SFMTA

Train Control Upgrade Project

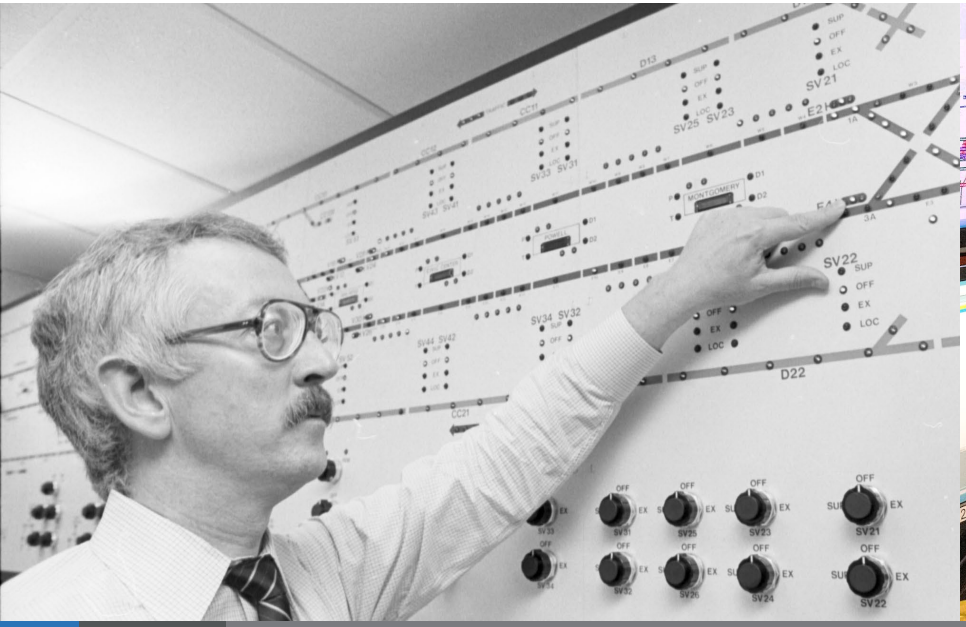
Budget and Finance Committee

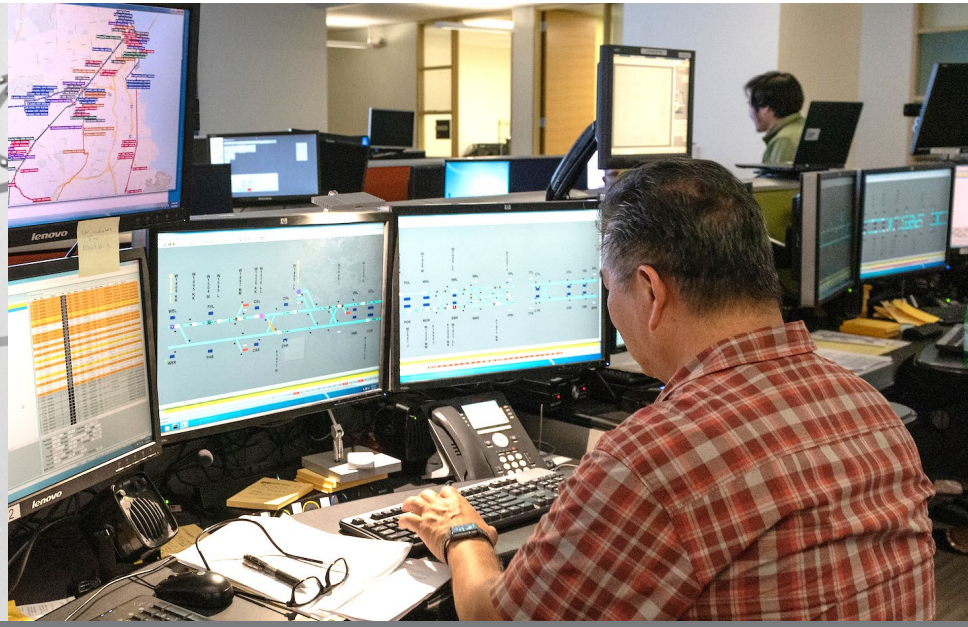
November 13, 2024

Train Control Upgrade Project

San Francisco's most significant Muni Metro investment in a generation.

This project will replace the technology that makes Muni Metro work and make a quantum leap forward in fast, frequent, reliable Metro service and transit connections citywide for decades to come.





