



SFMTA

Train Control Upgrade Project

SFMTA Board of Directors
Train Control Upgrade Project (TCUP) Committee

Sep 27, 2022

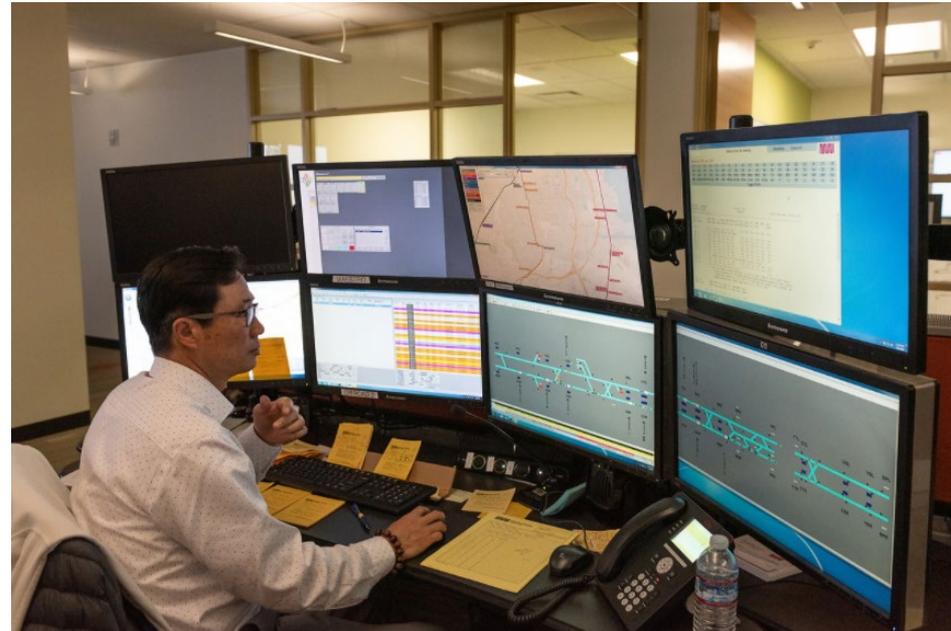


 Strategic Objectives

 Contracting

 Schedule Overview

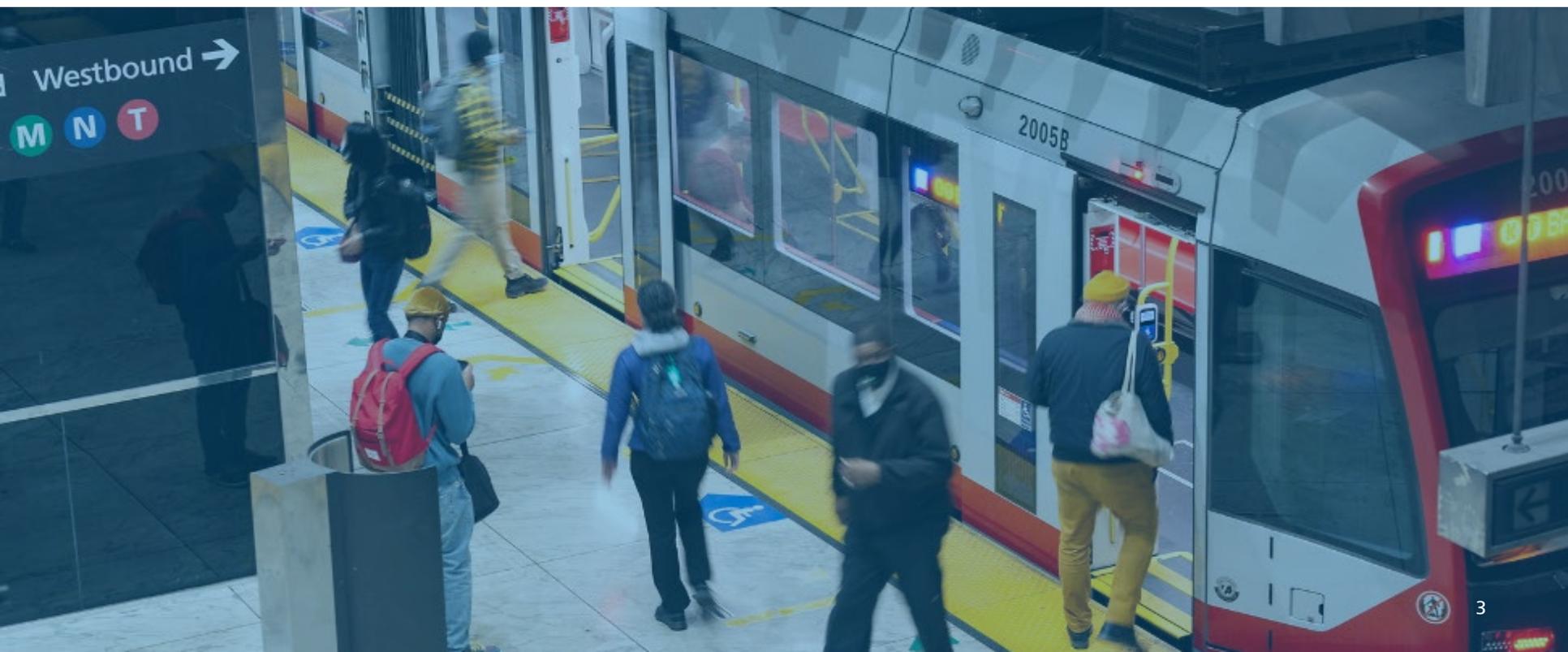
 Progress Update





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Strategic Objectives



Multi-year new surface and subway upgrade to communications-based train control (CBTC) to improve Muni light rail service.





Maintain the high standards of safety currently provided by the automatic train control system (ATCS) in the subway and extend modern safety protections to the surface



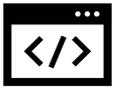
Increase the capacity of the Muni Metro system



Enable shorter, more consistent travel times and headways



Provide a reliable train control system that supports the entire Muni Metro network



Support configurable and flexible service changes and contingency operations



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



Centralized Network Management



Wireless Communications



Modern Computers



Traffic Signal Integration



Service Management Tools



Data and Diagnostics



Spare parts and technical support



Software Upgrades

Reduced delays: Customers no longer “stuck” on trains in-between stations due to subway congestion or slow-moving trains with a communication failure

Reduced travel times: Trips on Muni will be faster as trains will not have to wait for traffic lights on the surface – the train control system will talk to the signals and let them know a train is coming

Improved reliability: More consistent wait times that match the advertised frequency of trains, which makes trip-planning more reliable

Better service: the new system will give train controllers more flexibility to manage bunching and gaps



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Contracting



Applying Lessons Learned

Procurement Method

Ensure selection based on quality of supplier's product and expected long-term performance, not short-term construction issues

