

# Agenda Item 6.

## Maintaining the System: Muni, BART and Caltrain



San Francisco  
County Transportation  
Authority

September 23, 2021

# Maintenance, Rehabilitation and Replacement



San Francisco  
County Transportation  
Authority

- Consistent with San Francisco's Transit First Policy, about 66% of the Preliminary Draft Expenditure Plan would fund transit capital improvements
- **About 41% of the Draft Plan would fund transit maintenance**





**SFMTA**

San Francisco Transportation Sales Tax Reauthorization

# **Repairs and Maintenance:**

Vehicles

Guideways

Facilities

Expenditure Plan Advisory Committee  
September 23, 2021

**Transportation 2050**





## What is State of Good Repair?

The SFMTA defines State of Good Repair as the condition in which the Agency's assets can operate at a full level of performance. State of Good Repair investment includes any spending that ensures an asset necessary for delivery of transportation service to the public or supportive of staff needs remain effective, efficient, reliable, and safe.



Age Based Condition  
Score of all infrastructure

**\$15.6B**

Total Capital Inventory



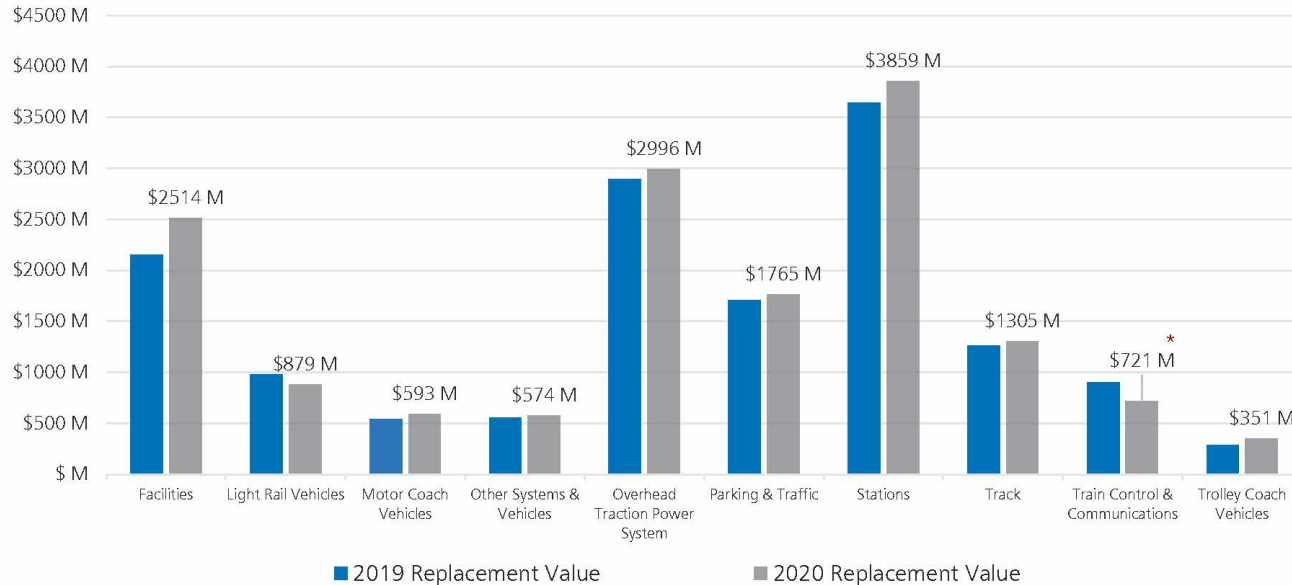
Percent of SFMTA Assets  
operating beyond expected  
useful life

Reference: [2020 SFMTA State of Good Repair Report](#)

## State of Good Repair



**The total SFMTA asset replacement value is estimated at \$15.6 billion.** Asset replacement value provides a baseline when assessing levels of investment across asset classes.



\*The train control system is not accurately modeled in our analysis; we know the system is near the end of its useful life with a higher replacement value than presented in the 2020 SGR Report.

