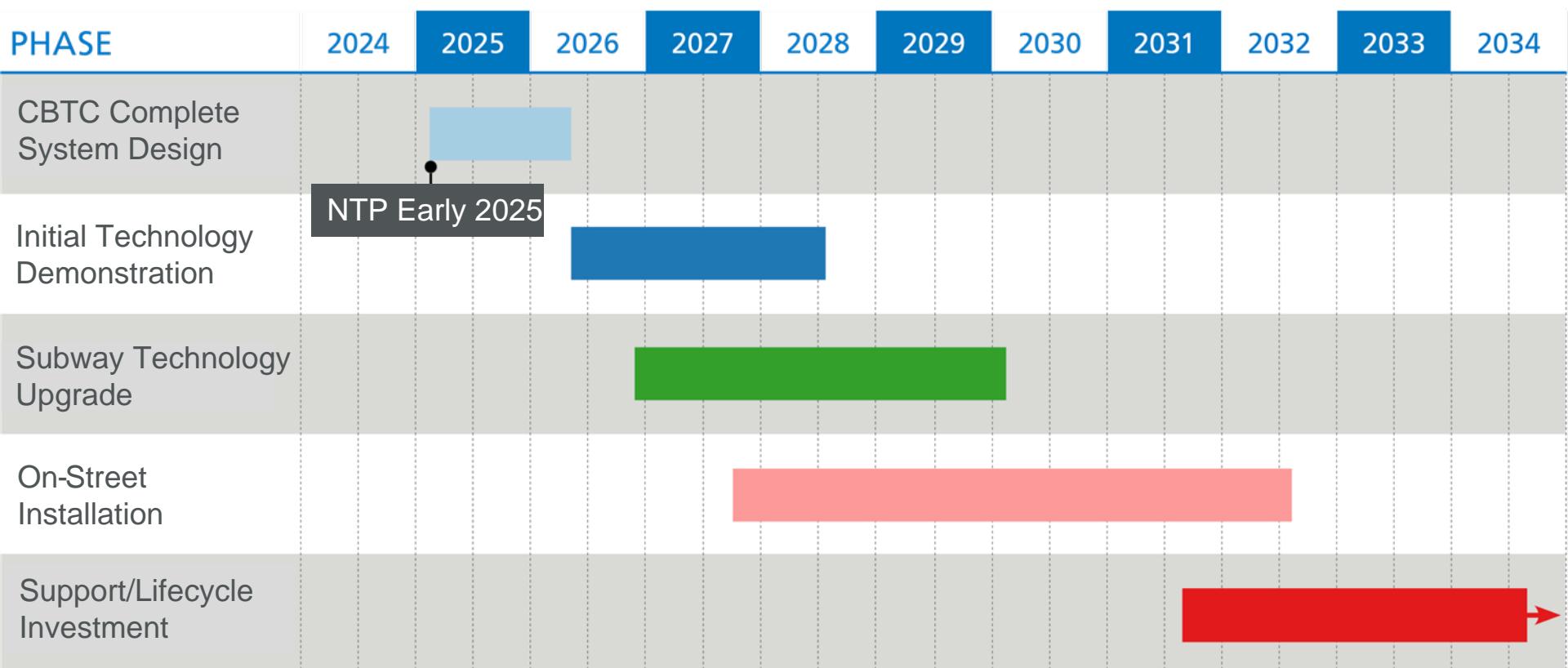
SB 1 (State of Good Repair)

FTA (Transit Capital Priorities)

- Local
- Regional
- State
- Federal

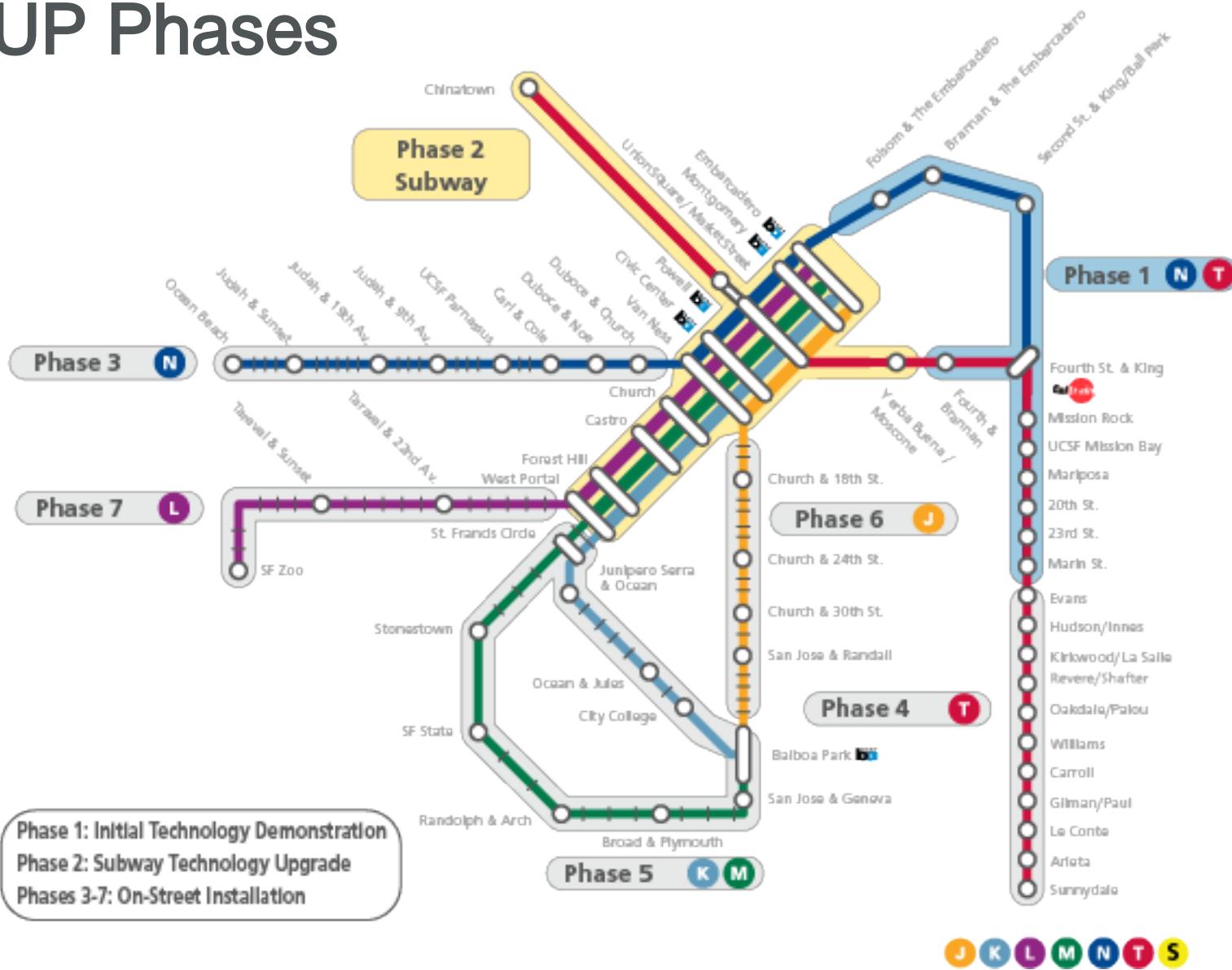


Train Control Upgrade Project Schedule





TCUP Phases





Learning from past project and improving contracts

Separate contracts

SUPPLIER

- Provides technology
- Helps design system
- Provides long-term maintenance support

INSTALLERS

- Multiple installers shorten construction timeline

CONSULTANT

- Support staff with project delivery

Key Features

Performance goals

Long -term needs

Staff training



Current system limitations

The Automatic Train Control System (ATCS) is almost 30 years old with 1980s technology and 1990s components.

2019 Muni Reliability Working Group recommended **replacing the ATCS as the top priority**.

Aging train control
infrastructure

+

Outdated train control
technology

Computer failures

Communication failures

Lack of parts and expertise

No on-street train control



Muni Metro structural design

5 lines operate mostly in 1 tunnel. A high performing system is required.

Muni Metro is the 3rd busiest light rail in the U.S. and the last to use only 1 main tunnel for majority of service.





Characteristics of a modern CBTC system

-  Tracks the locations of all trains at all times
-  Prevents collisions and enforces safe spacing between trains
-  Maintains consistent spacing between trains
-  Controls the trains' braking and acceleration
-  Sets the train's routing
-  Prevents delays due to train congestion, traffic signals, or junction delays
-  Ensures reliable train frequency and service
-  Allows greater flexibility of service plans and service during disruptions



Alignment with City Priorities

- **Economic recovery**  TCUP will make Muni Metro faster and more efficient for thousands of workers and shoppers along transit citywide. **Fast, frequent, efficient transit attracts investment and economic opportunities.**
- **Advancing equity**  TCUP will improve service and mobility between outer neighborhoods, education centers, citywide jobs and downtown. **Better, faster transit service benefits students, workers and low -income households.**
- **Increasing job access**  TCUP will **lower travel time** , providing more access to jobs especially for people who live farther away.
- **Climate goals**  TCUP will move more people reliably and sustainably, **reducing the need for greenhouse gas vehicles** as the population grows.

