Agenda Item 4.

Enhancing and Expanding the System: Major Transit Projects

San Francisco
County Transportation
Authority

October 28, 2021

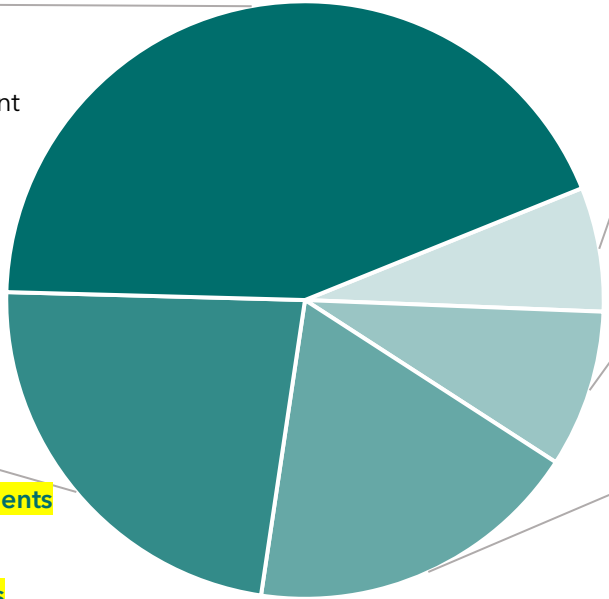
Preliminary Draft New Expenditure Plan

San Francisco County Transportation Authority

On today's agenda:

Transit Maintenance & Enhancements, 43.9%

Muni, BART, Caltrain, Ferry
Maintenance, rehabilitation and replacement
Station/Access improvements
Next generation transit planning



Transportation System Development & Management, 6.8%

Community-based and citywide planning
Equity studies
Demand management (including pilots)

Paratransit, 8.6%

Transit service for seniors and people with disabilities

Major Transit Projects, 23.3%

Muni Bus Reliability & Efficiency Improvements
Muni Rail Core Capacity
BART Core Capacity
Caltrain Service Vision: Capital Investments
Downtown Rail Extension & Pennsylvania Alignment

Streets & Freeways, 18.4%

Bicycle & pedestrian improvements
Traffic calming and signals
Street repaving
Bicycle & pedestrian facility maintenance
Freeway safety and operations*
Freeway redesign planning

Major Transit Projects

San Francisco County Transportation Authority

- The Major Transit Projects are the larger investments that **increase the passenger capacity and/or improve reliability** on existing transit systems
- The city is anticipating significant population and employment growth, and these projects will help accommodate new travel
- The Preliminary Draft Expenditure Plan includes **23.3% of funding for Major Transit Projects** – the same share as these types of projects received from Prop K

Major transit projects supported by Prop K sales tax funding

Major Transit Projects

San Francisco County Transportation Authority

- These are very expensive projects that require multiple fund sources and do a great job leveraging the sales tax.
- The sales tax can support early project development which is harder to fund, set up projects to be competitive for discretionary sources, and help provide the required local match to, for e.g.,
  - **State Transit and Intercity Rail Program (TIRCP)**: includes $300 million annually statewide from Senate Bill 1 (SB 1) and 10% of Cap and Trade auction results
  - **State Solutions for Congested Corridors Program**: $250 million available annually statewide
  - **Federal Capital Investment Grants Program (e.g. New Starts, Small Starts and Core Capacity Programs)**: Project funding can range from a tens of millions to several billion; require at least 50% match from local/state funds

SFMTA

San Francisco Transportation Sales Tax Reauthorization

Enhancing and Expanding the Transit System: **Major Transit Projects**

Expenditure Plan Advisory Committee
October 28, 2021

Transportation 2050

Identifying Needs

Transportation 2050 – Needs and Gaps

Strategic Plan	ConnectSF	20-Year Capital Plan	5-Year Capital Improvement Program (CIP)
• Lays out strategic goals for the agency. • Biennial.	• Vision for the Transportation System • Supported by Federal / State / Local resources • Includes investments in Service and Infrastructure	• 20 Years of fiscally unconstrained infrastructure needs to meet agency goals identified in long range planning as well as additional needs identified by stakeholders. • Includes capital needs to maintain the system and expand it along policy priorities. • Informs 5-Year Constrained Capital Improvement Program	• 5-year financially constrained program of projects • Covers the entire SFMTA – both Muni and Streets, and everything needed to support them • Programs funds by phase to project planning, design and implementation.

The SFMTA took the vision of ConnectSF and the capital needs in the agency's capital plan and forecasted operational and capital needs for the next 30-years. The result was **Transportation 2050**.

SFMTA's Commitment to More Equitable, Faster, and More Reliable Transit

- **Transit First:** The City of San Francisco committed to the Transit First in **1973**, committing to work towards a transportation system that puts public transit, pedestrian and bicycling as attractive as private automobiles.

- **Equity Policy:** In **May 2014**, the SFMTA adopted the Muni Service Equity Policy (Equity Policy), a first of its kind policy defining a proactive process for the agency to identify and correct transit performance disparities. The policy was crafted in partnership with advocates working with seniors, people with disabilities, affordable housing, equity/social justice, and public health, collectively known as the Equity Working Group.

ConnectSF Transit Corridor Study – Key Recommendations

1. **Make the system work better** with maintenance and restoration
2. **Build a five-minute network** for reliable transit service citywide
3. Increase speed, reliability, and capacity for a **modern rail system**
4. **Build more rail** where bus service won't be able to meet demand

ConnectSF

SFMTA approaches Transit Reliability and Capacity at Every Project Scale

- **Minor Enhancements:** Programmatic improvements, such as bus shelters, boarding islands and customer facing amenities at the station level.
- **Transit Emergency Lanes (TETL):** COVID created program to speed up transit via temporary transit lanes.
- **Muni*Forward* (Formerly the Transit Effectiveness Project):** Ranging from a light touch or quick build versions to full corridor redesign, these projects seek to reduce unnecessary delay and improve reliability through strategic investments such as priority transit lanes, stop improvements and relocations, and signal priority.
- **Major Corridor Projects:** Such as full corridor redesign, extending the train control system to surface lines and system expansions.

How does the SFMTA prioritize Transit Reliability and Capacity Projects?

- **Ridership:** Places with a high level of existing demand.
- **Existing and future service frequency:** Corridors where buses currently operate every five minutes or will in the future.
- **Equity:** Projects serving underserved neighborhoods and that improve access to jobs, as identified in the Muni Equity Strategy.
- **Network connectivity:** Projects that benefit multiple transit lines or improve key connections between lines.

SFMTA's Muni Equity Strategy

- Since 2016, updated every two years and timed to inform the SFMTA's biennial budget – service focus informs transit enhancement capital projects.
- Rooted in Muni Service Equity Policy
- Neighborhood based approach with accessibility addressed city-wide
- Policy developed in collaboration with transportation equity and affordable housing advocates
- Ensures that investment in Muni system benefits people who rely on transit and need it most
- Funded in part by Sales Tax

Muni Equity Strategy Recommendations are Informed By Analysis

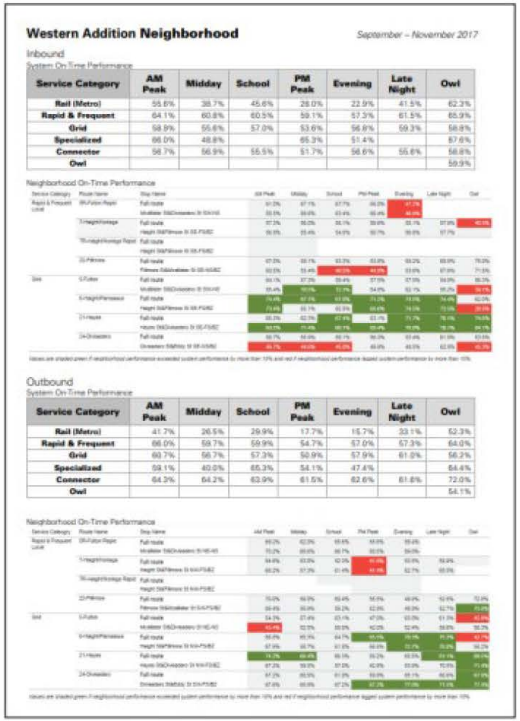
Headway Adherence
% of trips with gaps

Crowding
% of trips over capacity

On Time Performance
Meeting the schedule

Transit-Auto Time Ratio
to key destinations such as SFGH

NEW METRIC: Service Delivery
% of scheduled service hours delivered



Western Addition Neighborhood *September – November 2017*

Inbound

System On-Time Performance

Service Category	AM Peak	Midday	School	PM Peak	Evening	Late Night	Owl
Rail (Metro)	55.8%	38.7%	45.6%	28.0%	22.9%	41.5%	62.3%
Rapid & Frequent	64.1%	60.8%	60.5%	59.1%	57.3%	61.5%	65.9%
Grid	58.9%	55.6%	57.0%	53.6%	56.8%	59.3%	58.8%
Specialized	66.0%	48.8%		66.3%	51.4%		67.6%
Connector	56.7%	56.9%	55.5%	51.7%	56.6%	55.6%	58.8%
Owl							59.9%