Learning from past projects and improving contracting approach

Separate contracts

CONSULTANT

- Support staff with project delivery

SBE/DBE goal: 15%

☑ Contract approved August 2024

SUPPLIER

- Provides technology
- Helps design system
- Must ensure technology meets performance requirements
- Provides long-term maintenance support and knowledge transfer to SFMTA staff

SBE/DBE goal: 5%

INSTALLERS

- Multiple installers shorten construction timeline

SBE/DBE goal: 100% (preliminary)

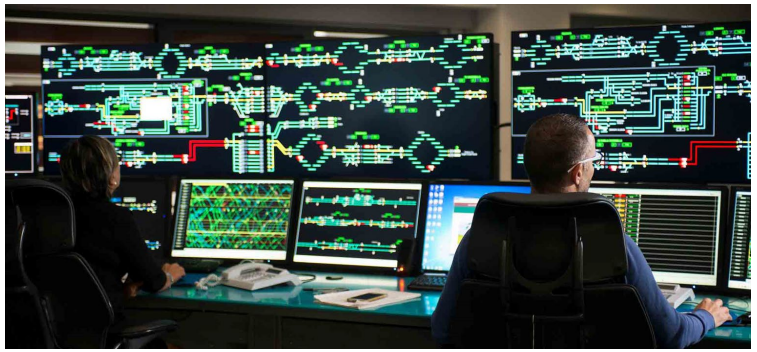
Future RFQ followed by individual bids

Supplier: Hitachi Rail GTS USA

HITACHI
Inspire the Next

Benefits:

- Hitachi has the most advanced technology of the bids received
- Only Hitachi offers transponder-based train control communication technology on street and in subway
- Hitachi can reuse existing computers on LRV4s, reducing vehicle integration cost and risk
- Hitachi's wayside equipment is smaller and can be centrally located, reducing clutter on the street and making maintenance easier
- SFMTA is familiar with this supplier and has structured contract to apply lessons learned



Better outcomes from competitive, negotiated procurement

Contract wins for the SFMTA

Negotiated procurement process allowed for discussion with industry. Vendors understood project needs better. Lead to better proposals.

Annual software updates

- Keeps the new train control system up to date.

Long-term support included in contract

- Recognizes that a new train control system is a 30-year investment. Includes all future spare parts.

Performance goals based on outcomes

- Builds performance into contract. Incentivizes supplier to build quality into the design up front and encourages supplier to invest support resources to ensure the new train control system works properly.

Knowledge transfer

- Creates a pathway to build in-house expertise for greater self-sufficiency.

Supplier Deliverables

Design: Hitachi will customize their baseline latest-generation train control technology to SFMTA's specifications

Installation: Hitachi delivers new train control components and monitors installation

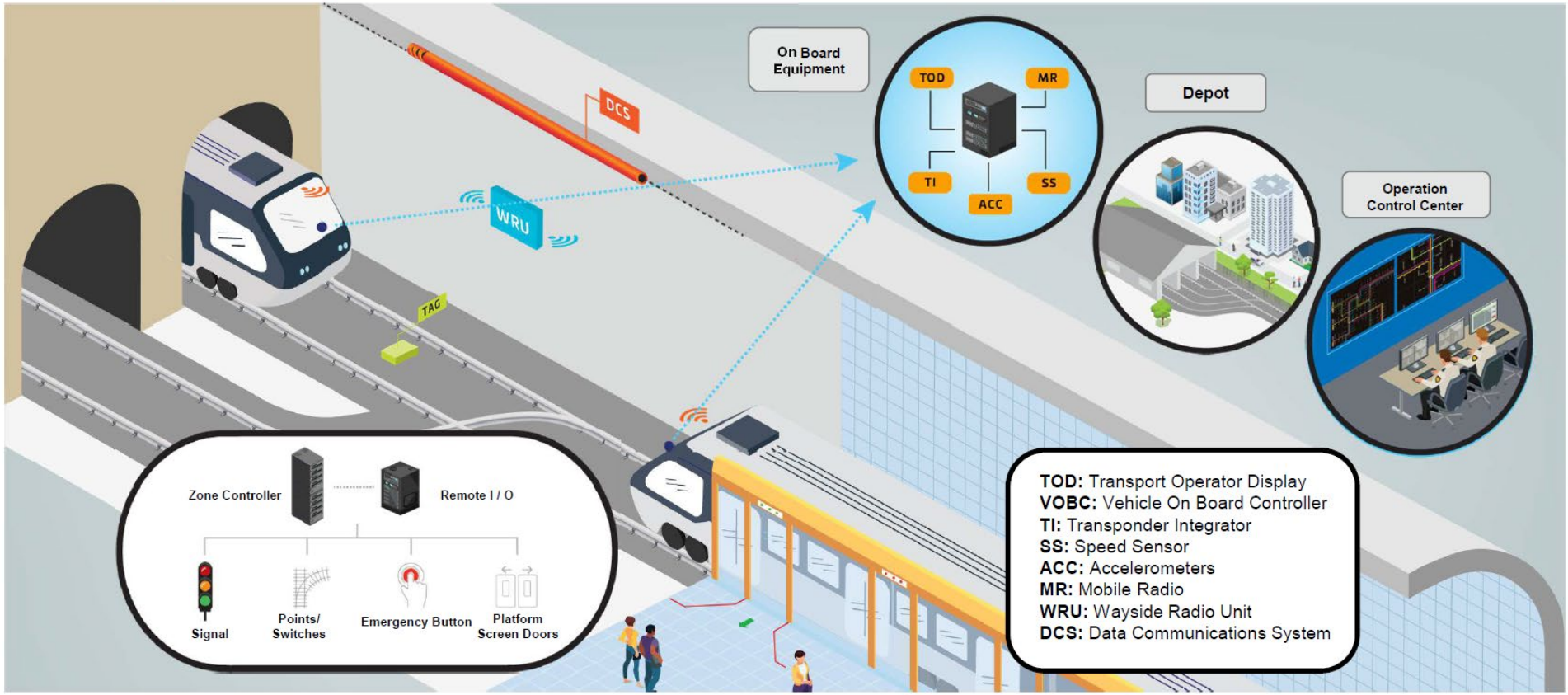
Testing: Hitachi performs testing to ensure the system meets performance requirements