Workforce Outreach

SFMTA engaged existing train control engineering, operations and maintenance staff to help develop the scope of this contract.

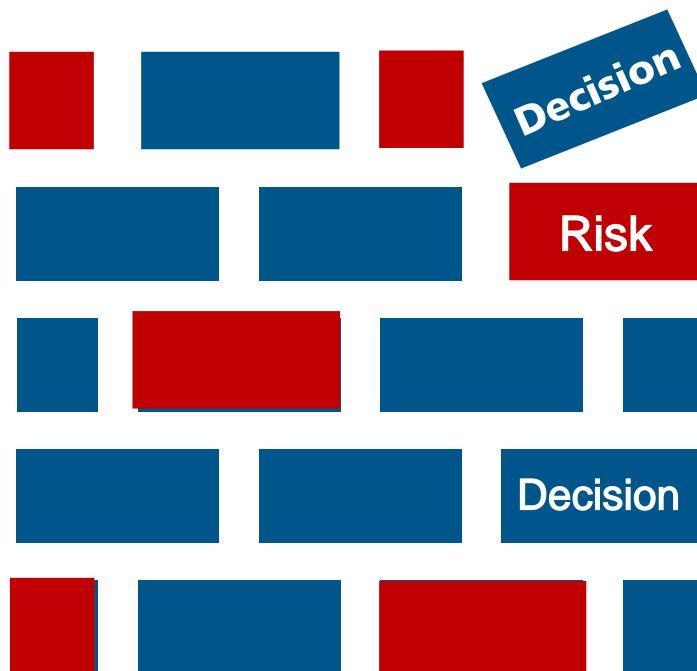
Key staff participated in developing contract requirements and selecting contractors:

- Transportation Management Center (TMC)
- Fleet Engineering
- Signal Maintenance
- Maintenance of Way Engineering
- Systems Engineering
- Transit Engineering/SFgo
- Transit Services
- Transit Program Delivery
- Transit Operations
- Technology Solutions and Integration

Risk Management in Contract Strategy

TCUP centers proactive risk management early and often to minimize challenges. Decision → Analysis → Risk → Analysis → Decision ...

Partnering with knowledgeable CBTC consultants is a vital part of the TCUP risk management strategy.



RISK	MANAGEMENT
System quality	One contract for procurement and support
Limited ability to select system/supplier	Separate contracts – supplier, installer
Supplier-installer conflicts	Consultant to hold contractors accountable and mediate disputes

Applying Lessons Learned: Performance Based Approach

Procurement

Separate contracts for supplier, installers provides more choice

Supplier Partnership and Performance Incentives

Long-term performance, support terms part of competitive bid process

Quality, Timely, Flexible, Construction Delivery

Pool of qualified installers offers greater flexibility during construction

Using Lessons Learned

Planning and project strategy based on train control experience and future needs

Proactive Risk Management

Continually anticipate and assess risk, build into decisions, manage proactively

Success Strategy: Lessons Learned

The SFMTA has drawn from multiple sources of lessons learned to set the Train Control Upgrade Project up for success.



Peer agencies in North America and Europe



Major SFMTA capital projects like Central Subway and Van Ness Bus Rapid Transit



Past SFMTA technology projects



Current Automatic Train Control System (ATCS)

Harnessing Peer Expertise

U.S.A

MBTA Green Line
BART
New York City Subway



CANADA

Vancouver SkyTrain
Edmonton
Toronto (Eglinton LRT)



EUROPE

London (LU and DLR)
Amsterdam
Frankfurt VGM





CEQA Exemption Determination

PROPERTY INFORMATION/PROJECT DESCRIPTION

Project Address		Block/Lot(s)
SFMTA Train Control Upgrade Project		
Case No.		Permit No.
2022-000870ENV		
<input checked="" type="checkbox"/> Addition/ Alteration	<input type="checkbox"/> Demolition (requires HRE for Category B Building)	<input type="checkbox"/> New Construction
Project description for Planning Department approval. <p>The San Francisco Municipal Transportation Agency (SFMTA) currently uses an automatic train control system (ATCS) to operate the Market Street Subway and Central Subway. The Train Control Upgrade Project (TCUP or "proposed project") would replace the existing Muni Metro automatic train control system (ATCS) in the Market Street and Central subways with a new Communications Based Train Control (CBTC) system and expand modern CBTC train control benefits to the surface light rail portions of the Muni Metro system. Under CBTC, the Muni Metro system would be managed centrally under a single, modernized system, and would support existing transit service and allow for the increase of passenger or commuter service on the Muni Metro system's rail lines. The CBTC technology uses WiFi or cellular connections to precisely track and continually communicate with every light rail train in service. The project would require installation of the following components: fiber optic cables in existing conduit alongside the existing trackway, small transponder tags between the tracks, CBTC radio and wireless access equipment (small boxes) in the subway and on City-owned light standards, as well as Overhead Contact System (OCS) poles, and CBTC equipment in cabinets along the surface routes and in existing City-owned equipment rooms in the subway. The</p> <p>FULL PROJECT DESCRIPTION ATTACHED</p>		

EXEMPTION TYPE

The project has been determined to be exempt under the California Environmental Quality Act (CEQA).	
<input type="checkbox"/>	Class 1 - Existing Facilities. (CEQA Guidelines section 15301) Interior and exterior alterations; additions under 10,000 sq. ft.
<input type="checkbox"/>	Class 3 - New Construction. (CEQA Guidelines section 15303) Up to three new single-family residences or six dwelling units in one building; commercial/office structures; utility extensions; change of use under 10,000 sq. ft. if principally permitted or with a CU.
<input type="checkbox"/>	Class 32 - In-Fill Development. (CEQA Guidelines section 15332) New Construction of seven or more units or additions greater than 10,000 sq. ft. and meets the conditions described below: (a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations. (b) The proposed development occurs within city limits on a project site of no more than 5 acres substantially surrounded by urban uses. (c) The project site has no value as habitat for endangered rare or threatened species. (d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality. (e) The site can be adequately served by all required utilities and public services.
<input checked="" type="checkbox"/>	Other _____ Statutory Exemption per Public Resources Code Sections 21080(b)(10) and 21080(b)(11) (Specified Mass Transit Projects), and CEQA Guidelines section 15275(a).
<input type="checkbox"/>	Common Sense Exemption (CEQA Guidelines section 15061(b)(3)). It can be seen with certainty that there is no possibility of a significant effect on the environment.

ENVIRONMENTAL SCREENING ASSESSMENT

Comments:

Per Public Resources Code sections 21080(b)(10) and 21080(b)(11) (Specified Mass Transit Projects) and CEQA Guidelines section 15275(a), CEQA does not apply to mass transit projects that institute or increase passenger or commuter service on rail lines already in use, including the modernization of existing stations.

This project is statutorily exempt, therefore none of the categorical exemption checkboxes in this exemption checklist apply.

Planner Signature: Jennifer M Barbour Mckellar

PROPERTY STATUS - HISTORIC RESOURCE

PROPERTY IS ONE OF THE FOLLOWING:

<input type="checkbox"/>	Category A: Known Historical Resource.
<input type="checkbox"/>	Category B: Potential Historical Resource (over 45 years of age).
<input checked="" type="checkbox"/>	Category C: Not a Historical Resource or Not Age Eligible (under 45 years of age).

PROPOSED WORK CHECKLIST

Check all that apply to the project.

<input type="checkbox"/>	Change of use and new construction. Tenant improvements not included.
<input type="checkbox"/>	Regular maintenance or repair to correct or repair deterioration, decay, or damage to building.
<input type="checkbox"/>	Window replacement that meets the Department's <i>Window Replacement Standards</i> .
<input type="checkbox"/>	Garage work. A new opening that meets the <i>Guidelines for Adding Garages and Curb Cuts</i> , or replacement of a garage door in an existing opening that meets the Residential Design Guidelines.
<input type="checkbox"/>	Deck, terrace construction, or fences not visible from any immediately adjacent public right-of-way.
<input type="checkbox"/>	Mechanical equipment installation that is not visible from any immediately adjacent public right-of-way.
<input type="checkbox"/>	Dormer installation that meets the requirements for exemption from public notification under <i>Zoning Administrator Bulletin No. 3: Dormer Windows</i> .
<input type="checkbox"/>	Addition(s) not visible from any immediately adjacent public right-of-way for 150 feet in each direction; or does not extend vertically beyond the floor level of the top story of the structure, or does not cause the removal of architectural significant roofing features.
<input type="checkbox"/>	Façade or storefront alterations that do not remove, alter, or obscure character -defining features.
<input type="checkbox"/>	Restoration based upon documented evidence of a building's historic condition , such as historic photographs, plans, physical evidence, or similar buildings.