Neighborhood On-Time Performance

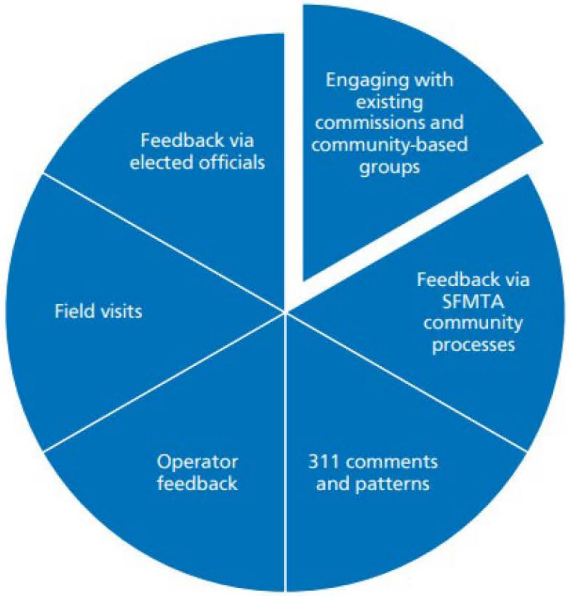
Outbound

System On-Time Performance

Service Category	AM Peak	Midday	School	PM Peak	Evening	Late Night	Owl
Rail (Metro)	41.7%	26.5%	29.9%	17.7%	15.7%	33.1%	52.3%
Rapid & Frequent	66.0%	59.7%	59.9%	54.7%	57.0%	57.3%	64.0%
Grid	60.7%	58.7%	57.3%	50.9%	57.9%	61.0%	56.2%
Specialized	59.1%	40.0%	65.3%	54.1%	47.4%		64.4%
Connector	64.3%	64.2%	63.9%	61.5%	62.6%	61.8%	72.0%
Owl							54.1%

Neighborhood On-Time Performance

And Informed By Community Engagement



Why do we need more Transit Reliability and Capacity Projects?

As congestion increases in areas where transit does not have traffic priority measures, transit service becomes slower and more expensive to provide.

EXAMPLE: Cost to Provide 10-Minute Bus Frequency, 6 AM – 12 AM, daily

Travel time and cost increase together

Travel Time (Minutes)	Buses Required	Annual Cost
30		$3.9 million
45		$5.9 million
60		$7.9 million
75		$9.9 million

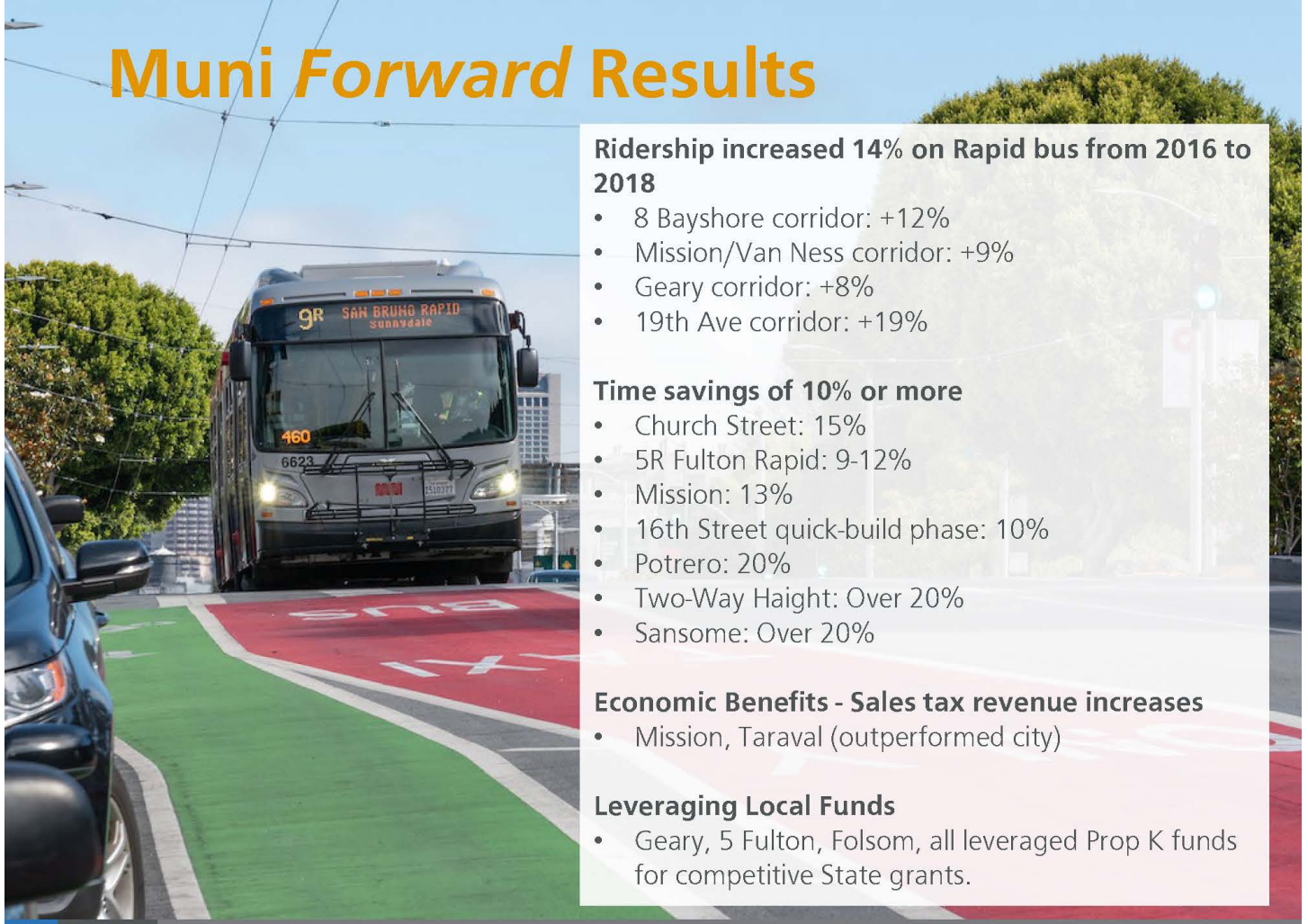
Assumes operating cost of $200/hour per vehicle. Actual costs vary by mode.

Muni Transit Reliability and Capacity Project Success: **Muni*Forward***



- **Improved reliability**: Over 70 miles of new reliability improvements, such as red transit lanes, bus bulbs and traffic signals that stay green for transit
- **Rapid Network**: More Rapid lines and expanded frequency
- **More service**: Multiple service increases and new connections since 2015
- **Brand new fleet**: All-new bus and rail vehicles
- **Equity**: A focus on improving service in Equity Strategy neighborhoods

Muni *Forward* Results



Ridership increased 14% on Rapid bus from 2016 to 2018

- 8 Bayshore corridor: +12%
- Mission/Van Ness corridor: +9%
- Geary corridor: +8%
- 19th Ave corridor: +19%

Time savings of 10% or more

- Church Street: 15%
- 5R Fulton Rapid: 9-12%
- Mission: 13%
- 16th Street quick-build phase: 10%
- Potrero: 20%
- Two-Way Haight: Over 20%
- Sansome: Over 20%

Economic Benefits - Sales tax revenue increases

- Mission, Taraval (outperformed city)

Leveraging Local Funds

- Geary, 5 Fulton, Folsom, all leveraged Prop K funds for competitive State grants.