Harness Opportunities

Negotiate support terms while supplier is in competition with its peers

Supplier Partnership & Performance Incentives

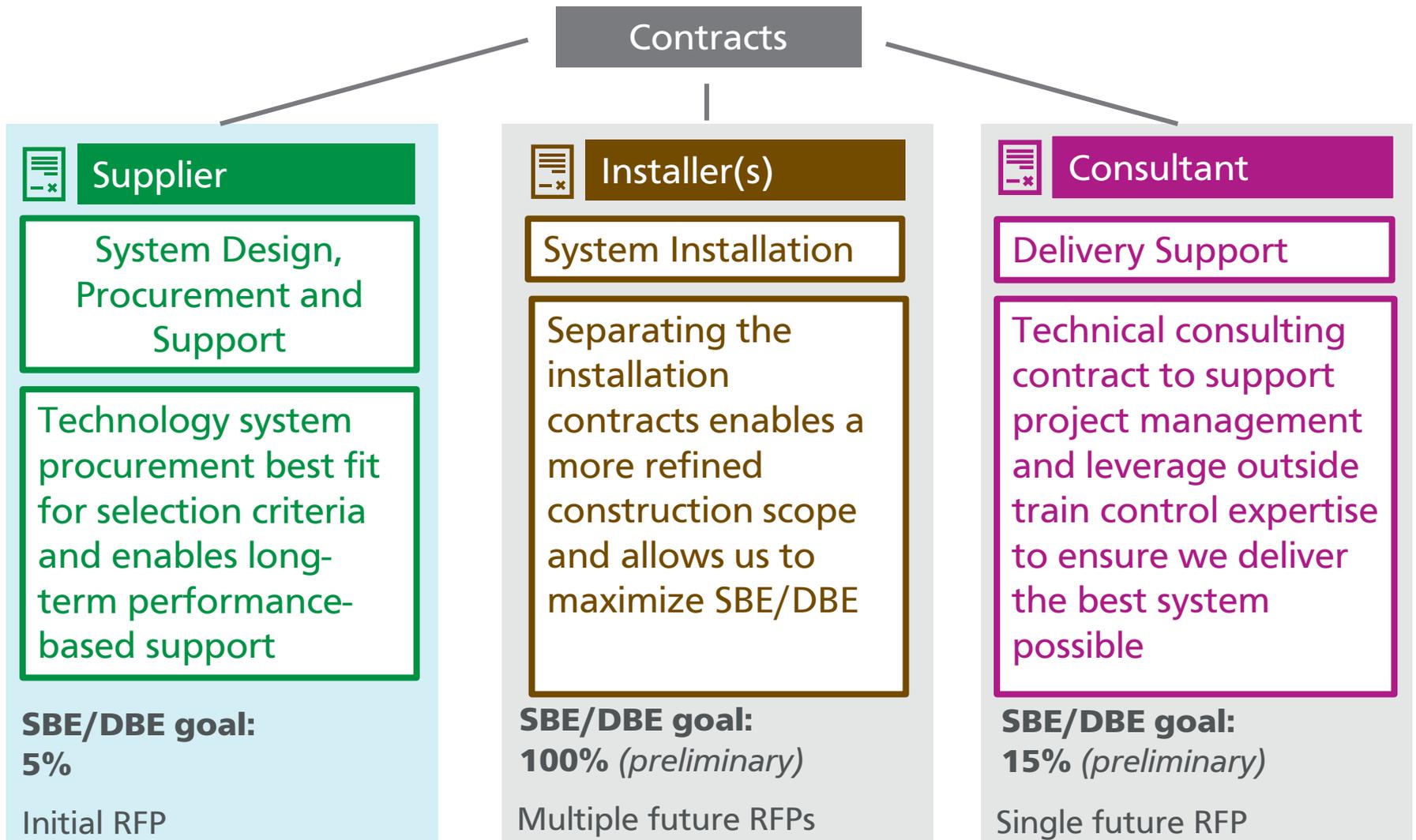
Create contractual incentives for supplier to partner in the success of the system

Support-Focused/ Lifecycle Management

Treat the system as a technology product, hardware and software kept up-to-date

Risk Assessment

Anticipate risk points ahead of time with a comprehensive risk assessment process





Benefits of including support contract with design RFP

Improves price and terms because firms are in competition with peers

Key elements linked to strategic goals:

- Performance-based support fee creates contractual elements for supplier to build reliability into initial design
- Vendor-Managed Spares Inventory designed to incentivize reduced parts replacement
- Regular software updates keeps hardware and software up to date

First Tier Maintenance

Physical work on the vehicles or in the field. Swapping out components, fixing wire, onsite tests, etc

Second Tier Maintenance

Repair of components in the shops. Review of data logs. Analysis based on data from system provided by analytics suite

SFMTA provides
Supplier provides

Factory Support

Repair of circuit boards, modifications to software

Technical Support

24/7 hotline for technicians to call if they need advice; Off-site problem analysis; Technical experts can be called on-site if needed