Note: Project Planner must check box below before proceeding.

<input type="checkbox"/>	Project is not listed.
<input type="checkbox"/>	Project involves scope of work listed above.

ADVANCED HISTORICAL REVIEW

Check all that apply to the project.

<input type="checkbox"/>	Reclassification of property status. (Attach HRER Part I relevant analysis; requires Principal Preservation Planner approval) <input type="checkbox"/> Reclassify to Category A <input type="checkbox"/> Reclassify to Category C <input type="checkbox"/> Lacks Historic Integrity <input type="checkbox"/> Lacks Historic Significance
<input type="checkbox"/>	Project involves a known historical resource (CEQA Category A)
<input type="checkbox"/>	Project does not substantially impact character-defining features of a historic resource (see Comments)
<input type="checkbox"/>	Project is compatible, yet differentiated, with a historic resource.
<input type="checkbox"/>	Project consistent with the Secretary of the Interior Standards for the Treatment of Historic Properties
<p>Note: If ANY box above is checked, a Preservation Planner MUST sign below.</p>	
<input type="checkbox"/>	Project can proceed with EXEMPTION REVIEW. The project has been reviewed by the Preservation Planner and can proceed with exemption review.
Comments by Preservation Planner: 	
Preservation Planner Signature: 	

EXEMPTION DETERMINATION

<input checked="" type="checkbox"/>	No further environmental review is required. The project is exempt under CEQA.	
	Project Approval Action: SFMTA Board approval of a contract	Signature: Jennifer M Barbour Mckellar 01/22/2024
	Supporting documents are available for review on the San Francisco Property Information Map, which can be accessed at https://sfplanninggis.org/pim/ . Individual files can be viewed by clicking on the Planning Applications link, clicking the "More Details" link under the project's environmental record number (ENV) and then clicking on the "Related Documents" link.	
Once signed and dated, this document constitutes an exemption pursuant to CEQA Guidelines and Chapter 31 of the SF Admin Code. Per Chapter 31, an appeal of an exemption determination to the Board of Supervisors shall be filed within 30 days after the Approval Action occurs at a noticed public hearing, or within 30 days after posting on the Planning Department's website a written decision or written notice of the Approval Action, if the approval is not made at a noticed public hearing.		

Full Project Description

The San Francisco Municipal Transportation Agency (SFMTA) currently uses an automatic train control system (ATCS) to operate the Market Street Subway and Central Subway. The Train Control Upgrade Project (TCUP or "proposed project") would replace the existing Muni Metro automatic train control system (ATCS) in the Market Street and Central subways with a new Communications Based Train Control (CBTC) system and expand modern CBTC train control benefits to the surface light rail portions of the Muni Metro system. Under CBTC, the Muni Metro system would be managed centrally under a single, modernized system, and would support existing transit service and allow for the increase of passenger or commuter service on the Muni Metro system's rail lines .

The CBTC technology uses WiFi or cellular connections to precisely track and continually communicate with every light rail train in service. The project would require installation of the following components: fiber optic cables in existing conduit alongside the existing trackway, small transponder tags between the tracks, CBTC radio and wireless access equipment (small boxes) in the subway and on City-owned light standards, as well as Overhead Contact System (OCS) poles, and CBTC equipment in cabinets along the surface routes and in existing City-owned equipment rooms in the subway.

The geographic scope of the project is the entire Muni Metro trackway, both underground and along surface streets, except the F-line on the surface of Market Street and the F-line trackway north of the Ferry Portal are not included. Installation would be geographically phased with an overall construction duration of approximately 6 years. See Attachment A to the Project Description memorandum, both attached.



Date: January 22, 2024
To: Jennifer McKellar, San Francisco Planning Department
From: Mark Hansen, San Francisco Municipal Transportation Agency (SFMTA)
Through: Marcus Barrango, SFMTA
Re: **Train Control Upgrade Project**
Case Number: 2022-000870ENV

SUMMARY

The Train Control Upgrade Project (TCUP or “proposed project”) would replace the existing Muni Metro automatic train control system (ATCS) in the Market Street and Central subways with a new Communications Based Train Control (CBTC) system and expand modern CBTC train control benefits to the surface portions of the Muni Metro light rail system. Under CBTC, the Muni Metro system would be managed centrally under a single, modernized system. The proposed project would support existing Muni service and allow for the increase of passenger or commuter service on the Muni Metro system’s rail lines.

BACKGROUND

The SFMTA is responsible for the management of the Municipal Railway public transit system. It operates a network of bus routes, the Muni Metro light rail system, and several historic cable car and streetcar lines. The Muni Metro system consists of Light Rail Vehicles (LRV) running on fixed guideway surface railways and underground tunnels and provides public transit service within San Francisco. The SFMTA currently uses an ATCS that first went into service in 1998. ATCS is a type of train control technology that controls trains in the 7-mile Market Street Subway and in the 1.6-mile long Central Subway. The ATCS controls the automatic movement of LRVs with electronic loop cables that permit communication between the trains and signal infrastructure in the subway. The system enforces a minimum safety separation between trains based on safe braking distances from the last known position of preceding trains. ATCS also permits trains to move through the tunnel at a faster pace than allowable when vehicles are operated entirely under human control. Current Muni Metro transit service is not possible without this technology.

When first introduced in 1998, the ATCS increased the throughput of trains in the Market Street Subway compared to the previous fixed-block train control system and greatly

improved the efficiency of the Muni Metro network. This system is now reaching the end of its useful life and must be completely overhauled or replaced.

As the ATCS approaches its end-of-life, reliability of the system has worsened. Trips on Muni Metro have highly variable travel times, due in part to frequent delays in the subway caused by congestion and train control system shortcomings. Following the 2019 Muni Reliability Working Group's identification of train control as a significant factor impacting rail service, SFMTA has made replacement of the ATCS system a top priority.

PROPOSED PROJECT

The TCUP is an SFMTA priority capital project to replace the nearly 30-year-old ATCS in the subways with a new Communications Based Train Control System (CBTC). The project would also expand CBTC control outside of the subways to the surface portions of the Muni Metro light rail system, where signals and switches are currently operated independently of the ATCS in a first come, first serve configuration. Under CBTC, the Muni Metro system would be managed centrally under a single, modernized system.

Unlike the existing ATCS, this newer CBTC technology uses WiFi or cellular connections to precisely track and continually communicate with every LRV in service. The existing ATCS cannot be used outside the subway. With the new technology, CBTC can manage train movements throughout the entire double-tracked Metro network. In the subway, CBTC would work like the existing ATCS and use automatic headway management to adjust the speed and dwell time of trains. On the surface, the CBTC system would communicate adjustments to LRV operators who would remain in control of the train. While Global Positioning Systems (GPS) is currently used to track LRVs on the surface, CBTC's telecommunications technology is more accurate and more directly accessible to the control center staff. The greater visibility CBTC provides to the SFMTA control center and operators would result in more effective train management and better LRV service for the entire Muni Metro system.

The SFMTA expects TCUP to confer the following benefits:

- Increase the capacity of the Muni Metro system
- Maintain the high standards of safety currently provided by the ATCS in the subway and extend modern safety protections to surface operations
- Enable shorter, more consistent travel times and wait times
- Provide a reliable train control system that supports Muni Metro at all times
- Support configurable and flexible service changes and contingency operations

- Continually update the new system to include the latest service-proven components and software

The proposed project would support existing transit service and allow for the increase of passenger or commuter service on the Muni Metro system's rail lines.

Project Scope

The upgrade would be performed along the entire Muni Metro trackway, both underground and along surface streets. The geographic scope of this project would not include the F-line on the surface of Market Street or the trackway north of the Ferry Portal (a portal is the entryway where a rail line transitions between the surface and a tunnel or subway) previously used by the currently suspended E-line. (See Attachment A for project area/geographic scope of the project.)

The proposed project is currently in the project planning phase, and SFMTA will be selecting a train control supplier to provide detailed design, procurement, implementation, support, and related services for a CBTC system. The SFMTA will then contract separately with third-party installers to provide installation services for CBTC equipment. However, generally the project would require the following types of physical improvements alongside the Muni Metro trackway (it is not anticipated that the trackway itself would be moved/removed or replaced):

1. The installation of fiber optic cables in existing conduit alongside the Muni Metro trackway. The detailed design will identify specific areas along the surface running portion of Muni Metro tracks where new conduit may be necessary. Where new conduit may be needed, excavation typically may be up to 36 inches deep and 24 inches wide. The surface running portion of Muni Metro is approximately 25 miles, which includes revenue trackway and non-revenue trackway. Excavation will not be required in the light-rail yards.
2. The installation of small transponder tags between the tracks at predetermined intervals, with no need for excavation.
3. The installation of CBTC radio and wireless access equipment (small boxes) along the subway portions of the Muni Metro system, which are approximately 8.6-miles in length.
4. The installation of CBTC radio and wireless access equipment (small boxes) on City-owned light standards, as well as Overhead Contact System (OCS) poles which support the system of wires that supply power to LRVs. This CBTC radio and wireless access equipment enables communication between trains under CBTC

and the central system and would not be installed on portions of the Muni Metro system not receiving CBTC, including the F line on the surface of Market Street and the trackway north of the Ferry Portal. The primary purpose of fiber optic cabling along or adjacent to the trackway is to connect this wayside equipment to the central CBTC servers. Wayside equipment would need to be connected to this fiber optic cabling via top-off conduits, which would require trenching up to 36 inches deep and 24 inches wide from the Muni Metro trackway to City-owned light standards or OCS poles on the sidewalk. No equipment is proposed on poles that are historic (e.g., Path of Gold poles along Market Street).