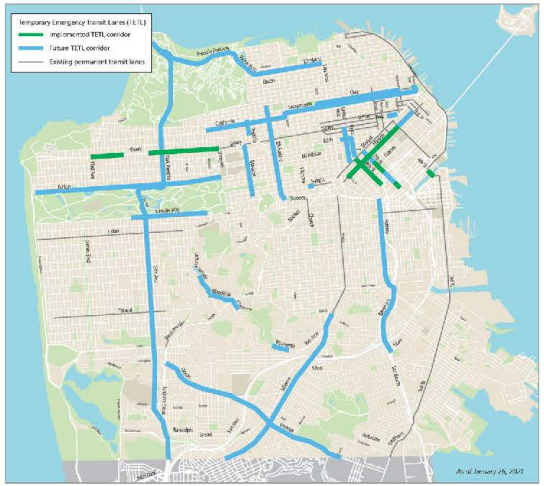
Muni Transit Reliability and Enhancement Project Success: **Transit Emergency Lanes (TETL)**

Transit Emergency Lanes (TETL)

- Transit Only Lanes are key to speeding up buses and getting them out of traffic congestion.
- During COVID, Transit Emergency Lanes were installed to temporarily increase capacity on key corridors.
- These projects have a streamlined approval process and use reversible, adjustable, and lower-cost materials that can be installed quickly (and removed if the project is ineffective). All emergency lanes will be removed unless approved via a public process.

Approved temporary emergency transit lanes include the following projects:

- 1 California
- 14 Mission and 14R Mission Rapid
- 19 Polk
- 24 Divisadero: (Replaced with the 24 Divisadero Safety and Transit Project)
- 28 19th Avenue: Park Presidio Lombard Temp. HOV Lanes
- 38 Geary and 38R Geary Rapid
- 43 Masonic and 44 O'Shaughnessy
- T Third: 4th Street Bridge



Muni Transit Reliability and Capacity – Next Five Years

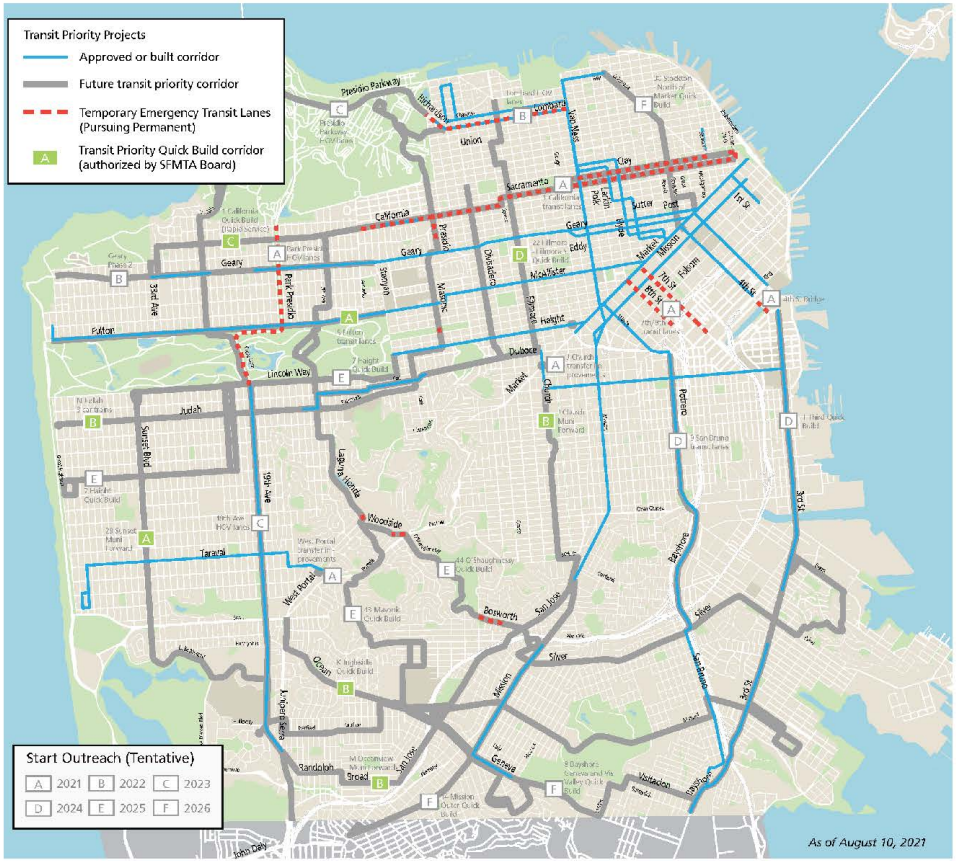
The next five years

- Make TETL projects permanent, where appropriate
- Complete outreach on remaining Rapid corridors from Transit Effectiveness Project
- Implement Delay Hot Spot program to complement corridor-based approach
- Operationalize the Equity Strategy with improved service on Equity Strategy lines
- Launch Rapid service on more lines
- Begin transformation of Muni Metro into a true Metro system, with 3-car trains (part of Muni Core Capacity)

A vision for the Rapid Network

- Continued improvements on the Rapid Network to achieve a vision of Rapid Network service that travels between stops with *no needless delay*
- Rapid service should provide a "surface subway" experience that allows people to get where they need to go in San Francisco with ease

Muni Transit Reliability and Enhancement – Next Five Years

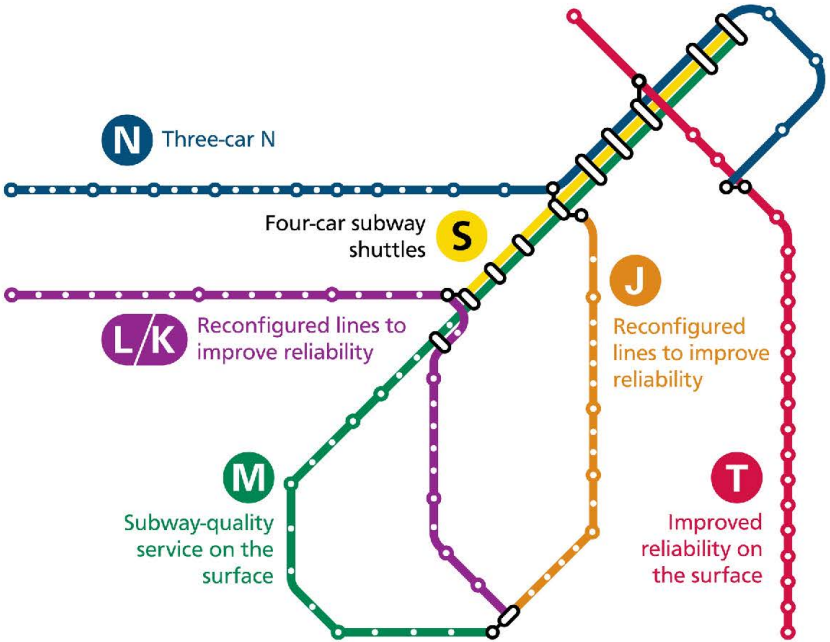


Next Generation Muni Transit Reliability and Capacity:
Five-Minute Network Improved Speed & Reliability

- Street and signal improvements to preserve transit speed and reliability.
- Fast, frequent service and easy transfers throughout SF.

