

THIS PRINT COVERS CALENDAR ITEM NO: 10.5

**SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY**

DIVISION: Transit

BRIEF DESCRIPTION:

Requesting the Board of Supervisors by ordinance to authorize the San Francisco Municipal Transportation Agency (SFMTA) to (1) issue a Request for Proposals for a Communications Based Train Control System to be awarded by a contract with a term exceeding 10 years, and to waive the Administrative Code Section 21.9(a)(2) prohibition against issuing solicitations for a contract for professional services for a term longer than 10 years; (2) authorize SFMTA to use negotiated procurement procedures; and, (3) to adopt findings under the California Environmental Quality Act.

SUMMARY:

- The SFMTA operates the Muni Metro light rail system, which includes surface right of way and dedicated subways controlled by an outdated analog loop-cable train control system installed in 1994 that has reached the end of its useful life.
- The SFMTA seeks to issue a Request for Proposals for a Communications-Based Train Control (CBTC) system to replace the existing system, which will enable the SFMTA to operate its rail service with greater reliability, reduced delays and increased capacity.
- The SFMTA proposes to use negotiated procurement procedures to procure a CBTC System and support services, similar to the procedures authorized to procure mass-transit vehicles.
- For the SFMTA to use negotiated procurement procedures for a CBTC contract with a term over 10 years requires an ordinance waiving Administrative Code Section 21.9(a)(2) and authorizing the SFMTA to use the negotiated procurement procedures as approved by Administrative Code Section 21.4(f).

ENCLOSURES:

1. SFMTAB Resolution
2. Ordinance

APPROVALS:

DATE

DIRECTOR



September 28, 2022

SECRETARY



September 28, 2022

ASSIGNED SFMTAB CALENDAR DATE: October 4, 2022

PURPOSE

Requesting the Board of Supervisors by ordinance to authorize the Municipal Transportation Agency to (1) issue a Request for Proposals for a Communications Based Train Control System to be awarded by a contract with a term exceeding 10 years, and to waive the Administrative Code Section 21.9(a)(2) prohibition against issuing solicitations for a contract for professional services for a term longer than 10 years; (2) authorize SFMTA to use negotiated procurement procedures; and, (3) to adopt findings under the California Environmental Quality Act.

STRATEGIC PLAN GOALS AND TRANSIT FIRST POLICY PRINCIPLES

The requested ordinance will support the following SFMTA Strategic Goal:

Goal 9: Fix things before they break, and modernize systems and infrastructure.

It will support the following City Transit-First Policies:

1. To ensure quality of life and economic health in San Francisco, the primary objective of the transportation system must be the safe and efficient movement of people and goods.
2. Decisions regarding the use of limited public street and sidewalk space shall encourage the use of public rights of way by pedestrians, bicyclists, and public transit, and shall strive to reduce traffic and improve public health and safety

DESCRIPTION

Purpose of Requested Legislation

As discussed below, to purchase a new Communications Based Train Control System (CBTC) that will meet the SFMTA’s transit needs, the SFMTA seeks to obtain from the Board of Supervisors a waiver of Administrative Code Section 21.9(a)(2) prohibition of soliciting proposals for a contract with a term over 10 years and authorization to use negotiated procurement as provided for transit vehicle procurement by Administrative Code Section 21.4(f). A negotiated procurement is the best approach for the CBTC contract because it allows the SFMTA to negotiate with proposers to best meet the Agency’s transit needs. Additionally, soliciting proposals for a contract term over 10 years enables the Agency’s Project goal of keeping the system in a state of good repair by contracting with a CBTC vendor that will support the system for its entire expected life of 20 years.