Long-term support: Hitachi provides maintenance support, training to SFMTA staff, and continues to monitor performance

Train Control Components

Train Control System - SelTrac™

HITACHI
Inspire the Next



Long-term Support

Design-Furnish-Support contract with up to 20 years of on-site technical support and performance-based requirements.

29-year contract		
Procurement: 9 years	**Base Support: 10 years**	**Two 5-year Support Options**

- Train SFMTA staff to use and upkeep system
- Help SFMTA staff troubleshooting issues
- Includes unlimited spare parts as needed to maintain the train control system
- Includes automatic annual software updates

Transparent, full scope investment

TCUP is the first project to plan for and build in support costs up front.
The Not-To-Exceed amounts presented below assume 6% escalation per year (contract maximum) but contract costs would be adjusted based on actual inflation.

Train Control Supplier Contract – Not-to-Exceed Amounts	
Total Procurement including Options (TCUP Capital Budget)	**$212,093,633**

**This project cost is already funded in the TCUP $700M funding plan, through capital funds than cannot be used to fund Muni service.*

Total Initial Support (FY32-44 Operating Budget)	**$114,070,833**

**We know we will need continual support and some of this cost absorbs what we already pay in support for the current system.*

Total Support Options (FY45-54 Operating Budget)	**$237,681,185**

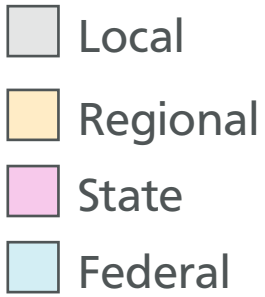
**Structuring as options give SFMTA flexibility to revisit support based on needs in ten years.*

TCUP Capital Budget

Item	Budget
Train Control Supplier Contract (This Contract)	$212M
Consultant Contract (Approved Aug 2024)	$30M
Installation Contracts	$99M
Project Management and Engineering	$102M
Network Infrastructure and Systems Integration	$64M
Testing, Training and Operational Support	$53M
Contingency (~25%)	$140M
Total Train Control Capital Budget	**$700M**

Project Funding Plan

Total Project Budget	$700,000,000
2021 Revenue Bond	$24,500,000
Prop B (General Fund)	$30,000,000
TSF Developer Fee	$12,000,000
Prop L	$16,000,000
GO Bond	$30,000,000
AB 664	$1,500,000
TIRCP Grant	$130,000,000
SB 1 (State of Good Repair)	$25,000,000
FTA (Transit Capital Priorities)	$375,000,000
Funding Need	$56,000,000