Next Generation Transit Reliability and Capacity:
Muni Core Capacity Improvements

- Rebuild our aging rail network
- Expand critical infrastructure that keeps trains moving
- Longer trains and more reliable service



ConnectSF

Muni Core Capacity *Potential* Elements:

Train Control Upgrade Program	Light Rail Fleet and Facility Expansion	Major Rail Corridor Improvements	Subway Renewal and Modernization
Scope: Expanding Train Control to the entire Muni Light Rail. **Cost:** ~$300 million in Capital, plus $100 million in ongoing maintenance over 20 years.	**Scope:** Expanding light rail fleet and corresponding facilities. **Cost:** $130 million for additional fleet. TBD additional facility enhancements.	**Scope:** Enabling three car trains on N-Line, K-line improvements million, etc. **Cost:** ~$50 per corridor.	**Scope:** 10-year investment strategy to upgrade and modernize all elements of the subway. **Cost:** $1.5 - $2.5 billion

Funding: These projects are often dependent on receiving competitive state or federal grants. Local sales tax can seed these projects and provide key local contributions that contribute to their success in competitive funding.

Muni Core Capacity Benefits

Upgrades such as a new train control system will allow **four-car trains** and **consistent**, **predictable service**.

Subway renewal addresses crowding and congestion

Envisions the next generation of subway service for San Francisco

Sales Tax is Key "Seed" Funding to Enable Project Development and State/Federal Funding

Financial Need:

- $1.9+* billion needed for Major Transit Projects through 2050.

Available Funding:

- Small amounts of funding available for Planning
- Projects would most likely require regional, state, and federal buy in and funding
- Sales Tax provides local "Seed" funding to develop projects and position them for larger funding pots.

Fast and Convenient Transit

Investing Equitably

Reference: Transportation 2050

- Projects in this category, particularly the Muni Core Capacity program, often take several years to develop and prepare for construction. Need reflects current cost estimates through 2050 only and may be much higher for the entire cost of the project beyond EP.


Questions?
038
DROP OFF
5772

SF Sales Tax Reauthorization

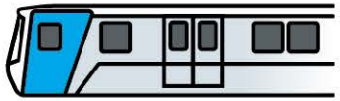
Expenditure Plan Advisory Committee Mtg. # 4

October 28, 2021

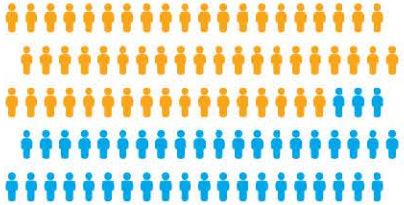
BART Core Capacity

BART Supports SF Workers and Employers

>250,000
people take BART
in and out of San Francisco
each weekday

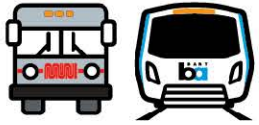


57% intra-SF BART
riders report household incomes
< $50,000

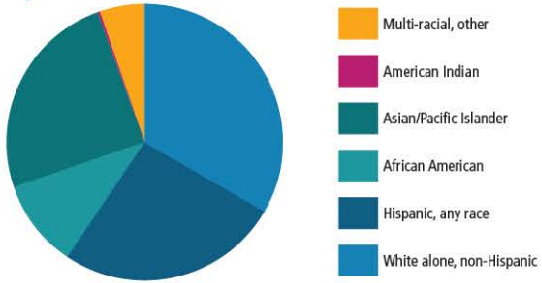


SF office buildings located within
1/2 mile of BART generate
$256 million
a year in local property tax

55,000
people take **BART**
within San Francisco
each day, equivalent to SFMTA
Service on Geary Corridor



SF BART Riders
by Race



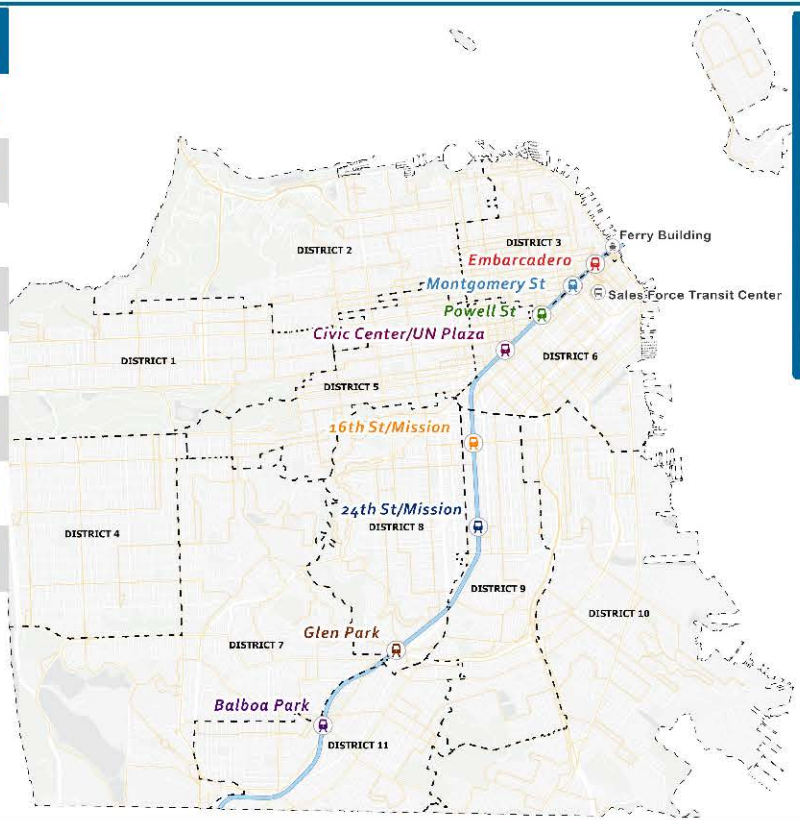
BART's contracted
power supply is
100% greenhouse
gas-free

Source: 2019 Ridership Data

Source: 2020 Customer Survey

76% of BART Riders Enter and/or Exit at a SF Station

Riders Entering or Exiting at a San Francisco Station Each Year (Pre-Pandemic)	
Embarcadero	24,691,500
Montgomery St	23,883,578
Powell St	17,555,891
Civic Center/UN Plaza	13,530,104
16th St/Mission	7,557,235
24th St/Mission	7,324,233
Glen Park	4,323,013
Balboa Park	6,253,962



310,000

riders enter or exit a BART San Francisco station each weekday

(pre-pandemic)

BART Core Capacity Program

- **$3.5B Program** of four Project Elements:
  - Train Control Modernization Program
  - Fleet of the Future Procurement Phase 2
  - Fleet of the Future Storage Yard
  - Traction Power Substations

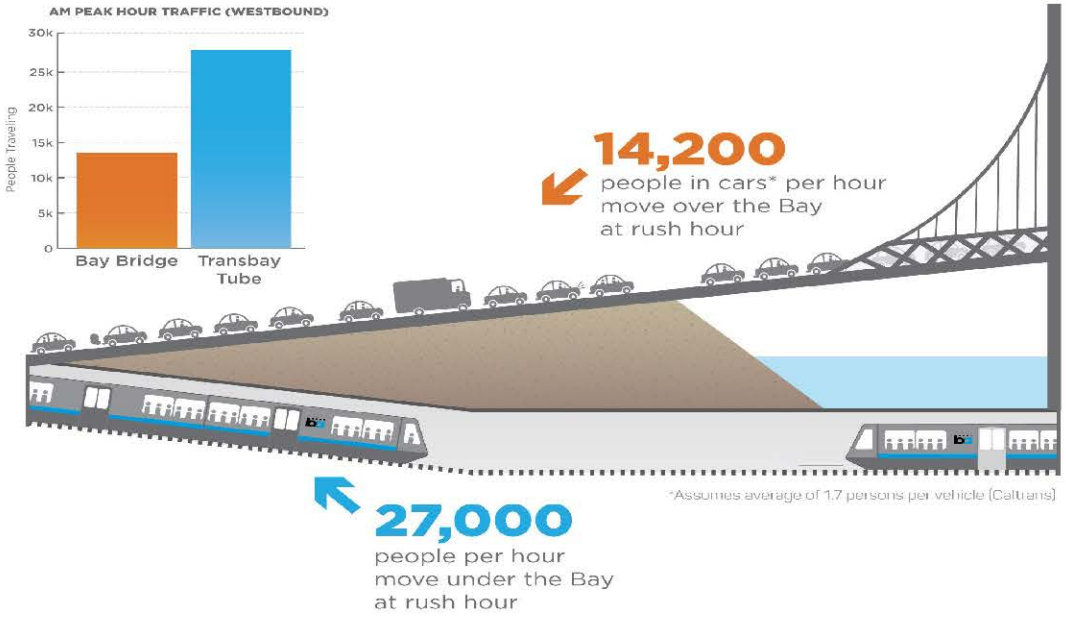
- Requesting **$100M SF Sales Tax funds** to support Core Capacity Program Project Elements