5. The installation of CBTC server, radio, or signaling equipment in existing electronics equipment cabinets near Muni Metro interlocking locations and signalized intersections in the public right-of-way. Interlocking locations are track junctions or crossings where signals and track switches prevent conflicting train movements. If existing equipment cabinets are unavailable, the project would require the construction of new CBTC electronic equipment cabinets in the public right-of-way along the Muni Metro trackway. These cabinets are typically 48 inches high, 50 inches wide, and 26 inches deep. (See Figure 1 below for an example). Any new cabinets would need a fiber optic connection and would require excavation similar to the scenario described in item 4 above.
6. The installation of new CBTC equipment in existing City-owned equipment rooms in the Market Street Subway and Central Subway.



Figure 1. Example of Interlocking cabinet (left) at 4th & King streets.

Construction

Detailed design provided by the selected train control supplier will help determine the exact scope and phasing of construction activities. In general, construction activities would be necessary for the following types of work: the installation of fiber in existing conduits along the Muni Metro trackway, the installation of new conduit where needed, the installation of new CBTC wayside equipment, and connecting wayside equipment to conduit trunklines along the trackway.

Construction activities for the project are expected to be geographically phased. Phases may overlap, but the construction activities for each phase are only planned to occur on up to three city blocks at a time, to minimize impact to the public right-of-way. The longest individual phase is anticipated to be 24-28 months. The overall construction duration is anticipated to be approximately 6 years.

An initial “proving” or “pilot” phase would launch CBTC only on the surface trackway between the Ferry Portal (at Embarcadero & Folsom Street) and the Muni Metro East maintenance facility (at 25th Street and Illinois Street), as well as the surface trackway between the Central Subway Portal (at 4th and Bryant streets) and 4th and King streets. This phase also includes equipping the LRVs with CBTC equipment. This would allow for testing of the complete system and adjustments while minimizing delays and impacts to the system. The project would then move into the subways to replace the ATCS with the

new CBTC, which is the most challenging and technically complex part of the system. Finally, the project would expand to the remaining surface trackway on the rest of the system. Specific sub-phasing within the pilot, subway replacement, and surface expansion phases will be determined during detailed design.

Work under each phase may include storage tracks (short sections or pockets of track connected to the main trackway used to remove trains from service), wyes (sections of track used to turn around trains), terminal loops (the loop at the end of the trackway), and any other trackway where Muni Metro trains may travel while in service and that are controlled by the train control system.

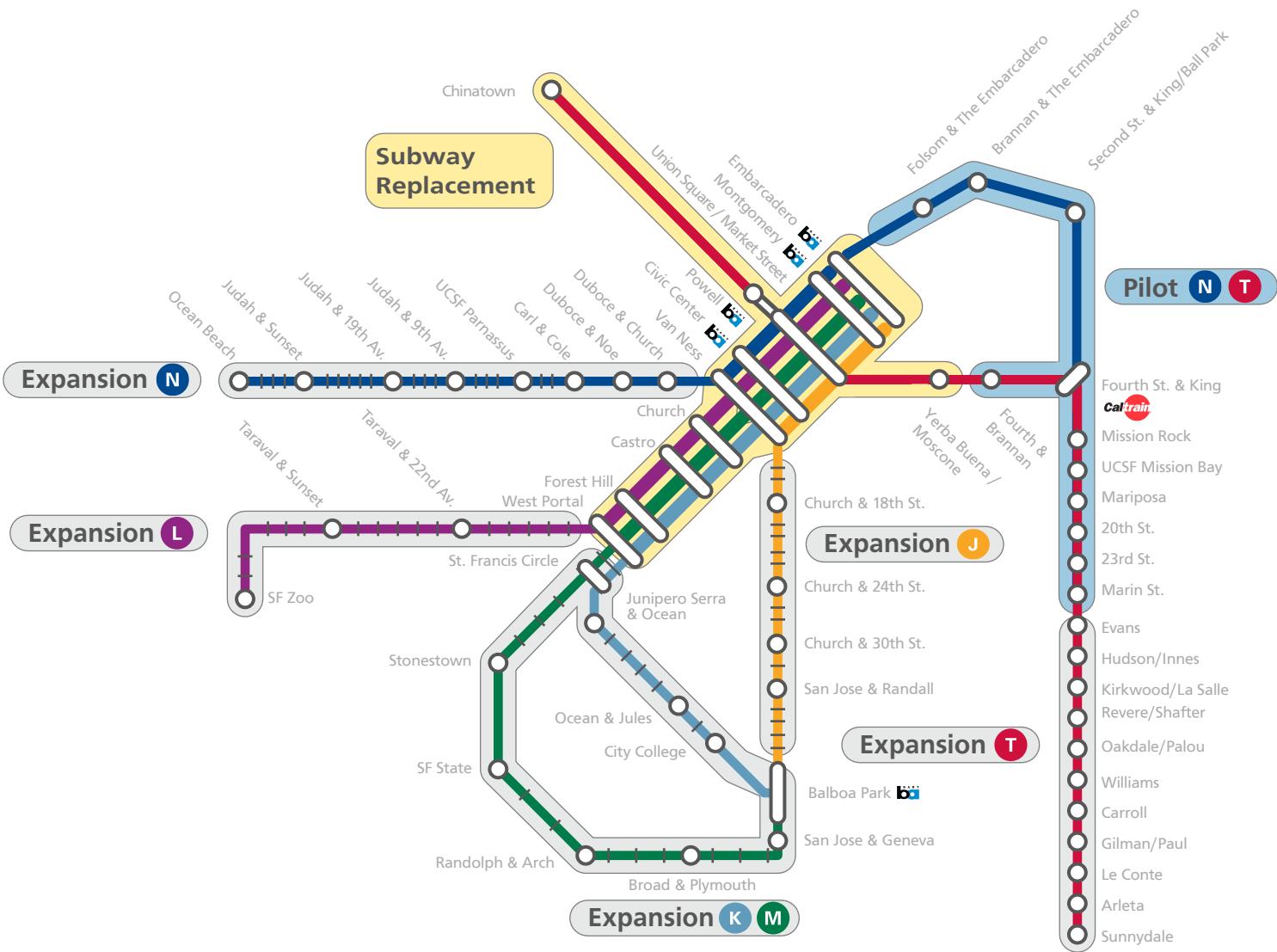
A phased approach would minimize the risks associated with replacing the existing train control system while the system is in service and ensure that operations staff can become comfortable with the system as each phase is completed. Each phase would feature detailed design and construction, allowing the design and construction of subsequent phases to overlap.

Approval Action

The Approval Action as defined by San Francisco Administrative Code Chapter 31, Section 31.04(h)(2) would be SFMTA Board approval of a contract with a train control system supplier to design and furnish a new CBTC system. The approval action starts the 30-day appeal period for the environmental review determination under Administrative Code Section 31.16.

ATTACHMENT A

Phase Map: Pilot, Subway Replacement, Surface Expansion



**SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
BOARD OF DIRECTORS**

RESOLUTION No. _____

WHEREAS, The SFMTA operates the Muni Metro light rail system, which includes both shared surface right of way and dedicated subways controlled by an outdated analog loop cable-based Automatic Train Control System (ATCS), which first went into service in 1998, and has reached the end of its useful life; and,

WHEREAS, In March 2023 the SFMTA issued a Request for Proposals for a supplier of a Communications-Based Train Control (CBTC) system to replace the ATCS and extend train control territory to surface portions of Muni's rail network, which will leverage significant technological advances in train control that will enable the SFMTA to operate its rail service with greater reliability, reduced delays, and increased passenger capacity; and,

WHEREAS, The SFMTA identified a need for consultant support to reduce project risks by supplementing in-house project delivery staff with international expertise in modern train control.