Spare Parts

Supplier maintains 2 years worth of spare parts locally and replenishes it as the parts are consumed

Benefits of including support services with system procurement RFP

SFMTA requesting BOS approval for an ordinance allowing supplier contract to extend past 10 years and enabling negotiated procurement (i.e., best/final offer)

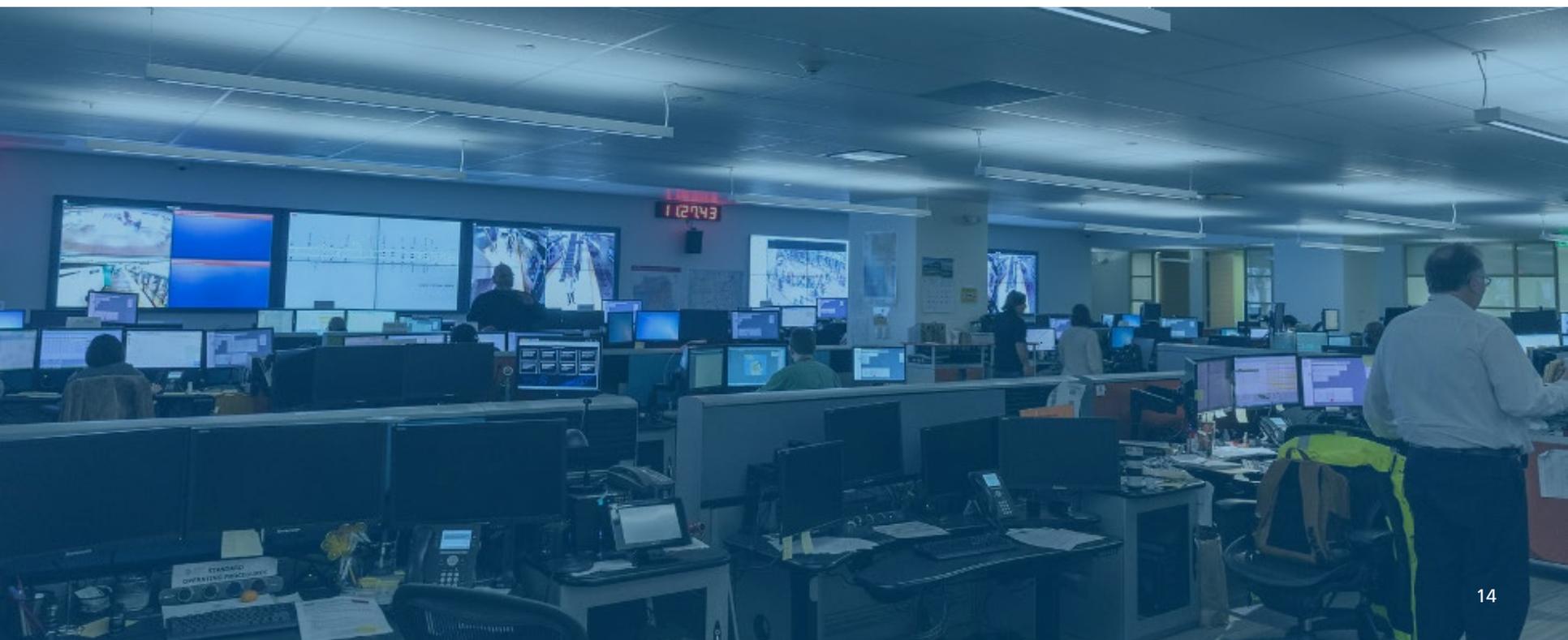
Proposed Duration

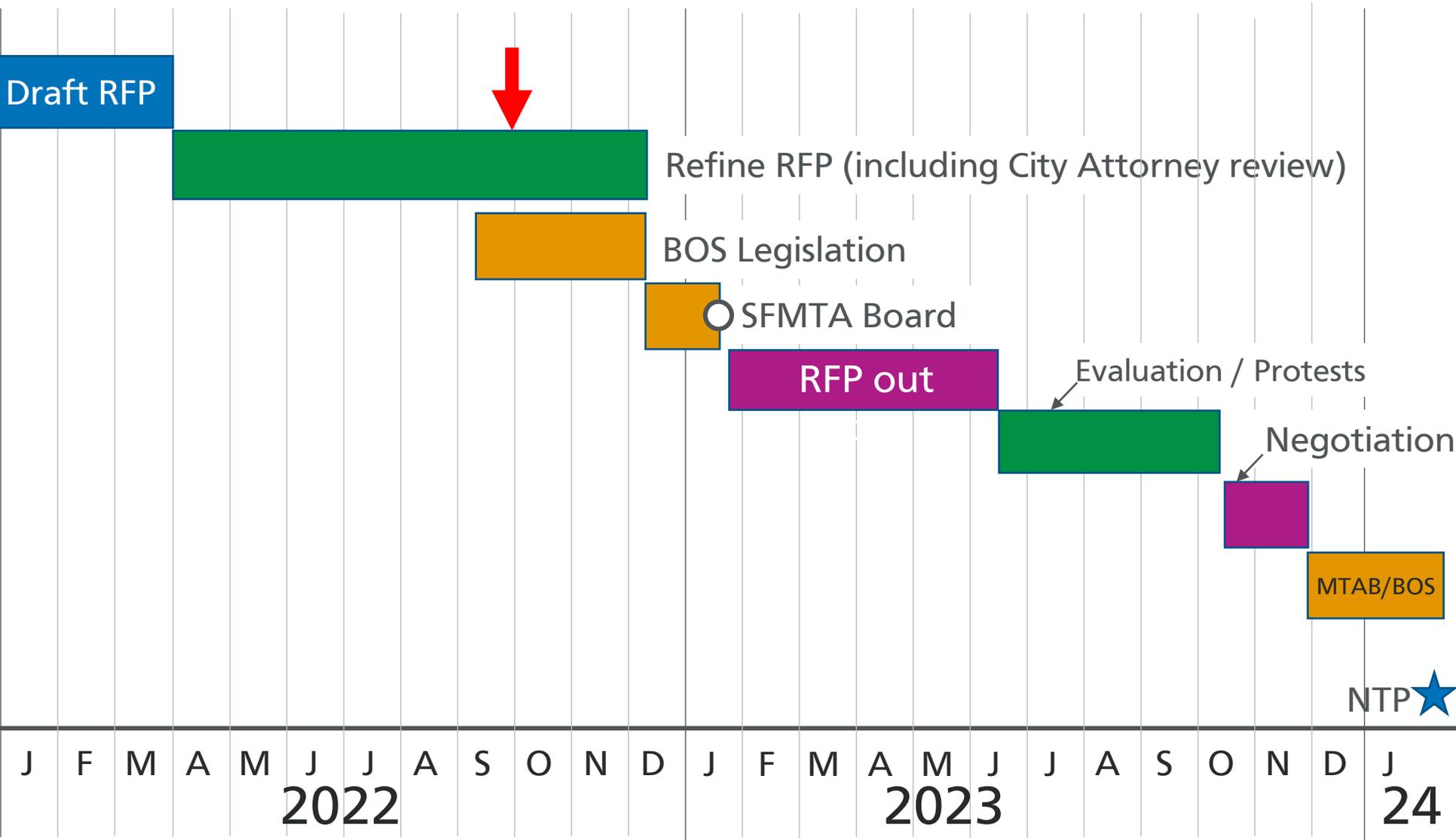
- Design/Implementation Phase: 8 years
- Initial Support Term: 10 years
- Additional Support Terms 2 options of 5 years each