CBTC Project Background

The current analog Automatic Train Control System (ATCS) controls train speed, braking, and headways in the 7-mile Market Street Subway and in the 1.6-mile long Central Subway. The ATCS first went into service in 1998. The ATCS greatly increased the throughput of trains in the Market Street Subway, as compared to the previous fixed-block train control system. The ATCS

has reached the end of its useful life, however, and must be completely overhauled or replaced. The SFMTA has determined that the Agency should replace the ATCS with a state-of-the-art CBTC, which will maintain the same excellent safety record of the current system, while also increasing the subway's efficiency and reliability. The CBTC will also operate along surface trackways to coordinate train movements with street traffic signals, to manage surface junctions, vary vehicle speed and dwell times to keep trains evenly spaced, speed train entry into tunnel portals, and provide the SFMTA Transit Management Center with oversight and management of the entire Muni rail network.

CBTC Contract Structure and Supplier's Scope of Work

The CBTC will consist of two parts. The first part of the proposed contract will have a term of up to eight years, and will cover CBTC design, procurement of software and equipment, oversight of equipment installation on light rail vehicles, on trackways, and in control rooms, system testing, and California Public Utilities Commission certification. The CBTC supplier will design the system and provide detailed engineering plans and will furnish all CBTC software and proprietary equipment. The new CBTC will be installed in phases along existing Muni light rail lines to give the SFMTA beneficial use of the CBTC before it is fully installed on all rail lines, and to provide break points where the new system's performance and stability can be assessed. An initial Pilot phase will launch the CBTC on the surface along the Embarcadero and the northern half of the Third Street corridor to test the CBTC in service, before it is installed in the subways, and then on the rest of the surface. At the end of each phase, the CBTC supplier will test the CBTC to ensure that it meets performance, quality and safety standards and certify each portion of the system for revenue service. The CBTC supplier will warrant the equipment and software for 18 months after the start of revenue service.

The second part of the proposed contract will have a term of up to 20 years (10-year base term and two five-year extensions) and will require the CBTC supplier to provide system support, maintenance that SFMTA employees cannot perform, a supply of spare and replacement parts, trouble shooting and diagnostics, software updates, and related professional services to assist the SFMTA in maintaining and operating the CBTC for its entire expected 20-year life. The CBTC supplier will also provide regular software updates and security updates and will establish an obsolescence management plan to keep the system current. The CBTC supplier will maintain a two-year inventory of spare parts locally and replenish the parts as necessary to maintain reliable transit service.

CBTC Supplier Selection Process

The SFMTA seeks to secure a single, negotiated contract for design, procurement, testing, commissioning, and long-term support of a state-of-the-art CBTC. The SFMTA seeks to negotiate a contract with the selected CBTC vendor that provides incentives to the vendor to propose and deliver a CBTC with very high reliability, by tying part of the supplier's compensation to its system performance and reliability. The SFMTA believes it will obtain better contract terms and prices if it negotiates system support requirements at the same time it negotiates CBTC design and performance requirements. If the SFMTA waits until after the

initial implementation phase, the Agency would necessarily then negotiate a separate sole source contract for support services, likely at a significantly higher cost and with terms less advantageous to the SFMTA. CBTC systems are proprietary, meaning that the system software and much of the equipment can only be obtained from the system supplier. The proprietary nature of these systems requires the contracting agency to obtain follow-on support contracts, which the supplier has a significant advantage in negotiating once their system is installed.

Existing City law authorizes the SFMTA to select a CBTC supplier using a “best value” selection process that considers the proposers’ expertise, experience, CBTC system quality, reliability, and functions, and costs. (Charter § 8A.105(b)(1); SF Admin. Code §§ 21.05(b) and 21.4(a).) The SFMTA seeks authorization to build on that process by evaluating proposals for the CBTC using the negotiated procurement procedures that Administrative Code Section 21.4(f) authorizes for mass-transit vehicle procurement.