WHEREAS, In November 2023, the SFMTA issued a Request for Proposals for Consulting Services to support the SFMTA in the procurement, design, engineering, contract administration, integration, construction management, deployment, and acceptance of the new CBTC; and,

WHEREAS, The requested Consulting Services will provide the SFMTA with specialized CBTC knowledge and support, and assist the SFMTA with the timely delivery of the new CBTC; and,

WHEREAS, The SFMTA intends to award a single contract with an initial term of five years, with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$36,000,000 over the ten-year period; and,

WHEREAS, The Consulting Services contract will be implemented through a combination of annual and as-needed task orders, each approved by the Director of Transportation; and

WHEREAS, The Civil Service Commission approved Personnel Services Contract (PSC) request No. 44708 – 21/22 in connection with this contract on April 18, 2022; and,

WHEREAS, On January 22, 2024, the Planning Department, determined (Case Number 2022-000870ENV) that the Train Control Upgrade Project is statutorily exempt under the California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of Regulations Section 15275(a) and the California Public Resources Code Sections 21080(b)(10) and 21080(b)(11) (Specified Mass Transit Projects); and,

WHEREAS, The proposed action is the Approval Action as defined by the S.F. Administrative Code Chapter 31; and,

WHEREAS, A copy of the CEQA determination is on file with the Secretary to the SFMTA Board of Directors and is incorporated herein by reference; now, therefore, be it

RESOLVED, That the SFMTA Board of Directors authorizes the Director of Transportation to execute Contract No. SFMTA-2024-20-FTA for Consulting Services supporting the Communications-Based Train Control Upgrade Project with WSP/PGH Wong Joint Venture for an initial term of five years, with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$36,000,000 over then ten-year period; and be it further

RESOLVED, That the SFMTA Board of Directors authorizes the Director of Transportation to approve individual task orders issued under the Contract up to the aggregate total amount of \$36,000,000; and be it further

RESOLVED, That the SFMTA Board of Directors commends this matter to the Board of Supervisors for its approval of Contract No. SFMTA-2024-20-FTA.

I certify that the foregoing resolutions were adopted by the San Francisco Municipal Transportation Agency Board of Directors at its meeting of August 6th, 2024.

Secretary to the Board of Directors
San Francisco Municipal Transportation Agency



London Breed, Mayor

Amanda Eaken, Chair
Stephanie Cajina, Vice Chair
Steve Heminger, Director

Dominica Henderson, Director
Fiona Hinze, Director
Janet Tarlov, Director

Jeffrey Tumlin, Director of Transportation

July 23, 2024

The Honorable Members of the Board of Supervisors

City and County of San Francisco

1 Dr. Carlton Goodlett Place, Room 244

San Francisco, CA 94102

Subject: Request for Approval – Contract No. SFMTA-2024-20-FTA with WSP/PGH Wong Joint Venture for consulting services supporting the Train Control Upgrade Project for an initial five-year term, with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$36,000,000

Honorable Members of the Board of Supervisors:

On August 6, 2024, The San Francisco Municipal Transportation Agency (SFMTA) Board of Directors is scheduled to act on Contract No. SFMTA-2024-20-FTA, authorizing the Director of Transportation to exercise a contract with WSP/PGH Wong Joint Venture for consulting services supporting the Train Control Upgrade Project for an initial five-year term, with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$36,000,000; and further authorizing the Director of Transportation to approve individual task orders issued under the contract up to the aggregate total amount of \$36,000,000.

Additionally, the SFMTA respectfully requests that the San Francisco Board of Supervisors approve a resolution to authorize the Director of Transportation to execute Contract No. SFMTA-2024-20-FTA with WSP/PGH Wong Joint Venture for consulting services supporting the Train Control Upgrade Project for an initial five-year term, with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$36,000,000; and further requests that the San Francisco Board of Supervisors authorize the Director of Transportation to approve individual task orders issued under the contract up to the aggregate total amount of \$36,000,000.

BACKGROUND

CBTC Project Background

The SFMTA Muni Metro system currently relies on an Automatic Train Control System (ATCS) to operate trains automatically in the 5-mile Market Street Subway and the new 1.6-mile Central Subway. All but one of Muni's rail lines merge into the dual-track Market Street Subway, which



requires that trains move quickly through the tunnel to maintain vehicle flow and headways on the branch lines. While many other light rail systems in the United States still operate using older, fixed-block train control systems, Muni was an early adopter of sophisticated loop-cable based ATCS technology. In service since 1998, the ATCS enables safe, high-frequency service in the core of Muni's light rail network and is the backbone of rail service delivery. However, ATCS technology is now outdated, and the ATCS is at the end of its useful life. In its current condition, train control has caused an increasing number of delays to Muni's rail service due to daily communication failures, train timeouts and component failures. Upgrading the train control system is the investment in Muni infrastructure that will have the greatest benefit to rail service. The Train Control Upgrade Project (TCUP) is a capital project intended to deliver a modern Communications-Based Train Control (CBTC) system covering both the surface portions of the Muni Metro network and the subways. Replacing the ATCS with a state-of-the-art CBTC will maintain the excellent safety record of the current system, while also increasing the subway's efficiency and reliability. CBTC's technology boost will keep subway congestion to a minimum and reduce delays where trains become stuck between stations.

With this project, CBTC supervision will be expanded to street-level rail lines as well, bringing the entire Muni rail network under a single train control and supervision system. When the CBTC system is deployed on the surface, the train operator will continue to control the vehicle while supervised by the control center and the CBTC system. The CBTC system will coordinate with street traffic signals so that they synchronize with train movements, manage signaling of surface rail junctions, and provide driver assist functions which aid in maintaining vehicle speed and dwell times to keep trains evenly spaced. This will provide the SFMTA Transit Management Center with the tools necessary to manage the entire Muni Metro system and smooth out service, preventing conflicts at junctions and delays at tunnel portals.

During its first phase, the project will introduce the new CBTC on the street-level Embarcadero and Third Street rail corridors north of the Muni Metro East facility, which serve major civic destinations such as Oracle Park, Chase Center, and UCSF Mission Bay, as a technology demonstration phase. In the second phase, the project will replace the existing ATCS in the Market Street Subway and Central Subway so that Muni Metro train control is provided by a single CBTC system. Over the full eight-year span of the project, CBTC will be extended to the surface branches of the J, K, L, M, N and southern portion of the T line.

The SFMTA has issued a separate RFP to select a CBTC Supplier (SFMTA-2022-40-FTA) (Supplier RFP) and has received responsive proposals. Later this year, the SFMTA intends to award the contract for design, procurement and support of the CBTC system following successful negotiations. After Notice to Proceed is given for the Supplier contract, the project design phase will begin. The Supplier will perform design work customizing its baseline CBTC product to meet SFMTA's requirements, and provide the fully designed CBTC System components, kits and installation instructions to SFMTA for installation. The SFMTA will contract separately with local contractors (Installers) for the infrastructure construction, vehicle onboard equipment installation, and wayside equipment installation. The Installers procurement will be set aside for small and disadvantaged business enterprises. The Supplier will not perform any installation

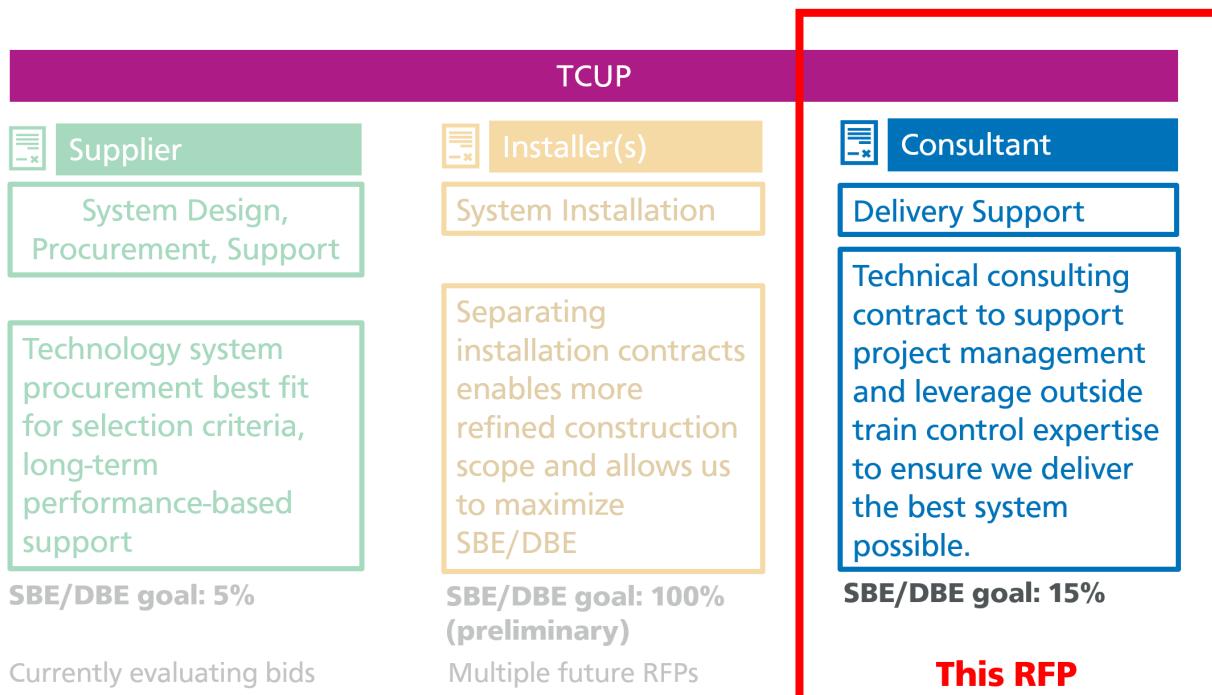


work, but the Supplier will oversee, inspect, and test and commission the installed CBTC System to ensure the installed works conforms to its product specifications and design.