Reference: [2020 SFMTA State of Good Repair Report](#)

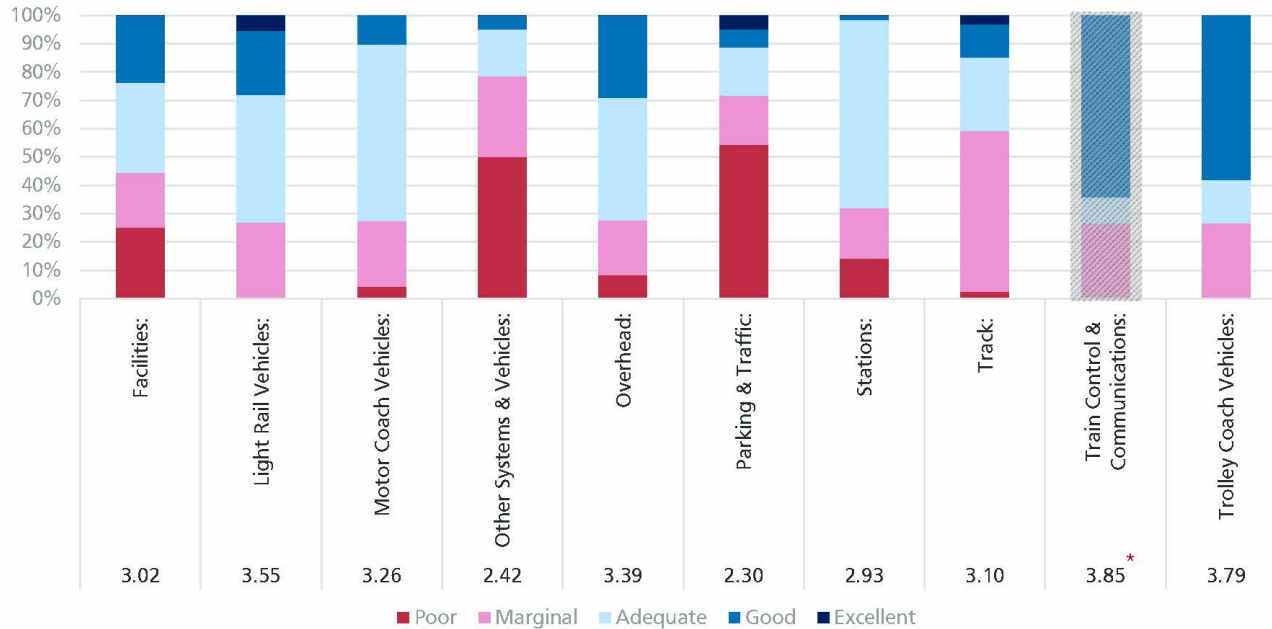


SFMTA

## State of Good Repair



**Age Based Condition Scores** are based on the age of an asset and use a scale of 1 to 5. The weighted average condition score for all SFMTA assets in FY2020 is 3.07.



\*The train control system is not accurately modeled in our analysis; we know the system is near the end of its useful life with a higher replacement cost than presented in the 2020 SGR Report.

Reference: [2020 SFMTA State of Good Repair Report](#)

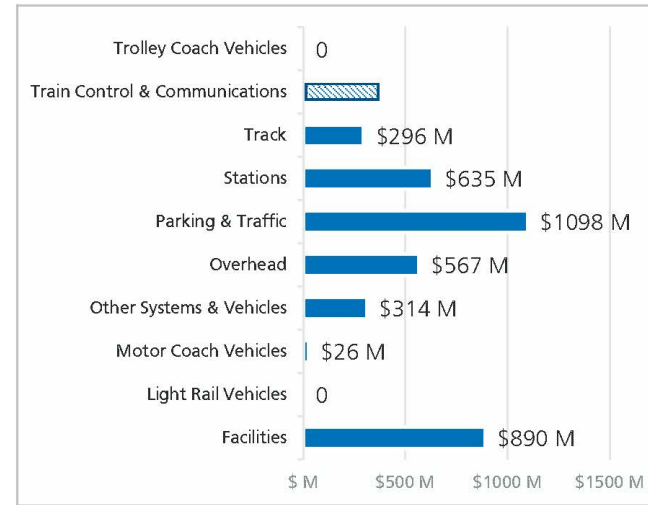
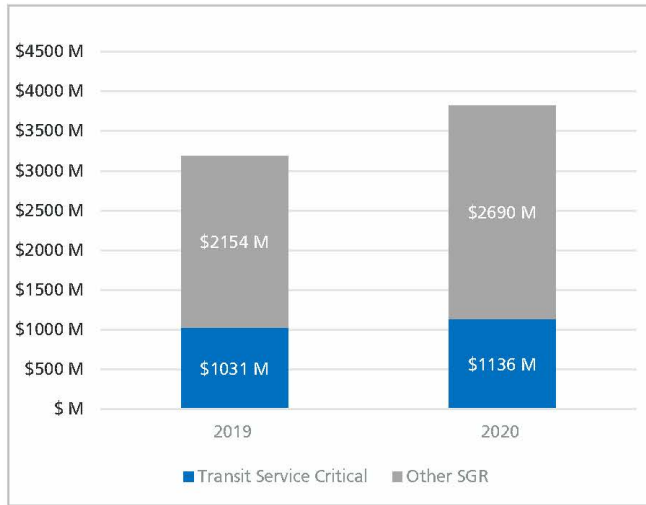