Negotiated procurement procedures will allow the SFMTA to have substantive, formal communications with proposers (as a group) after receipt of proposals. The SFMTA would review and carefully consider all proposals and may then amend its CBTC system specifications and contract requirements to better align those specifications and contract requirements with available technology solutions, consider cost-benefits issues, and modify insurance, bond and other contract requirements (in consultation with the City’s Risk Manager and City Attorney) to conform to market conditions and to make better informed risk management considerations. The SFMTA would then invite proposers to submit revised proposals based on the amended specifications and contract requirements. The SFMTA would apply best value criteria to evaluate and rank the revised proposals, select one proposer’s system, and negotiate a contract for award with that proposer.

This process provides the SFMTA the opportunity to clarify the RFP’s requirements and gives the proposers a chance to refine their proposals to the City’s benefit. The negotiated procurement process is especially useful on complex proposals involving significant design work driven by multiple, interrelated technical requirements. In the case of CBTC, the proposed project is not only technically complex, but also will result in a contractual relationship that could last nearly 30 years. These factors multiply the uncertainty for CBTC suppliers, which, without the possibility of refinements during post-proposal exchanges, could significantly increase cost and risk for the City.

The City already permits the use of negotiated procurement on mass-transit vehicle purchases under Administrative Code Section 21.4(f). This process was used successfully by the SFMTA for the LRV4 procurement. Permitting the negotiated procurement process for the CBTC System procurement will ultimately provide for more accurate, consistent, and price-competitive proposals.

Small Business Enterprise Participation

SFMTA is committed to maximizing competition and business opportunities for Small Business Enterprise (SBE) and Disadvantaged Business Enterprise (DBE) firms (of which San Francisco

Local Business Enterprise [LBE] firms are included). The Train Control Upgrade Project will include multiple contracts, to which SFMTA's SBE/DBE Program will be applied. The SFMTA has identified the installation work as the largest opportunity to contract with SBE/DBE contractors and have therefore set a preliminary goal for SBE/DBEs to perform all 100% of the installation work of the CBTC along the trackway and at the control center. The CBTC supplier will monitor and test those contractors' installation of CBTC equipment and infrastructure. Preliminarily, the SFMTA anticipates the following SBE/DBE participation goals:

- CBTC supplier contract: 5%
- Installation contracts: 100% (preliminary)
- Consultant contract: 15% (preliminary)

STAKEHOLDER ENGAGEMENT

The Project team conducted extensive outreach to Agency staff from Transit Operations, Transportation Management Center, Fleet, Safety, Technology, Vehicle, Maintenance of Way, and Signal Maintenance groups, who provided input as to the scope of services, as well as desired and required CBTC functionality. Importantly, these stakeholders all identified reliability and maintainability as a priority for the new train control system. The procurement approach bundling performance-based support terms in the CBTC supplier contract was in part developed due to this stakeholder priority.

In addition to the internal vetting, this project was also reviewed extensively by the 2019 Muni Reliability Working Group. This group comprised of the SFMTA Board Chair, San Francisco Supervisors, the Mayor's office, advocates, labor representatives, and outside transit experts, made replacement of the train control system its top recommendation. The Project team has also given periodic briefings to the SFMTA and SFCTA Citizen's Advisory Committees, as well as MTC, SFCTA staff, and funding partners, and incorporated their feedback as appropriate. This Project is in the early planning stages. As more design details become known, the Agency will reach out to the communities and stakeholders who may potentially be impacted by construction, as well as to the transit riders who will benefit from the improved rail service.

ALTERNATIVES CONSIDERED

The SFMTA considered the following alternatives for obtaining support from the train control supplier described above: (1) minimally maintaining the existing ATCS analog system, without upgrading it; (2) pursuing a program of incremental upgrades of the ATCS and support through sole source contracts with its current ATCS supplier; and, (3) advertising a procurement only contract, then later awarding a sole source support contract to the selected supplier.

As a first alternative, the SFMTA would continue to invest resources necessary to maintain the existing ATCS system, with the intent to keep the system in a state of good repair for as long as possible. This approach would confer no additional operational benefits and would result in increasing costs as parts become obsolete and scarce. Also, this would result in the continuation

and probable escalation of failures, as the system has reached the end of its useful life. Eventually the system will fail and be unable to be repaired, at which point it would need to be abandoned and replaced under a more urgent timeline and at greater cost.