- SF Sales Tax would leverage **$3.4B federal, State, regional, local and BART funds**
  - $1.3B of federal Capital Investment Grant and other funds (secured)
  - $486M of State TIRCP and SCC funds
  - $679M Regional funds
  - $638M BART funds
  - $100M each ACTC, CCTA, SFCTA planned; $120M+ VTA contribution programmed

BART Core Capacity Program Benefits

- Will enable BART to **increase service by 30-40%**
- Up from 23 trains/ hour during peak periods today to up to **29 10-car trains/ hour** at completion
- More frequent BART service will **improve transit connections** in San Francisco across the region

BART's Peak Hour Transbay Market Share (Pre-Pandemic)

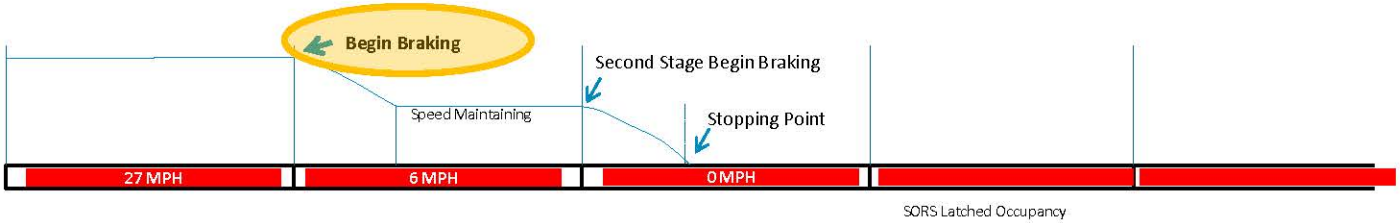


Train Control Modernization Program

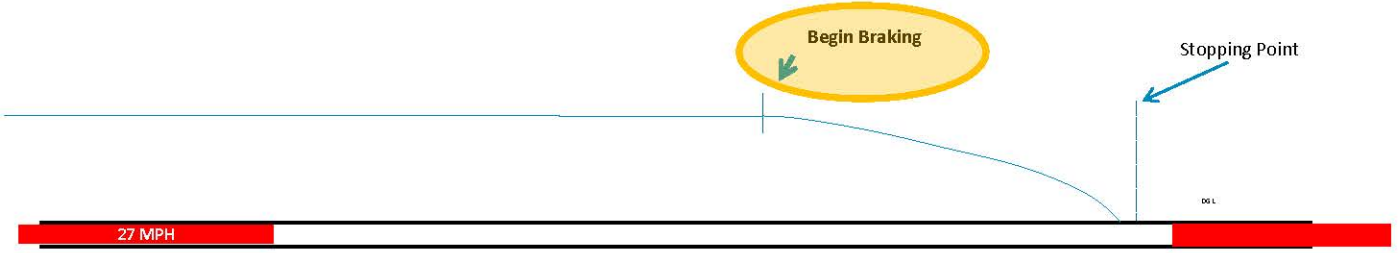
- Replaces BART's nearly 50-year-old train control system with a new, **state-of-the-art Communications-Based Train Control system**
- Will enable closer headways and more frequent service from up to 23 trains/hour today to up to 30 10-car trains
- **$1.7 billion** project

CBTC Wayside Inspection

Existing Fixed Block Train Control

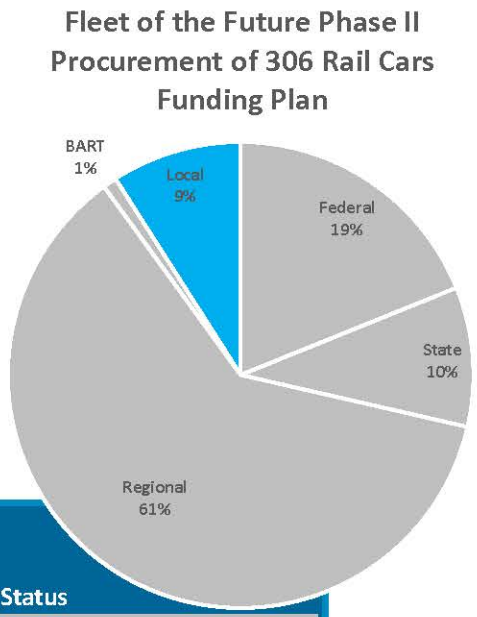


New Communications-Based (Moving Block) Train Control



Fleet of the Future

- To support future service levels, BART plans to procure up to 1,200 new Fleet of the Future rail cars
  - Including **306 Core Capacity Rail Cars**
- To be delivered in three phases:



Fleet of the Future Rail Car Procurement	Description	Total Project Cost Estimate	Per Rail Car Unit Cost	Project Status
Phase I: 775 Rail Car Procurement	Repaces 669 rail cars and adds 106 rail cars, including 60 for BART-to-Silicon Valley Phase I extension.	$2,584M	$3.3M	Underway; 286 new rail cars in service.
Phase II: 306 Rail Car Procurement	Procures 306 Core Capacity rail cars.	$1,105M	$3.6M	Base contract 100 rail cars executed 9/2020. Options included in contract for remaining 206 rail cars.
Phase III: 119 Rail Car Procurement	Procures additional 119 rail cars to support BART-to-Silicon Valley Phase II extension and BART service plans.	$422M	$3.6M	Options included in contract approved 9/2020.

Fleet of the Future

Fleet of the Future Production Line

Fleet of the Future Vehicle Inspection and Retrofit

Hayward Storage Yard and Traction Power Substations

- **Hayward Storage Yard.** New storage yard on BART-owned property to **accommodate the additional 306 Fleet of the Future Rail Cars**
- Will provide **storage for 25 ten-car trains**, or 250 additional vehicles
- Estimated to cost **$345M**

- **Traction Power Substations.** Six new traction power substations to **supply electricity needed to provided increased service**
- Work has begun to **construct two new substations in downtown SF**
  - Civic Center Station
  - Montgomery Station
- Traction power simulations revealed specific areas where existing traction power capacity insufficient to operate 30 ten-car trains through the Transbay Tube per hour
- Estimated to cost **$167M**

BART Other Core System Capacity Investments

FLEET OF THE FUTURE (FotF) MAINTENANCE FACILITY

- Construct a new maintenance facility to perform scheduled maintenance and overhaul of the new Fleet of the Future rail cars
- Will support the robust service delivered by the Core Capacity Program and new service associated with the BART-to-Silicon Valley extension
- **$420 million** project
- Design phase funded by BART and Alameda County Transportation Authority

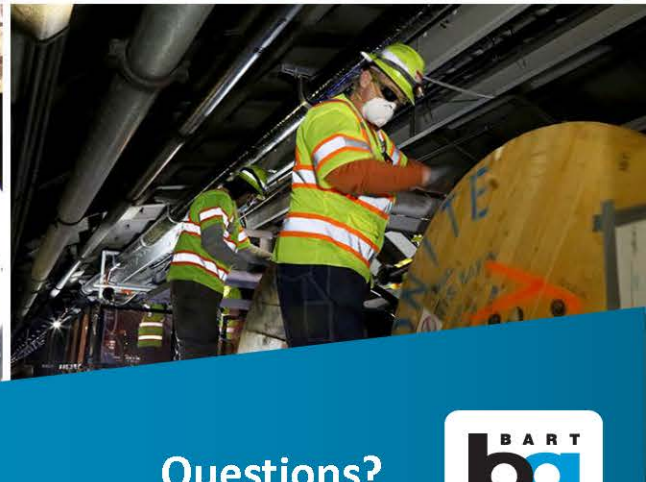
BART METRO STUDY will identify a prioritized capital project list that would fully leverage planned system investments while improving operational efficiency

- Focusing on 2030 and beyond
- Example projects such as new storage facilities and bypass tracks
- Funded by Caltrans

- Requesting **$80M SF Sales Tax funds** for FotF Maintenance Facility or prioritized investments identified in BART Metro Study


MAINTAIN DISTANCE
FOR ELEVATOR
Enter with Clipper/Ticket at Platform Fare Gate
PARA EL ELEVADOR
Ingrese con su Clipper o boleto en la puerta de admisión de la plataforma
專用電梯


GIANTS



Questions?