CBTC Consultant Services and Scope of Work

To complement the Supplier and Installer contracts, the SFMTA is now procuring a contract with a Consultant to support the project. The Consultant will provide international expertise in train control implementation, reducing project risk by anticipating and solving for challenges experienced in other systems. Collectively, the Consultant has decades of experience with modern train control and will assure Supplier accountability, provide in-house staff training, and will lead challenging project tasks such as construction management. The SFMTA intends to award the Consultant contract before the Supplier contract so that the Consultant is fully integrated into the SFMTA project team before the Supplier begins their work. The Consultant will hold the Supplier and Installers accountable for their performance as prescribed in their respective contracts and will provide guidance based on international best practices and experience with other CBTC procurement projects. Hiring a qualified technical consultant to mitigate the risk of disputes with the Supplier and/or Installers was among the recommendations in the Train Control Upgrade Project risk assessment issued in November 2022.

The structure of the separate Supplier, Installer(s), and Consultant contracts is in the image below:



Contract No. SFMTA-2024-20-FTA is for professional consulting services to support the SFMTA in the procurement, design, engineering, contract administration, integration, construction management, deployment, and acceptance of the new CBTC. The Consultant will provide



technical train control expertise to the SFMTA during the project. The SFMTA will order services generally described in the awarded contract through the issuance of individual Task Orders which would be released pursuant to the awarded contract during the contract term.

The SFMTA will use an integrated project team approach, which includes dedicated SFMTA management and design staff supported by SFMTA transit operations and maintenance staff working with the CBTC Supplier and Consultant, along with one or more separately contracted Installers to design and deliver the CBTC system. Train control system design and engineering is a one-time need, and once the train control system is deployed there is a minimal ongoing need for train control engineering services. Therefore, SFMTA does not have a roster of in-house engineering staff with train control experience to draw on for this project. SFMTA staff have extensive experience maintaining and operating the existing ATCS system; however, the ATCS technology is nearly 30 years old and the design, procurement, and installation of the new CBTC will require specialized knowledge of CBTC systems that the agency does not possess and cannot easily hire to obtain. It would not be cost effective to hire in-house staff to perform the consultant role, as the needed expertise will change throughout the course of the project and the workflow will ebb and flow in a way that would make it inefficient to staff internally. The consultants will provide valuable training for the SFMTA team that will lead the project delivery work and enable us to continue to operate and maintain this investment in-house.

Using the Consultant to meet these needs is cost effective because it enables the SFMTA to invest in developing staff's train control knowledge and capabilities while allowing the SFMTA flexibility to adjust the size of the project workforce as the project goes through periods where the SFMTA's share of the workload ebbs and flows. The ability to flex workforce avoids the SFMTA becoming the bottleneck when the SFMTA must review a large number of designs and documents, and also allows the SFMTA to not carry idling workers during periods where most of the project work is shifted to the system Supplier or Installers. Towards the end of the project, the project team expects to use less of the Consultant services as the SFMTA becomes better able to self-support its train control system with the knowledge and expertise it has built up over the course of the project. The last five years are structured as five one-year options to give the SFMTA the ability to terminate the contract if it finds no longer needs the Consultant's services.

The SFMTA will require continuous support from the Consultant from the beginning of design through final acceptance of the CBTC and during the initial years of support services to help address any lingering issues following full implementation. The types of skills and the level of consultant support needed will change as the project progresses through its different stages. For example, when the project is in the design phase at the beginning of the proposed contract, the SFMTA will need engineers and technical experts to support the CBTC design process and to assist the SFMTA with reviewing design submittals; about two years into the proposed contract as the project enters construction and procurement phases, the SFMTA's need for Consultant services will change to construction management, quality assurance, safety certification and testing.

CBTC Contract Structure



Contract No. SFMTA-2024-20-FTA will have a base term of five years and five options to extend the term for an additional year, for a maximum duration of ten years. The Contract outlines a general scope of services described in the previous section. The detailed scope of work will be determined by Task Orders issued as needed, but at least once per year. The price for each Task Order will be determined by level of effort, applying pre-negotiated labor rates (inclusive of all costs such as overhead) to the estimated hours, multiplied by the agreed-upon profit. Profit will be negotiated at each Task Order up to a maximum of 7 percent, based on the complexity of the scope envisioned in the Task Order. Each Task Order will be approved by the Director of Transportation before it goes into effect.

The pre-negotiated labor rates will increase automatically at an annual increase of 4.5 percent starting on the first anniversary of the effective date of the Agreement. To reduce the administrative burden on both staff and the contractor, to minimize disruptions to the project work and to fix project costs, the SFMTA has negotiated this annual fixed rate increase for the first five years. The 4.5 percent rate increase will be revisited when exercising each option, so SFMTA will have the opportunity to adjust it after the first five-year term if necessary, based on new economic projections or other circumstances.

Consultant Services Contract Procurement

The SFMTA issued an RFP in November 2023 for consulting services to support the SFMTA's work on the TCUP. In December 2024, staff hosted a pre-proposal conference with approximately 15 attendees from representatives from interested consulting/sub-consulting companies. In March 2024, SFMTA received three proposals in response to this RFP and undertook a rigorous evaluation process to determine the highest-ranked proposer. Following this evaluation, SFMTA staff negotiated an agreement with WSP/PGH Wong Joint Venture for a not-to-exceed amount of \$36,000,000 over ten years.

WSP/PGH Wong Joint Venture was ranked the highest in the evaluation due to their excellent qualifications. WSP/PGH Wong Joint Venture has a deep bench of CBTC professionals to draw from, having delivered more than 60 CBTC installations in the past two decades across almost every continent. The Joint Venture combines the strengths of two established firms bringing together WSP's global train control experience with PGH Wong's extensive local construction management and engineering experience. The SFMTA expects to draw on these strengths to gather lessons learned from international CBTC projects and for support managing local installation contractors.

From the strength of the personnel identified in their proposal, it is clear that WSP/PGH Wong Joint Venture will be able to support SFMTA in reviewing the Supplier's design and monitoring the delivery and installation of the new CBTC. WSP/PGH Wong Joint Venture includes eight SBE/DBE firms and has committed to a 16 percent SBE/DBE participation goal. SBE employees have critical roles such as the Lead Vehicle Engineer, and the SBE firms will contribute strongly to project outcomes. Much of the project team is locally based in San Francisco and are familiar with the Muni rail system. It was evident from the oral interviews conducted during the selection process that many of the Consultant staff have an affinity for Muni and are enthusiastic about



supporting such a transformative project. For these reasons, the qualifications of the key personnel identified in the proposal aligned with the SFMTA's expectations for the Consultant role.

Additionally, it was evident that WSP/PGH Wong Joint Venture recognized that effective risk management is a key part of the TCUP strategy. Their approach provides visibility to different levels of risk management, resulting in proactive solutions and risk sharing – mitigating risk before implementation begins. The Consultant will also collect and assess value engineering opportunities and proposed innovations, putting them through the same risk management process as the design requirements. WSP/PGH Wong Joint Venture will provide design recommendations to the SFMTA based on its experiences and will facilitate knowledge transfers with peer agencies.

The SFMTA also will leverage the Consultant's CBTC knowledge as the SFMTA builds our internal project delivery team. WSP/PGH Wong Joint Venture has committed to partnering with the SFMTA project team to build the staff, processes, tools and experience to sustain the new CBTC infrastructure over the long term, as well as to help the SFMTA grow its internal staff capability to support future upgrades and expansions. Towards the end of the project, the SFMTA will be transitioning many of its project staff to permanent positions overseeing the operations, maintenance and engineering of the train control system. WSP/PGH Wong Joint Venture will work with SFMTA to ensure those staff are ready to take over when the project ends.

ALTERNATIVES CONSIDERED

No contract. Under this alternative, the SFMTA would manage the Train Control Upgrade Project without consultant support. This approach would likely result in avoidable problems, poor performance, increased costs and delay to the project due to the lack of specialized train control project delivery expertise among existing SFMTA staff and the lack of staff resources during project delivery.

The SFMTA is having trouble hiring train control engineers in part because the pool of qualified applicants is so small in the United States, and international applicants have difficulty meeting the minimum requirements for San Francisco engineer classifications, specifically the requirement to have a California registration as a professional engineer.