As a second alternative staff considered negotiating new contracts with the incumbent train control system supplier to upgrade the existing ATCS, perhaps even convert the ATCS into a new CBTC system, without conducting a competitive procurement. This path is contrary to City and SFMTA policy to purchase new systems through competitive processes whenever possible, and would likely not provide the best value or greatest improvements to Muni transit. This alternative would also have eliminated the SFMTA's ability to negotiate a successful competitively bid long-term support contract.

As a third alternative, the SFMTA could solicit proposals and select a CBTC system based on a "best value" approach, which considers proposers' experience, expertise and system price under existing Administrative Code authority. But due to the 10-year contract term limit stated in Administrative Code Section 21.9(a)(2), the SFMTA could not include long-term system support in the resulting contract. The Agency would necessarily then negotiate a separate sole source contract for support services, likely at a significantly higher cost and with terms less advantageous to the SFMTA. CBTC systems are proprietary, meaning that the system software and much of the equipment can only be obtained from the system supplier. The proprietary nature of these systems requires the contracting agency to obtain follow-on support contracts, which the supplier has a significant advantage in negotiating once their system is installed.

Further, without the proposed statutory authority, the SFMTA could not negotiate the substantive CBTC system specifications with proposers. If the received proposals do not meet SFMTA needs, or the proposals present alternative approaches to CBTC implementation, the SFMTA could only amend its requirements or otherwise respond to the received proposals by rejecting all proposals and issuing a new RFP. If the Agency were to do so, it would greatly extend the procurement process and risk proposers declining to submit new proposals, likely resulting in a less competitive process and higher costs.

FUNDING IMPACT

The requested ordinance waiving the 10-year contract term limit stated in Administrative Code Section 21.9(a)(2) and to authorize the SFMTA to use a negotiated procurement process to procure a new CBTC as authorized under Administrative Code Section 21.4(f) will not have a funding impact. The actual procurement of the CBTC and the Train Control Upgrade Project will be funded through the SFMTA's Capital Improvement Program funds. Additionally, regional, state, and federal grants have been awarded to this Project and more grant awards are expected. The total cost of the Project including escalation, agency Project staffing, consultant support, and third-party contracts, is estimated to be \$560 million.

ENVIRONMENTAL REVIEW

On September 20, 2022 the SFMTA, under authority delegated by the Planning Department, determined that the proposed ordinance is not a “Project” under the California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of Regulations Sections 15060(c) and 15378(b).

A copy of the CEQA determination is on file with the Secretary to the SFMTA Board of Directors and is incorporated herein by reference.

OTHER APPROVALS RECEIVED OR STILL REQUIRED

The City Attorney’s Office has reviewed this report.

To implement the procurement of the CBTC as described herein, the SFMTA must obtain a waiver by ordinance of Administrative Code Section 21.9(a)(2) prohibition of soliciting proposals for a contract with a term over 10 years and authorization to use negotiated procurement as authorized by Administrative Code Section 21.4(f). Hearings before the Board of Supervisors on this matter are scheduled for October 18 and October 25, 2022.

RECOMMENDATION

Staff recommends that the SFMTA Board of Directors request the Board of Supervisors by ordinance authorize the SFMTA to (1) issue a Request for Proposals for a Communications Based Train Control System to be awarded by a contract with a term exceeding 10 years, and to waive the Administrative Code Section 21.9(a)(2) prohibition against issuing solicitations for a contract for professional services for a term longer than 10 years; (2) authorize SFMTA to use negotiated procurement procedures; and, (3) to adopt findings under the California Environmental Quality Act.