## State of Good Repair



**\$3.83 B**  
Backlog

The value of assets beyond their useful life is **\$3.83 billion**. This **backlog** represents deferred investments in infrastructure replacement or rehabilitation. The backlog represents assets where an end-of-lifecycle decisions needs to be made; either these assets will be retired, replaced in-kind, or upgraded with new technology or systems.



Reference: [2020 SFMTA State of Good Repair Report](#)

## State of Good Repair



### State of Good Repair Key Trends (in \$B)



Reference: [2020 SFMTA State of Good Repair Report](#)



# Maintaining, Rebuilding and Replacing Core Transit Infrastructure is Key to Providing Fast and Convenient Transit



- Overhauling vehicles and other preventative maintenance reduces the likelihood of breakdowns, as does replacing them at the end of their useful life.
- Maintaining and replacing facilities maintains safe working conditions ensures sufficient resources for vehicle maintenance and prepares the City to transition to electric buses.
- Guideway repair and maintenance keeps the buses and trains moving.



# Maintenance, Rehabilitation and Replacement of Muni Transit Vehicles

## Financial Need:

- Maintaining transit vehicles, track and stations in a state of good repair.
- **\$7 billion** needed through 2050

## Available Funding:

- Vehicle replacement is primarily funded by federal funds, which requires at least **30%\*** local funds to indicate local commitment.
- Current revenue projections indicate only **7%** of local match available through 2050.



More Repairs and  
Maintenance



Fast and  
Convenient Transit

Reference: [Transportation 2050](#)

\*MTC programs Federal formula funds according to the Transit Capital Priority Program and the Core Capacity Challenge Grant Program, which sets at 75/25 local match in any given year and 70/30 over the 15 – year CCGP span.

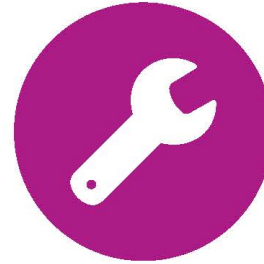
# Maintenance, Rehabilitation and Replacement of Muni Transit - Guideways

## Financial Need:

- Maintaining transit vehicles, track and stations in a state of good repair.
- **\$2.5 billion** needed through 2050

## Available Funding:

- Guideway rehab and replacement is funded by a mix of federal and state funds, which requires at least **20%** local funds to indicate local commitment.
- Guideways are anticipated to have more than **20%** unfunded need through 2050.



**More Repairs and  
Maintenance**



**Fast and  
Convenient Transit**

Reference: [Transportation 2050](#)

# Maintenance, Rehabilitation and Replacement of Muni Transit - Facilities

## Financial Need:

- Maintaining transit vehicles, track and stations in a state of good repair.
- **\$4.9 billion** needed through 2050

## Available Funding:

- Facilities have few dedicated funding sources.
- Federal and State funding is difficult to secure.
- Facilities are only projected to have **12%** of needed revenues through 2050.



\*MTC programs Federal formula funds according to the Transit Capital Priority Program and the Core Capacity Challenge Grant Program, which sets project scores from 8-17. In recent years only score 16 and 17 projects have been successful in receiving funding. Facilities are Score 12 and 13.