Caltrain Proposed SF Sales Tax Expenditures

SFCTA Expenditure Plan Advisory Committee

October 28, 2021

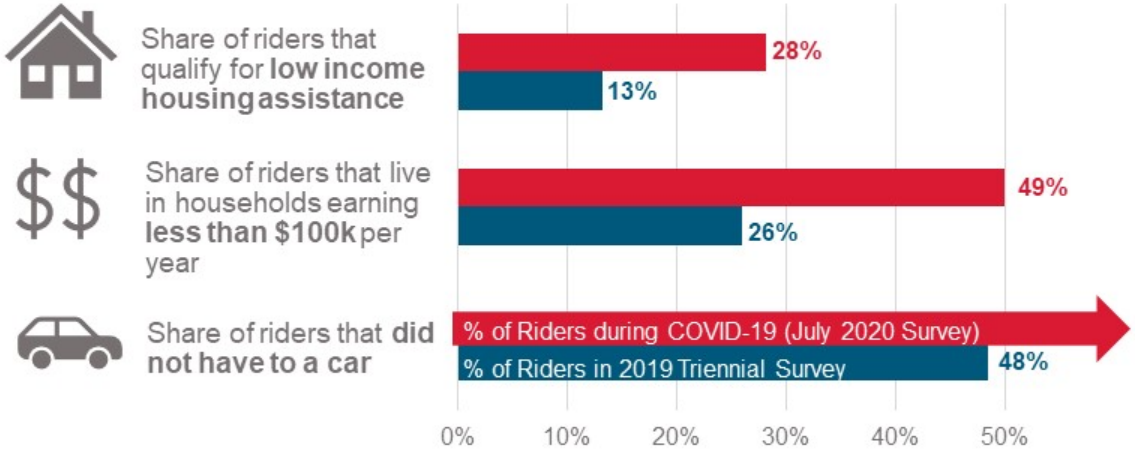
Caltrain

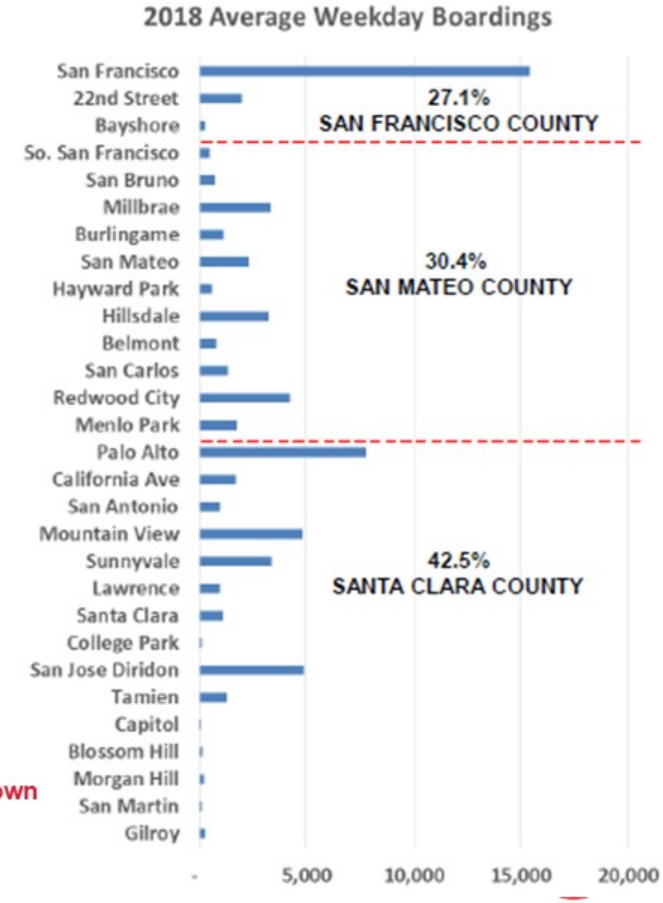
Caltrain Overview

- The Peninsula Corridor Joint Powers Board (JPB) is a joint exercise of powers agency that has administered the operation of Caltrain passenger train services since 1992.
- The JPB's three member agencies include:
  - **The City and County of San Francisco**
  - **The San Mateo County Transit District**
  - **The Santa Clara Valley Transportation Authority**
- All three member agencies share in the costs to operate and maintain Caltrain.
- Caltrain currently operates 104 trains per weekday.

Caltrain Ridership

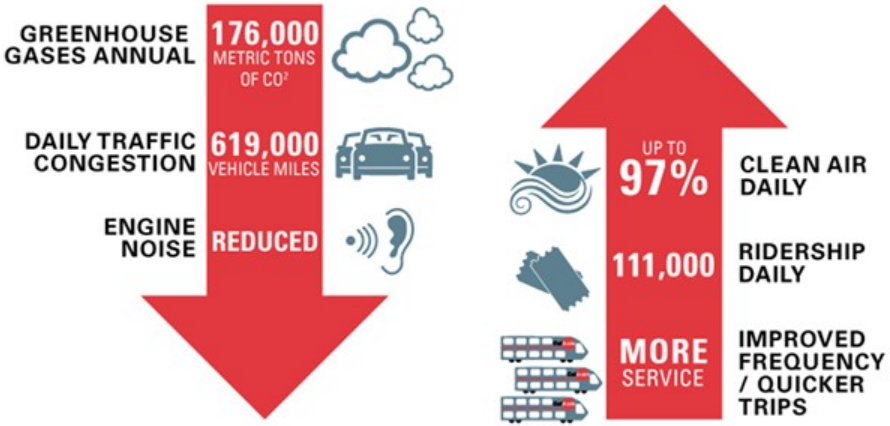
- Before the pandemic, Caltrain carried **~65,000-70,000 riders per day** (ridership is currently ~15% of normal due to the pandemic).
- Caltrain has a **bi-directional ridership market**, with consistently strong ridership in the north in San Francisco, in the south in San Jose, and in between on the Peninsula.
- **San Francisco 4th & King Station is Caltrain's busiest station**.





Caltrain Electrification

- Caltrain is in the process of **electrifying 51 miles** of its corridor from San Francisco's 4th and King Station to Tamien Station in San Jose.
- Caltrain Electrification will improve Caltrain system performance and curtail long-term environmental impacts by **reducing noise, improving regional air quality, and lowering greenhouse gas emissions**.



Project Area: San Francisco to San Jose

San Francisco Context

Caltrain continues to work with our San Francisco partners to advance and enhance rail infrastructure and services.