Roadmap from Notice to Proceed to initial installation

Supplier NTP: January 2025

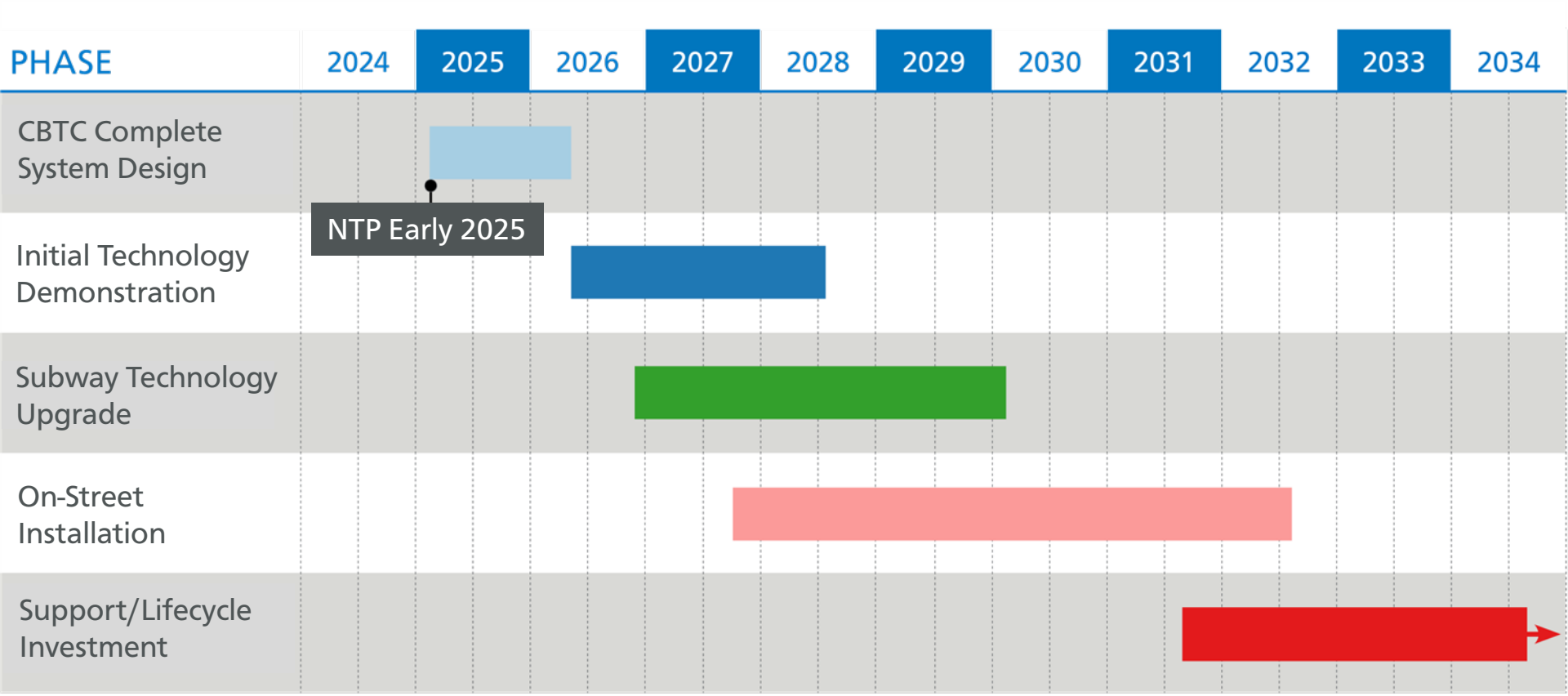
Deliver design: Spring 2026

Begin initial installation: 2027

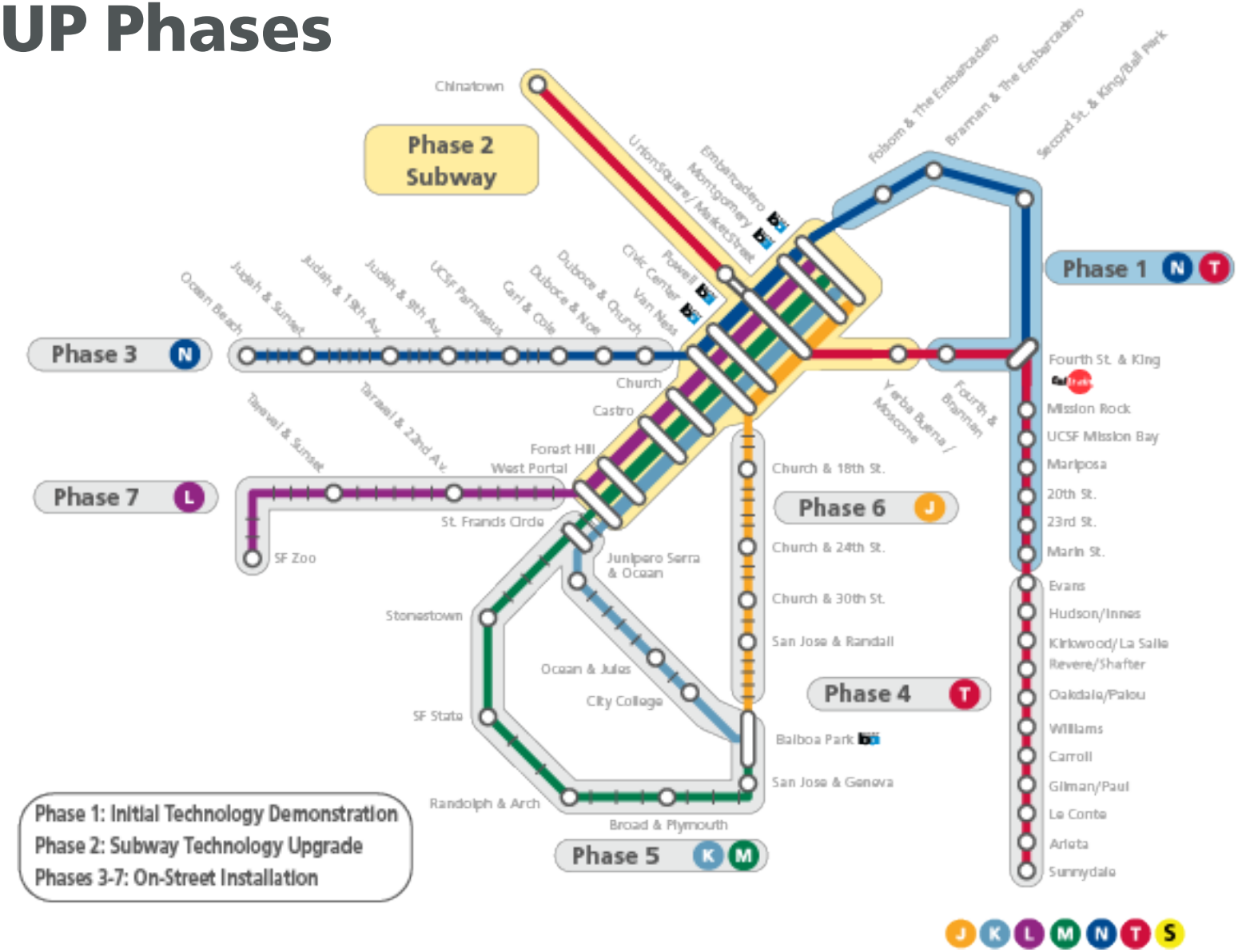
Testing: 2028

Complete initial installation: Late 2028

Train Control Upgrade Project Timeline



TCUP Phases


Chinatown
Phase 2
Subway
Union Square/ Market Street
Embarcadero
Montgomery
Powell
Civic Center
Van Ness
Duboce & Church
Duboce & Noe
Carl & Cole
UCSF Parnassus
Judah & 9th Av.
Judah & 19th Av.
Judah & Sunset
Ocean Beach
Phase 3
N
Church
Castro
Forest Hill
West Portal
Taraval & 22nd Av.
Taraval & Sunset
Phase 7
L
St. Francis Circle
SF Zoo
Junipero Serra & Ocean
Stonestown
Ocean & Junipero
City College
SF State
Randolph & Arch
Broad & Plymouth
Phase 5
K
M
Church & 18th St.
Phase 6
J
Church & 24th St.
Church & 30th St.
San Jose & Randall
Phase 4
T
Balboa Park
San Jose & Genova
Folsom & The Embarcadero
Brannan & The Embarcadero
Second St. & King/Ball Park
Phase 1
N
T
Fourth St. & King
Mission Rock
UCSF Mission Bay
Mariposa
20th St.
23rd St.
Marin St.
Evans
Hudson/Innes
Kirkwood/La Salle
Revere/Shafter
Oakdale/Palou
Williams
Carroll
Gilman/Paul
Le Conte
Arleta
Sunnydale
Yerba Buena / Moscone
Fourth & Brannan
J K L M N T S
Phase 1: Initial Technology Demonstration
Phase 2: Subway Technology Upgrade
Phases 3-7: On-Street Installation

Staff recommendation

Staff recommends that the Board of Supervisors authorize the SFMTA to execute Contract No. SFMTA-2022-40 FTA with Hitachi Rail GTS USA for design, furnishment, system implementation, support and related services for a Communications-Based Train Control System (CBTC), for a contract term of 9 years of design and procurement with an amount not to exceed $212,093,633, followed by 10 years of support with an amount not to exceed $114,070,833, and two 5-year options to extend the support with an amount not to exceed $237,681,185, for a total contract term of up to 29 years.

Questions?