WSP/PGH Wong Joint Venture has worked with a variety of similarly sized transit agencies on domestic and international projects to procure new train control systems and support the design and delivery of CBTC technology. Without this support, the SFMTA would not benefit from this expertise which would lead to a lower quality design and implementation. Similarly, without consultant construction management and test witnessing support, the SFMTA would have a higher likelihood of encountering work-stopping issues during construction and testing, leading to project implementation delays and cost overruns.

STAKEHOLDER ENGAGEMENT



A Muni Reliability Working Group (MRWG) sponsored by the Mayor, the SFMTA Board, and members of the Board of Supervisors, comprised of transportation policy experts, labor union representatives, and outside transit agency executives was convened in 2019. The MRWG reviewed SFMTA's transit operations and the Agency's improvement efforts to reach a shared understanding of where Muni needs support, and recommended priority actions for policymakers. One of the topics considered by the MRWG was improving subway performance, and a key recommendation of the MRWG was to replace the existing train control system with a new CBTC system.

Since the procurement of this system will affect the day-to-day work of SFMTA rail operations and maintenance staff, internal SFMTA staff are the key stakeholders for this project. The project team has engaged with all SFMTA business units and maintenance shops who currently interact with the existing train control system in the subway and the surface signaling equipment, starting with the earliest planning activities for this project. Representatives of these units, specifically the Transportation Management Center (TMC), Fleet Engineering, Signal Maintenance, Maintenance of Way Engineering, Transit Engineering/SFgo, Transit Services, Transit Program Delivery, Transit Operations, and Technology Solutions and Integration have been identified as Subject Matter Experts (SMEs) for the project. These SMEs have participated in the development of the contract requirements for the Train Control Supplier and in the scoping of work for this Consultant contract. Several of these SMEs served on the selection panel for this contract alongside a senior member of the San Francisco County Transportation Authority staff member who served as an external panelist.

Muni Metro riders are the other primary stakeholders in this project as they will enjoy the benefits in transit service that a modern CBTC system provides. The SFMTA has conducted briefings with transit advocacy groups and elected officials informing them of this project and keeping them up to date with project developments. The SFMTA Board has also established a TCUP Committee to oversee and advise this project. The TCUP Committee has been consulted on the SFMTA's approach to risk management and SFMTA's plan to use consultants to help manage project risks prior to the issuance of the RFP. Members of the TCUP Committee were also briefed on the specifics of this contract following the successful negotiations.

Neighborhood and merchant groups along the Muni Metro rail corridors are also stakeholders because they will benefit from improved rail service to their neighborhoods and businesses, and because they may be impacted by TCUP construction activities. Since the design phase has not begun, the exact construction methodologies and impacts have not been determined. The SFMTA plans to outreach to those groups in parallel with outreach to District Supervisors once the construction impacts are better known, but well in advance of any construction activities. This stakeholder engagement will be reported to the SFMTA Board when the installation contracts are presented to the Board for approval.



FUNDING IMPACT

Work under the initial five-year term of the consultant services contract planned for completion during the current Capital Improvement Program (CIP) cycle (FY25-29) is \$25,000,000 and is fully funded by FTA 5337 State of Good Repair funds.

If the additional five one-year options were to be exercised, this work would be funded and completed in future CIP cycles. The total value of these options would be up to \$9,000,000 and would bring the contract value to the not-to-exceed limit of \$36,000,000.

REQUEST FOR APPROVAL

The SFMTA respectfully requests that the Board of Supervisors approve a resolution to authorize the Director of Transportation to execute Contract No. SFMTA-2024-20-FTA with WSP/PGH Wong Joint Venture, and further requests that the San Francisco Board of Supervisors authorize the Director of Transportation to approve individual task orders issued under the contract up to the aggregate total amount of \$36,000,000.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jeffrey P. Tumlin'.

Jeffrey P. Tumlin
Director of Transportation



San Francisco Ethics Commission

25 Van Ness Avenue, Suite 220, San Francisco, CA 94102
 Phone: 415.252.3100 . Fax: 415.252.3112
ethics.commission@sfgov.org . www.sfethics.org

Received On:

240814

File #:

Bid/RFP #:

Notification of Contract Approval

SFEC Form 126(f)4

(S.F. Campaign and Governmental Conduct Code § 1.126(f)4)
 A Public Document

Each City elective officer who approves a contract that has a total anticipated or actual value of \$100,000 or more must file this form with the Ethics Commission within five business days of approval by: (a) the City elective officer, (b) any board on which the City elective officer serves, or (c) the board of any state agency on which an appointee of the City elective officer serves. For more information, see: <https://sfethics.org/compliance/city-officers/contract-approval-city-officers>

1. FILING INFORMATION

TYPE OF FILING	DATE OF ORIGINAL FILING <i>(for amendment only)</i>
Original	
AMENDMENT DESCRIPTION – Explain reason for amendment	

2. CITY ELECTIVE OFFICE OR BOARD

OFFICE OR BOARD	NAME OF CITY ELECTIVE OFFICER
Board of Supervisors	Members

3. FILER'S CONTACT

NAME OF FILER'S CONTACT	TELEPHONE NUMBER
Angela Calvillo	415-554-5184
FULL DEPARTMENT NAME	EMAIL
Office of the Clerk of the Board	Board.of.Supervisors@sfgov.org

4. CONTRACTING DEPARTMENT CONTACT

NAME OF DEPARTMENTAL CONTACT	DEPARTMENT CONTACT TELEPHONE NUMBER
Felipe Robles	415-646-2397
FULL DEPARTMENT NAME	DEPARTMENT CONTACT EMAIL
MTA	felipe.robles@sfmta.com

5. CONTRACTOR		
NAME OF CONTRACTOR	TELEPHONE NUMBER	
WSP/PGH Wong Joint Venture	405-402-2229	
STREET ADDRESS (including City, State and Zip Code)	EMAIL	
425 Market St. San Francisco, CA 94105	siv.bhamra@wsp.com	

6. CONTRACT		
DATE CONTRACT WAS APPROVED BY THE CITY ELECTIVE OFFICER(S)	ORIGINAL BID/RFP NUMBER	FILE NUMBER (If applicable)
		240814
DESCRIPTION OF AMOUNT OF CONTRACT		
\$36,000,000		
NATURE OF THE CONTRACT (Please describe)		
<p>This contract with WSP/PGH Wong Joint Venture would be for consulting services supporting the Train Control Upgrade Project for an initial five-year term, with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$36,000,000 over the ten-year period.</p>		

7. COMMENTS	

8. CONTRACT APPROVAL	
This contract was approved by:	
<input type="checkbox"/>	THE CITY ELECTIVE OFFICER(S) IDENTIFIED ON THIS FORM
<input checked="" type="checkbox"/>	A BOARD ON WHICH THE CITY ELECTIVE OFFICER(S) SERVES Board of Supervisors
<input type="checkbox"/>	THE BOARD OF A STATE AGENCY ON WHICH AN APPOINTEE OF THE CITY ELECTIVE OFFICER(S) IDENTIFIED ON THIS FORM SITS

9. AFFILIATES AND SUBCONTRACTORS

List the names of (A) members of the contractor's board of directors; (B) the contractor's principal officers, including chief executive officer, chief financial officer, chief operating officer, or other persons with similar titles; (C) any individual or entity who has an ownership interest of 10 percent or more in the contractor; and (D) any subcontractor listed in the bid or contract.

#	LAST NAME/ENTITY/SUBCONTRACTOR	FIRST NAME	TYPE
1	AECOM Tech. Services		Subcontractor
2	CHS Consulting Group		Subcontractor
3	Civic Edge Consulting		Subcontractor
4	Cornerstone Transp. Consul		Subcontractor
5	Hatch		Subcontractor
6	Legacy Rail Operations LLC		Subcontractor
7	Luster National Inc.		Subcontractor
8	Raul Bravo + ASSOC. Inc.		Subcontractor
9	TUV Rheinland of N. Amer.		Subcontractor
10	UNICO Engineering Inc.		Subcontractor
11	Virginkar & Assoc. Inc.		Subcontractor
12	Odeh	David	Board of Directors
13	Sczurko	Joseph	Other Principal Officer
14	Esposito	Andrew	Other Principal Officer
15	Berger	Sofia	Other Principal Officer
16	Case	Michael	Other Principal Officer
17	Jannetti	Gerald	Other Principal Officer
18	Nunes	Garry	Other Principal Officer
19	Peters	Christopher	Other Principal Officer

9. AFFILIATES AND SUBCONTRACTORS

List the names of (A) members of the contractor's board of directors; (B) the contractor's principal officers, including chief executive officer, chief financial officer, chief operating officer, or other persons with similar titles; (C) any individual or entity who has an ownership interest of 10 percent or more in the contractor; and (D) any subcontractor listed in the bid or contract.