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 with outdated analog loop-cable train control system installed in 1994; and,

WHEREAS, The SFMTA desires to issue a Request for Proposals for a Communications-Based Train Control system (CBTC) to replace the existing analog train control system and enable the SFMTA to operate its rail service with greater reliability, reduced delays and increased capacity; and,

WHEREAS, The SFMTA desires to negotiate a single long-term contract for CBTC procurement and ongoing technical and system support for up to the 20-year life of the CBTC; and,

WHEREAS, San Francisco Administrative Code Section 21.9(a)(2) prohibits departments from soliciting contracts with a term longer than 10 years; and,

WHEREAS, San Francisco Administrative Code Section 21.4(f) authorizes use of negotiated procurement for the purchase of mass-transit vehicles, but not related technology systems, such as a CBTC; and,

WHEREAS, To procure a CBTC that will meet SFMTA transit needs, present the best value for the Agency, and best serve the riding public, the SFMTA proposes to use negotiated procurement procedures to contract for a CBTC and support services for the 20-year life of the CBTC; and,

WHEREAS, For the SFMTA to use negotiated procurement procedures for a contract for a CBTC with a term over 10 years requires an ordinance waiving Administrative Code Section 21.9(a)(2) and authorizing the SFMTA to use the negotiated procurement procedures as approved by Administrative Code Section 21.4(f); and,

WHEREAS, On September 20, 2022, the SFMTA, under authority delegated by the Planning Department, determined that the proposed ordinance is not a “Project” under the California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of Regulations Sections 15060(c) and 15378(b); 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 requests the Board of Supervisors by ordinance to authorize the Municipal Transportation Agency to (1) issue a Request for Proposals for a Communications Based Train Control System to be awarded by a contract with a term exceeding 10 years, and to waive the Administrative Code Section 21.9(a)(2) prohibition against issuing solicitations for a contract for professional services for a term longer than 10 years; (2) authorize SFMTA to use negotiated procurement procedures; and, (3) to adopt findings under the California Environmental Quality Act.

I certify that the foregoing resolutions were adopted by the San Francisco Municipal Transportation Agency Board of Directors at its meeting of October 4, 2022.

Secretary to the Board of Directors
San Francisco Municipal Transportation Agency

[Contracting Process - Communications Based Train Control System - Waiver of Administrative Code Prohibition of a Contract with a Term Longer than 10 Years]

1
2 **Ordinance authorizing the Municipal Transportation Agency to issue a Request for**
3 **Proposals for a Communications Based Train Control System to be awarded by a contract**
4 **with a term exceeding ten years, waiving the Administrative Code prohibition against**
5 **issuing solicitations for a contract for general or professional services for a term longer**
6 **than 10 years, stating that the award of the contract will be subject to the approval of the**
7 **Board of Supervisors pursuant to Charter, Section 9.118(b), and adopting findings under**
8 **the California Environmental Quality Act.**

9 NOTE: **Unchanged Code text and uncodified text** are in plain Arial font.
10 **Additions to Codes** are in *single-underline italics Times New Roman font*.
11 **Deletions to Codes** are in ~~*italics Times New Roman font*~~.
12 **Board amendment additions** are in double-underlined Arial font.
13 **Board amendment deletions** are in ~~Arial font~~.
14 **Asterisks (* * * *)** indicate the omission of unchanged Code
15 subsections or parts of tables.

16 Be it ordained by the People of the City and County of San Francisco:

17 Section 1. Background.

18 (a) The Municipal Transportation Agency's ("SFMTA") existing Automatic
19 Train Control System ("ATCS") controls the movement of light rail vehicles in the Muni
20 subways. The ATCS is vital for efficient operation of the Muni subway: the ATCS allows
21 Muni to operate twice as many vehicles in the subway under ATCS control as it could
22 operate under manual train control. The ATCS was designed under a 1992 contract
23 and placed into service in 1998. Although the ATCS has been upgraded and improved
24 since it was first put into service, the ATCS's operating technology, software, and
25 equipment are outdated and the ATCS is reaching the end of its useful life.