We're actively coordinating with key partners, including:

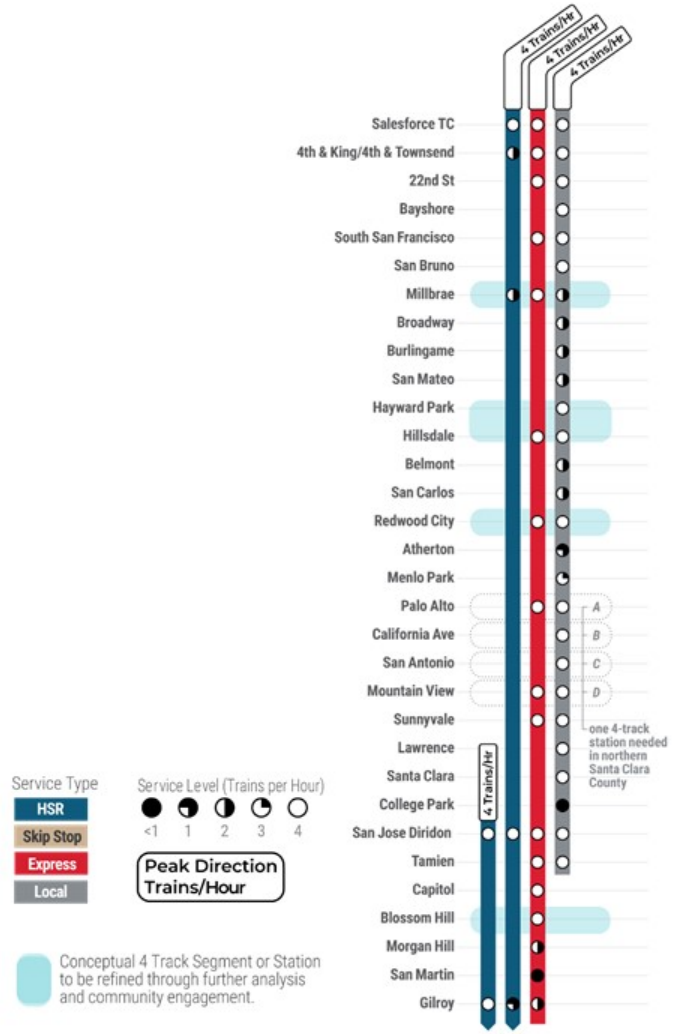
- San Francisco County Transportation Authority (SFCTA)
- San Francisco Planning (SF Planning)
- Transbay Joint Powers Authority (TJPA)

Caltrain's 2040 Service Vision

Adopted by the Caltrain Board in October 2019

Illustrative Service Details

Trains per Hour, per Direction	Peak: 8 Caltrain + 4 HSR Off-Peak: Up to 6 Caltrain + 3 HSR
Stopping Pattern	Local / Express with timed transfer in Mid Peninsula
Travel Time, STC-Diridon	61 Min (Express) 85 Min (Local)
New Passing Tracks	Millbrae, Hayward Park-Hillsdale, Redwood City area, Northern Santa Clara County, Blossom Hill
Service Plan Description	• Local and Express trains each operating at 15-minute frequencies with timed cross-platform transfer at Redwood City • All trains serve Salesforce Transit Center • Trains serve Capitol and Blossom Hill every 15 minutes and Morgan Hill and Gilroy every 30 minutes • Skip stop pattern for some mid-Peninsula stations



Caltrain's 2040 Service Vision - Investments

CAPITAL COSTS

$23 BILLION
TOTAL CAPITAL COSTS*

Capital costs include all projects from SF to Gilroy, knitting together a connected corridor with greatly improved service.

$9.4B
GRADE SEPARATIONS

$7.8B
TERMINAL IMPROVEMENTS

$3.3B
RAIL INFRASTRUCTURE AND SYSTEMS

$1.4B
STATION IMPROVEMENTS

$1.1B
FLEET UPGRADES

OPERATING COSTS

$370 MILLION
2040 ANNUAL OPERATING COSTS*

Caltrain is one of the leanest, most efficient transit services in the country. Today's annual operating and maintenance costs are $135 million, and 73% is covered by fares. The vision would benefit from a similarly high farebox recovery ratio.

$266M
OPERATING COSTS COVERED BY FAREBOX (72%)

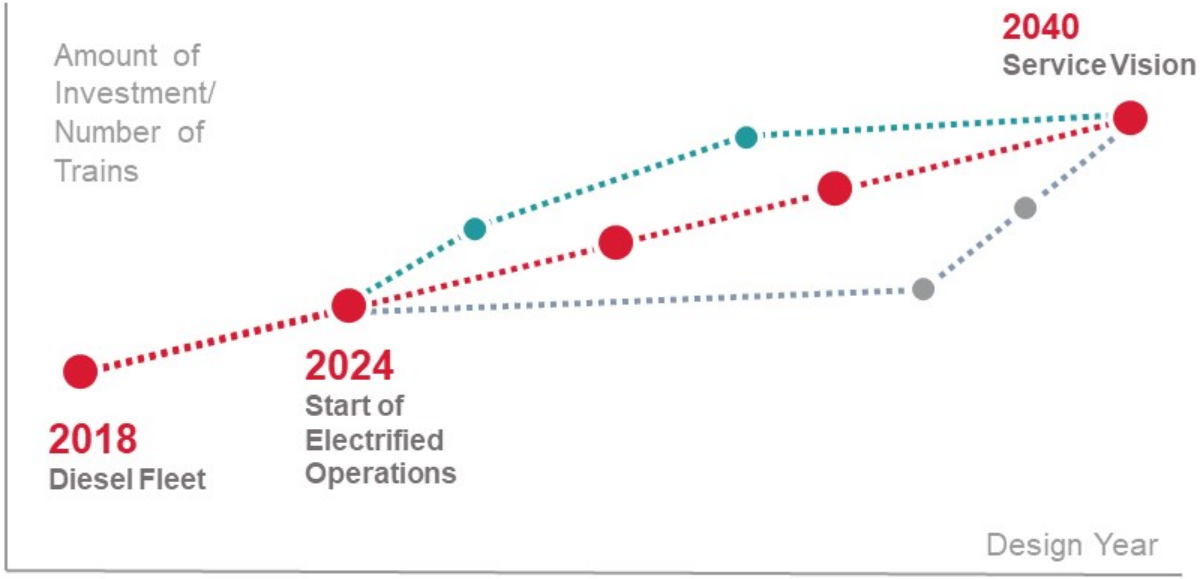
$104M
ANNUAL OPERATING INVESTMENT NEEDED (28%)

Getting to the 2040 Service Vision

Electrification will provide tremendous near-term service benefits to the corridor. However, regional growth projections suggest that there is medium-term demand for more service by the end of the 2020s.

Working backwards from the 2040 Service Vision, Caltrain developed **Key Capital Investments for the Caltrain Service Vision**.

These investments will allow Caltrain to **deliver the benefits of increased service** to the corridor sooner than 2040.



Advancing Caltrain's Service Vision: Key Capital Investments to Increase Caltrain Service to 8 Trains Per Peak Hour

At a cost of $1.211B ($2018), the following key investments would specifically be needed to increase Caltrain service to 8 trains per peak hour per direction.

These investments are consistent with the overall program assumed in the Caltrain 2040 Service Vision.

Expanded EMU Fleet

Level Boarding

More Train Storage

Minor Track Work

Holdout Rule Elimination

Key Investments to Advance Caltrain's 2040 Service Vision

Why make this investment?

- This service will lead to a **massive increase in station stops** along the Caltrain corridor.
  - The significant majority of Caltrain stations will receive service levels of **4- or 8-trains per hour per direction** (as compared to just a handful of stations that receive this level of service today).
- This investment will allow Caltrain to provide the service and capacity needed to make **maximum use of the Downtown Extension** once that project is open.
- It will be foundational to the development of an **integrated regional rail network**, including potential future connections with the East Bay via the San Francisco-Oakland Transbay Rail Crossing.

What will be funded?

- The full electrification and expansion of Caltrain's mainline fleet.
- The construction of additional train storage.
- The improvement of platforms at Caltrain stations to achieve level boarding.
- The reconfiguration or elimination of remaining holdout rule stations on the corridor and minor track work where needed.

What other funding sources can be used for these investments?

- **Local contributions are crucial** to help leverage funding from State and Federal sources for investments in capital projects needed to increase the amount of Caltrain service, consistent with the 2040 Service Vision.
- In addition to the City and County of San Francisco, **the JPB's other member agencies** are expected to contribute to this project with San Mateo County's Measure A and Santa Clara County's Measure B anticipated to provide approximately $564M.