#	LAST NAME/ENTITY/SUBCONTRACTOR	FIRST NAME	TYPE
20	Semonite	Todd	Other Principal Officer
21	Sunshine	Stuart	Other Principal Officer
22	Terry	David	Other Principal Officer
23	Trotta	John	Other Principal Officer
24	Albers	David	Other Principal Officer
25	Lynn	Andrew	Other Principal Officer
26	Reed	Kevin	Other Principal Officer
27	Bishay	Sandy	Other Principal Officer
28	Borchers	Jacob	Other Principal Officer
29	Church	David	Other Principal Officer
30	Cogan	Scott	Other Principal Officer
31	Degany	Amir	Other Principal Officer
32	Gage	Stephen	Other Principal Officer
33	Gartner	Leslie	Other Principal Officer
34	Gayle	Rory	Other Principal Officer
35	Machala	Jared	Other Principal Officer
36	Patterson	David	Other Principal Officer
37	Rieger	Glen	Other Principal Officer
38	Troutt	Lytle	Other Principal Officer

9. AFFILIATES AND SUBCONTRACTORS

List the names of (A) members of the contractor's board of directors; (B) the contractor's principal officers, including chief executive officer, chief financial officer, chief operating officer, or other persons with similar titles; (C) any individual or entity who has an ownership interest of 10 percent or more in the contractor; and (D) any subcontractor listed in the bid or contract.

#	LAST NAME/ENTITY/SUBCONTRACTOR	FIRST NAME	TYPE
39	Rohlf	Robert	Other Principal Officer
40	Volpe	Mary	Other Principal Officer
41	Walieddine	Fadi	Other Principal Officer
42	Jassey	Hilary	Other Principal Officer
43	Dale	Stephen	Other Principal Officer
44	Unger	Laura	Other Principal Officer
45	Mitrakis	Nicholas	Other Principal Officer
46	D'Aquino	Christopher	Other Principal Officer
47	Baker	Dennis	Other Principal Officer
48	Benz	Gregory	Other Principal Officer
49	Wong	Peter	CEO
50	Wong	Clifford	Other Principal Officer
<input checked="" type="checkbox"/>	Check this box if you need to include additional names. Please submit a separate form with complete information. Select "Supplemental" for filing type.		

10. VERIFICATION

I have used all reasonable diligence in preparing this statement. I have reviewed this statement and to the best of my knowledge the information I have provided here is true and complete.

I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

SIGNATURE OF CITY ELECTIVE OFFICER OR BOARD SECRETARY OR CLERK	DATE SIGNED
BOS Clerk of the Board	



San Francisco Ethics Commission

25 Van Ness Avenue, Suite 220, San Francisco, CA 94102
 Phone: 415.252.3100 . Fax: 415.252.3112
ethics.commission@sfgov.org . www.sfethics.org

Received On:

240814

File #:

Bid/RFP #:

Notification of Contract Approval

SFEC Form 126(f)4

(S.F. Campaign and Governmental Conduct Code § 1.126(f)4)
 A Public Document

Each City elective officer who approves a contract that has a total anticipated or actual value of \$100,000 or more must file this form with the Ethics Commission within five business days of approval by: (a) the City elective officer, (b) any board on which the City elective officer serves, or (c) the board of any state agency on which an appointee of the City elective officer serves. For more information, see: <https://sfethics.org/compliance/city-officers/contract-approval-city-officers>

1. FILING INFORMATION

TYPE OF FILING	DATE OF ORIGINAL FILING <i>(for amendment only)</i>
Supplemental	
AMENDMENT DESCRIPTION – Explain reason for amendment	

2. CITY ELECTIVE OFFICE OR BOARD

OFFICE OR BOARD	NAME OF CITY ELECTIVE OFFICER
Board of Supervisors	Members

3. FILER'S CONTACT

NAME OF FILER'S CONTACT	TELEPHONE NUMBER
Angela Calvillo	415-554-5184
FULL DEPARTMENT NAME	EMAIL
Office of the Clerk of the Board	Board.of.Supervisors@sfgov.org

4. CONTRACTING DEPARTMENT CONTACT

NAME OF DEPARTMENTAL CONTACT	DEPARTMENT CONTACT TELEPHONE NUMBER
Felipe Robles	415-646-2397
FULL DEPARTMENT NAME	DEPARTMENT CONTACT EMAIL
MTA	felipe.robles@sfmta.com

5. CONTRACTOR	
NAME OF CONTRACTOR WSP/PGH Wong Joint Venture	TELEPHONE NUMBER 415-402-2229
STREET ADDRESS (including City, State and Zip Code) 425 Market St. San Francisco, CA 94105	EMAIL siv.bhamra@wsp.com

6. CONTRACT		
DATE CONTRACT WAS APPROVED BY THE CITY ELECTIVE OFFICER(S)	ORIGINAL BID/RFP NUMBER	FILE NUMBER (If applicable) 240814
DESCRIPTION OF AMOUNT OF CONTRACT \$36,000,000		
NATURE OF THE CONTRACT (Please describe) This contract with WSP/PGH Wong Joint Venture would be for consulting services supporting the Train Control Upgrade Project for an initial five-year term, with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$36,000,000 over the ten-year period.		

7. COMMENTS	
This supplemental document includes the remaining names of principal officers and a shareholder for the contractor.	

8. CONTRACT APPROVAL	
This contract was approved by:	
<input type="checkbox"/>	THE CITY ELECTIVE OFFICER(S) IDENTIFIED ON THIS FORM
<input checked="" type="checkbox"/>	A BOARD ON WHICH THE CITY ELECTIVE OFFICER(S) SERVES Board of Supervisors
<input type="checkbox"/>	THE BOARD OF A STATE AGENCY ON WHICH AN APPOINTEE OF THE CITY ELECTIVE OFFICER(S) IDENTIFIED ON THIS FORM SITS

9. AFFILIATES AND SUBCONTRACTORS

List the names of (A) members of the contractor's board of directors; (B) the contractor's principal officers, including chief executive officer, chief financial officer, chief operating officer, or other persons with similar titles; (C) any individual or entity who has an ownership interest of 10 percent or more in the contractor; and (D) any subcontractor listed in the bid or contract.

#	LAST NAME/ENTITY/SUBCONTRACTOR	FIRST NAME	TYPE
1	Wong	Ronald	COO
2	Katz	Jeffrey	Other Principal Officer
3	Wong	Tiffany	Shareholder
4			
5			
6			
7			
8			
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16			
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19			

9. AFFILIATES AND SUBCONTRACTORS

List the names of (A) members of the contractor's board of directors; (B) the contractor's principal officers, including chief executive officer, chief financial officer, chief operating officer, or other persons with similar titles; (C) any individual or entity who has an ownership interest of 10 percent or more in the contractor; and (D) any subcontractor listed in the bid or contract.

#	LAST NAME/ENTITY/SUBCONTRACTOR	FIRST NAME	TYPE
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9. AFFILIATES AND SUBCONTRACTORS

List the names of (A) members of the contractor's board of directors; (B) the contractor's principal officers, including chief executive officer, chief financial officer, chief operating officer, or other persons with similar titles; (C) any individual or entity who has an ownership interest of 10 percent or more in the contractor; and (D) any subcontractor listed in the bid or contract.

#	LAST NAME/ENTITY/SUBCONTRACTOR	FIRST NAME	TYPE
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
<input type="checkbox"/>	Check this box if you need to include additional names. Please submit a separate form with complete information. Select "Supplemental" for filing type.		

10. VERIFICATION

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I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

SIGNATURE OF CITY ELECTIVE OFFICER OR BOARD SECRETARY OR CLERK	DATE SIGNED
BOS Clerk of the Board	

From: [Trejo, Sara \(MYR\)](#)
To: [BOS Legislation, \(BOS\)](#)
Cc: [Paulino, Tom \(MYR\)](#); [Martinsen, Janet \(MTA\)](#); [Ramos, Joel \(MTA\)](#); [Howard, Dan \(MTA\)](#); [Maguire, Mariana \(MTA\)](#); [Ho, Calvin \(BOS\)](#)
Subject: Mayor -- Resolution -- Train Control Upgrade Project Consultant
Date: Tuesday, July 30, 2024 2:42:12 PM
Attachments: [BOS Resolution Train Control Consultant Contract.docx](#)
[CEOQ Checklist 2022-000870ENV.pdf](#)
[Contract - SFMTA-2024-20-FTA - Agreement - WSP Signed.pdf](#)
[MTAB Resolution Train Control Consultant Contract unsigned.docx](#)
[SFMTA BOS Briefing SFMTA Train Control Consultant Contract 24.0725.pdf](#)

Hello Clerks,

Attached is a Resolution approving an agreement with WSP/PGH Wong Joint Venture for consulting services supporting the Train Control Upgrade Project for an initial five-year term, with five options to extend the term for an additional year, for a total of ten years and an amount not to exceed \$36,000,000 over the ten-year period.

Please note, Supervisor Mandelman is a cosponsor of this item.

Best regards,

Sara Trejo
Legislative Aide
Office of the Mayor
City and County of San Francisco