(b) The SFMTA plans to issue a Request for Proposals ("RFP") in December
2022 to solicit proposals from qualified systems providers for a new Communications
Based Train Control System ("CBTC System") to replace the existing Muni ATCS. The
new CBTC System will operate trains in the Market Street Subway and the Central
Subway employing state of the art train control technology that will make subway
operations faster, more reliable, and more efficient. The new CBTC System will also

1 provide train supervision and limited train protection to the surface portions of the Muni
2 light rail system. The CBTC System vendor will be selected based on best value criteria
3 described in the RFP, as authorized by Charter Section 8A.105(b)(1), which grants the
4 SFMTA exclusive authority over the administration of its contracts, and Administrative
5 Code Sections 21.05(b) and 21.4(a), which authorize City departments to issue
6 requests for proposals and to select vendors based on their qualifications and criteria
7 other than price alone.
8

9 (c) The contract for the new CBTC System will consist of two parts. The first
10 part of the contract will cover design of the CBTC System, procurement of software and
11 equipment, oversight of equipment installation on light rail vehicles, on trackways, and
12 in control rooms, and CBTC System testing and California Public Utilities Commission
13 service certification, and will have a term up to eight years. The second part of the
14 contract will cover system support, maintenance of proprietary equipment and software,
15 supply of spare and replacement parts, troubleshooting, software updates, and related
16 professional services to assist the SFMTA in maintaining and operating the CBTC
17 System. The term for that second part of the contract will be up to 20 years, comprising
18 a 10-year base term and two five-year extension options, so that following design,
19 installation, and testing of the CBTC System, the selected CBTC System vendor will
20 provide parts, equipment, software updates, and support services for the entire
21 expected 20-year life of the new CBTC System.
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Section 2. Authorization to Issue Request for Proposals for a Professional
Services and Commodities Contract with a Term Longer than 10 Years for a
Communications Based Train Control System.

Administrative Code Section 21.9(a)(2) provides that a solicitation for a contract
for multiple years or with options to extend the term for multiple years shall not provide
for a single contract term or base term and extensions of the term that would exceed 10
years. The total term of the proposed contract will be 28 years, with a design,

1 implementation period of eight years, followed by a support period of 20 years. The
2 term restriction stated in Section 21.9(a)(2) is hereby waived to allow the support
3 services period of the CBTC System contract to have an initial 10-year term with two
4 five-year options to extend, so that the services period of the contract will cover the
5 expected 20-year life of the train control system.

6 Section 3. Contract Award Subject to Charter Section 9.118.

7 The estimated total cost of the CBTC System design, equipment and software
8 procurement, installation oversight, and testing, and the cost of system support services
9 and spare and replacement parts and equipment will exceed \$10 million, and the total
10 term of the contract will exceed 10 years. Therefore, the contract will be subject to
11 Board of Supervisors approval under Charter Section 9.118(b). After having selected a
12 vendor and negotiated the final terms and conditions of the contract, following SFMTA
13 Board of Directors approval of the contract, the SFMTA will request Board of
14 Supervisors approval of the contract.
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17 Section 4. Environmental Finding.

18 The Planning Department has determined that the actions contemplated in this
19 ordinance do not constitute a project under the California Environmental Quality Act
20 ("CEQA") (California Public Resources Code Sections 21000 et seq.) pursuant to Title
21 14 of the California Code of Regulations Section 15060(c) because the action would not
22 result in a direct physical change in the environment, or a reasonably foreseeable
23 indirect physical change in the environment. The action is therefore not subject to
24 CEQA review. Said determination is on file with the Clerk of the Board of Supervisors in
25 File No. _____ and is incorporated herein by reference. The Board affirms this
determination.

Section 5. Effective Date. This ordinance shall become effective 30 days after
enactment. Enactment occurs when the Mayor signs the ordinance, the Mayor returns