Caltrain

Thank you!

https://caltrain2040.org/

Transbay Program
Downtown Rail Extension

Expenditure Plan Advisory Committee

October 28, 2021

TJPA
TRANSBAY JOINT POWERS AUTHORITY

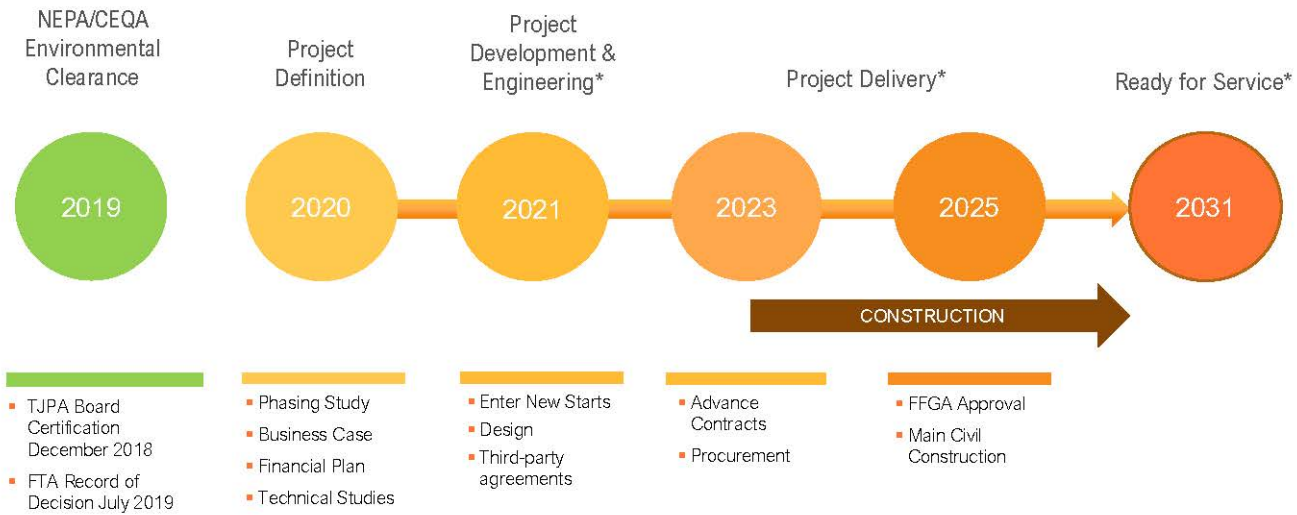
Key Rail Connection

- Provides one-seat ride from the Peninsula to downtown San Francisco
- Creates an essential link in the mega-region and state's rail network to improve mobility
- Linchpin for realizing Link21, a new Transbay passenger rail crossing between Oakland and San Francisco
- Provides mega-regional access to housing and employment
- Improves air quality by reducing nearly 3.2 million metric tons of carbon dioxide equivalent (MTCo2e), or nearly 14,000 passenger vehicles per year, over 50 years
- Estimated 90,000 riders per day*

** Average of Caltrain, CHSRA, and TJPA ridership estimates*

TJPA
TRANSBAY JOINT POWERS AUTHORITY

Project Schedule



* SUBJECT TO FUNDING

TJPA
TRANSBAY JOINT POWERS AUTHORITY

DTX Funding Approach *(Indicative)*

Source	Potential Amount/Range ($ millions)
Federal	
FTA New Starts	1,500 - 2,500
State	
Planned State Funds (HSR, TIRCP, RTIP/STIP*)	970
Additional/New State Sources	100 - 200
Regional	
Regional Measure 3 Bridge Tolls	325
Additional/New Regional Sources	250 - 350
Local	
Previously Planned Dedicated Sources (Prop K, Tax Increment, Special Tax, Land Sale)	810
San Francisco Local Measures (e.g., Sales Tax Reauthorization)	300 - 400
Additional/New Local Sources	200 - 400
Total	**~4,500 - 5,500**

- Reflects funding sources with varying degrees of certainty and commitment
- Funding Plan update underway to revise forecasts of previously-assumed sources and identify additional sources

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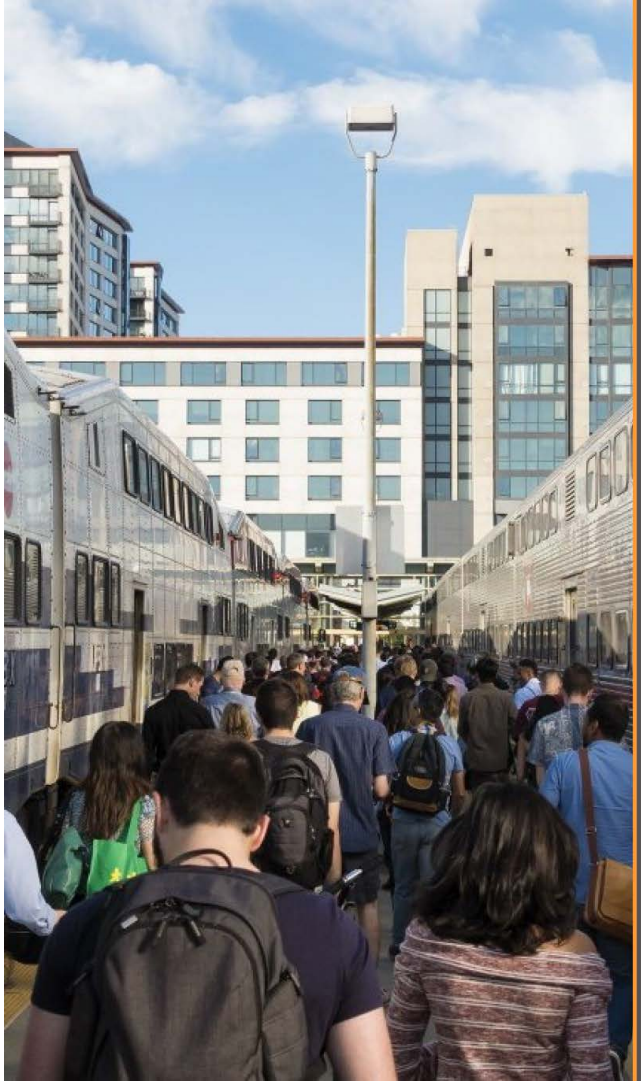

Questions?

TJPA
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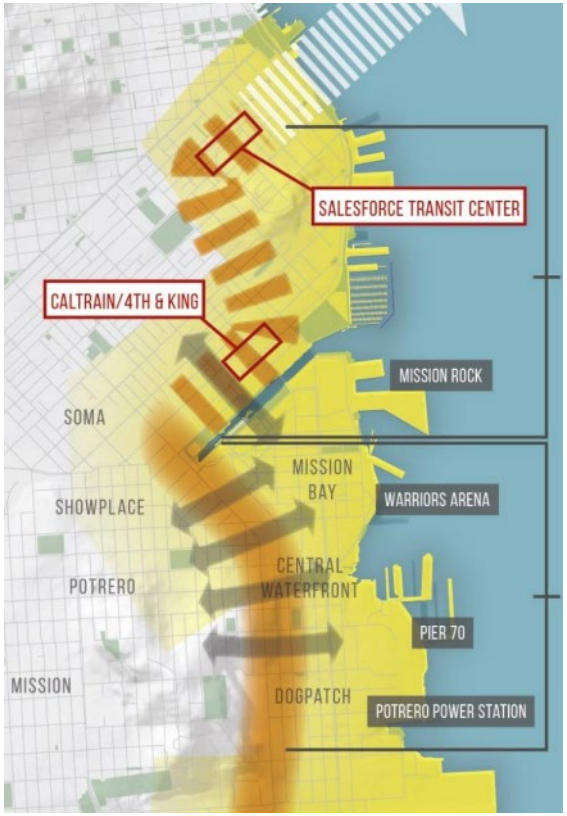
425 Mission Street, San Francisco, CA 94105 • 415.597.4620 • www.tjpa.org

Pennsylvania Avenue Extension (PAX)

San Francisco County Transportation Authority

- Caltrain corridor will serve up to 12 trains per hour per direction in the future (Caltrain + High-Speed Rail)
- PAX will extend below-grade rail alignment south from DTX, via a new tunnel beneath 7th Street and Pennsylvania Avenue
- PAX will separate existing at-grade rail crossings at 16th Street and Mission Bay Drive
- SFCTA currently leading pre-environmental planning studies for PAX to understand design options, operational requirements, and estimated costs



DTX –
Environmentally cleared; currently in Design Phase

PAX –

Currently in Planning Phase; multiple alternatives under study

Questions?

San Francisco
County Transportation
Authority

Email: ExpenditurePlan@sfcta.org