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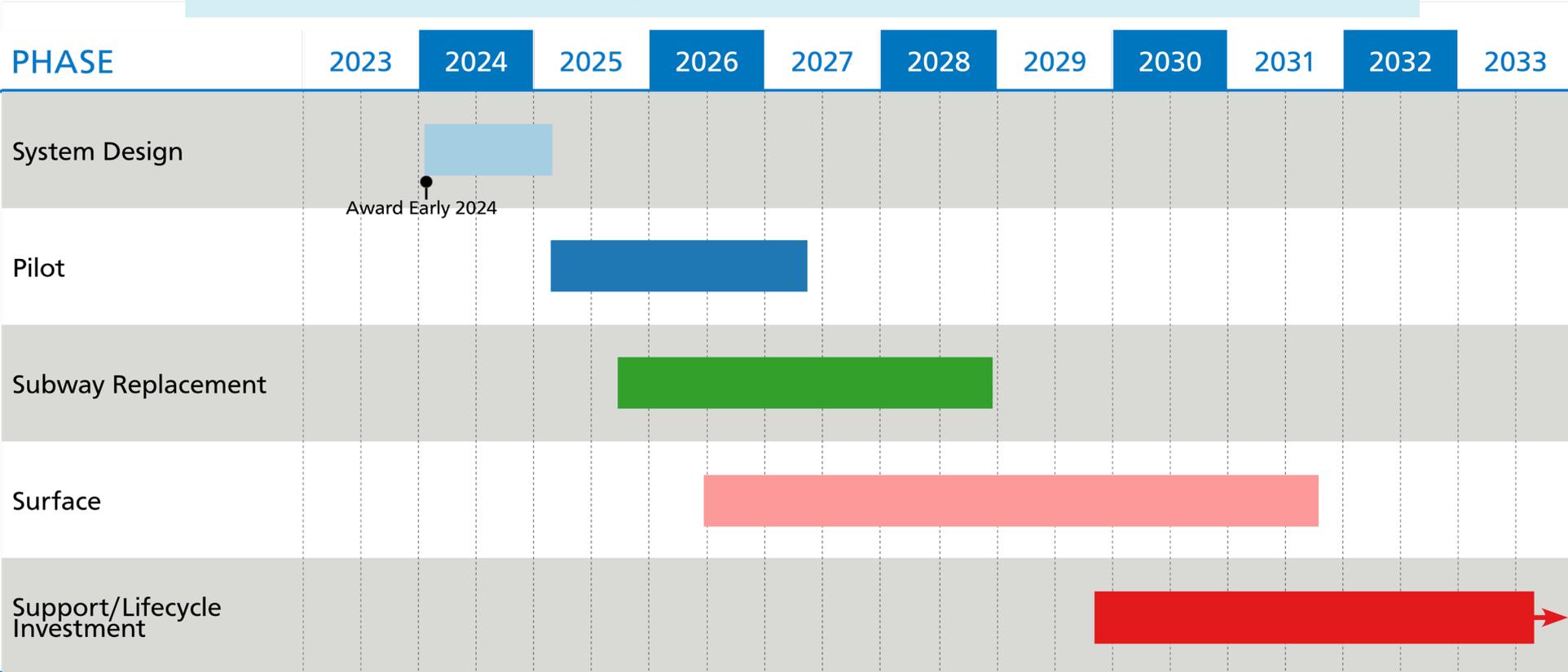
Schedule Overview







Proposed Project Schedule



Total Project Budget
 (Design, procurement, installation, SFMTA costs, consultant, integration)

\$560 million
 Support costs: \$100 million over 10 years



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Progress Update



BOS Legislation Introduced

30-day waiting period initiated on 9/13

SFMTA Board of Directors

SFMTA Board approval action to send Ordinance to the BOS 10/4 or 10/18

Budget and Finance Committee

Ordinance expected in committee 10/12 or 10/19

Board of Supervisors

First reading 10/26, second reading 11/1

Finalize RFP

Complete RFP documents and necessary reviews by mid-Dec

Approve/Advertise RFP

SFMTA Board approval action to advertise completed RFP package Jan 2023