**More Repairs and  
Maintenance**



**Fast and  
Convenient Transit**





# SF Sales Tax Reauthorization

Expenditure Plan Advisory Committee

September 23, 2021



# BART is Local

- BART supports **equity**
  - Typical SF resident riding BART today within the City is: a person of color who has an **annual household income under \$50K**, does not own a car, and has been riding BART over 5 years to commute to work
  - BART offers **Clipper START, a fare-discount pilot program** for riders with lower incomes launched in 2020
- **San Franciscans** rely on BART
  - Pre-pandemic, 55,000 people took BART within San Francisco each day – **equivalent to SFMTA's service on Geary Corridor**
  - BART provides **fastest, most affordable point-to-point service in Southeast SF corridor**
- BART supports **sustainability**
  - BART's contracted power supply is **100% greenhouse gas free**

# BART is Local

- BART supports **SF employers and workers**
  - Pre-pandemic, **75% of BART weekday trips originated or ended in SF** (310K trips)
  - **73% of SF office space** is located within half mile of downtown BART stations
- BART contributes to San Francisco sales tax and property tax generation
  - Higher SF daytime population drives higher sales tax revenues –  
**BART carries >125K people into SF each weekday** (pre-pandemic)
  - 85% of office AV located within half mile of downtown BART stations –  
**generates \$256M/year in SF property tax** (pre-pandemic)



# BART Maintenance, Rehabilitation and Replacement Example Projects

- **Implementing a Modern Train Control System**

→ Less standing around on platforms and more frequent train service

- **Replacing broken escalators**

→ BART ribbon cutting on first of 41 New Escalators in Downtown Station Entrances - Tuesday, Aug 31

- **Construction of new turnarounds and extra tracks**

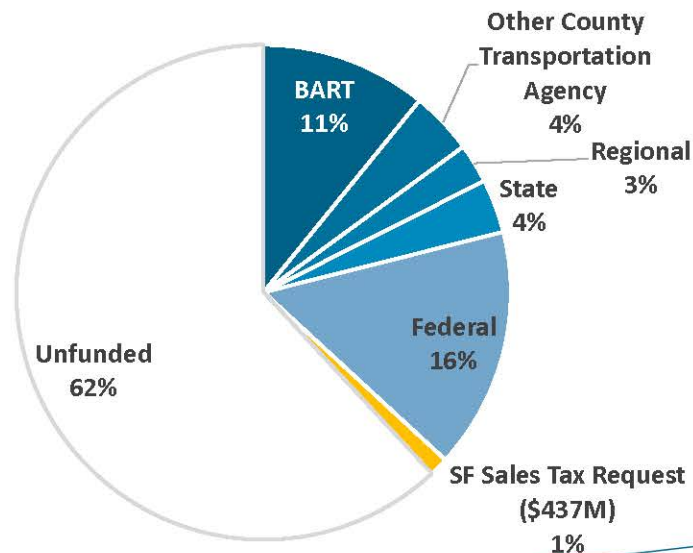
→ Reducing the impact of delays

- **Replacing and upgrading power infrastructure**

→ Supporting reliable service and expanding capacity to support service expansion

SF Sales Tax funds would leverage Measure RR, federal and other funds to keep the BART system reliable and up to date

30-Year Funding Forecast of BART Maintenance, Rehabilitation and Replacement Program

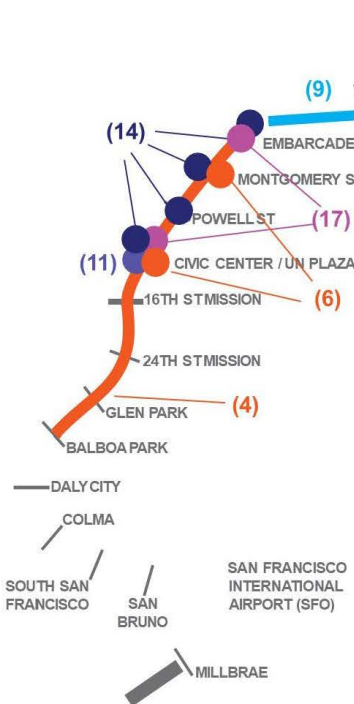


# BART is Investing in Maintenance, Rehabilitation and Replacement in San Francisco

- BART has programmed almost **\$2.1B of \$3.5B BART Measure RR General Obligation bonds** to maintenance, rehabilitation and replacement projects that are **in or benefit San Francisco**
  - BART Measure RR passed in 2016 by voters in SF, Alameda and Contra Costa counties.
- An additional **\$1.5B of other funds have been allocated to these projects**, including:
  - Federal Formula Funds and FTA Capital Investment Grant
  - State Transit and Intercity Rail Capital Program and Solutions for Congested Corridors Program
  - BART Allocations from Operating Budget to Capital Program
  - Other local funding, including contributions from County Transportation Agencies



# BART Measure RR Investments in San Francisco Maintenance, Rehabilitation and Replacement



## Renew Track

- 1 Replace Direct Fixation Pads (Systemwide Not Mapped) – Ongoing Construction
- 2 Rail Relay – Ongoing Construction - (Systemwide Not Mapped)
- 3 A65/A75 Track Interlocking Replacement – Substantially Complete\*

## Renew Power Infrastructure

- 4 M-Line 34.5kV Cable Replacement Ph.II– Ongoing
- 5 R-Line 34.5kV Cable Replacement – Ongoing Construction
- 6 Substation for Core Capacity – Ongoing Construction\*

## Renew Tunnel & Structures

- 7 Water Intrusion at Train Control Rooms - Ongoing Construction - (Systemwide Not Mapped)\*
- 8 Earthquake Safety Program – Transbay Tube Retrofit – Ongoing Construction
- 9 Tunnel Lighting Replacement – Completed

## Renew Mechanical

- 10 Facilities HVAC Equipment Replacement System Wide Phase 1 - Ongoing Construction (Not Mapped)

## Design/Engineer to Relieve Crowding

- 11 Civic Center Scissor Stairs – Ongoing Construction
- 12 Repair Sidewalks SWD – (Systemwide)

## Renew Stations

- 13 19th Street Station Modernization – Ongoing Construction
- 14 Market Street Canopies and Escalator – Ongoing Construction
- 15 Union City Station Modernization - Ongoing Construction

## Expand Safe Access

- 16 eBART Antioch Parking Lot Contract – Ongoing Construction
- 17 Bicycle Stair Channels – Ongoing Construction
- 18 El Cerrito Del Norte – Phase 1 and 2 Opening

## Replace Train Control/Increase Capacity

- 19 Enabling Works Contract for Power Supply Cabinets & Switch Machine/Train Control Power Cables (Systemwide Not Mapped) – Advertised



# BART Maintenance, Rehabilitation and Replacement Major Capital Projects

## 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 also enable BART to reduce headways between trains, enabling more frequent and reliable service
- \$1.7 billion project, within larger \$3.5B BART Core Capacity Program (CCP)
- Requesting \$100M SF Sales Tax funds to support CCP
- SF Sales Tax would leverage \$3.4B federal, State, regional, local and BART funds
  - Including \$1.3B federal Capital Investment Grant

## Next Generation Fare Gates

- Retrofit existing fare gates to improve reliability and maintainability
- To improve throughput and reduce passenger queuing at fare gates
- \$90M systemwide project, of which ~\$30M is in San Francisco (including SFO)
- Requesting \$15.7M SF Sales Tax funds
- SF Sales Tax would leverage ~\$75M of federal, local and BART funds
  - \$10M BART Measure RR
  - \$7M Allocations from BART Operating Budget
  - \$18M federal Formula Funds
  - \$39.5M from BART District counties (50% share of county costs)
  - \$15.5M from other counties in which BART operates

# BART Maintenance, Rehabilitation and Replacement Major Capital Projects

## Elevator Modernization Program

- Will modernize **130 priority elevators** through the BART system
- Essential to ensure elevator availability and **preserve access to BART stations for disability community, bikes and families**
- San Francisco BART station elevators are some of the **heaviest used in the industry**
- Includes **joint use elevators at four downtown BART/ SFMTA stations**
- **\$350 million** total Elevator Modernization Program
- Requesting **\$65M SF Sales Tax funds** to modernize **20 elevators at San Francisco BART stations**
- SF Sales Tax funding would **leverage federal, State, BART and other funds**

Station	Station Elevator	Platform Elevator	Total Number of Elevators	SFMTA/BART Joint Use
16th St. Station	1	1	2	
24th St. Station	1	1	2	
Balboa Park Station		1	1	
Civic Center Station	1	1	2	✓
Daly City Station	2	2	4	
Embarcadero Station	1	1	2	✓
Glen Park Station		1	1	
Montgomery Station	1	1	2	✓
Powell St. Station	1	1	2	✓
SFO Station	2		2	
TOTAL SAN FRANCISCO	10	10	20	





# Caltrain Proposed SF Sales Tax Expenditures

SFCTA Expenditure Plan Advisory Committee

September 23, 2021





# 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.

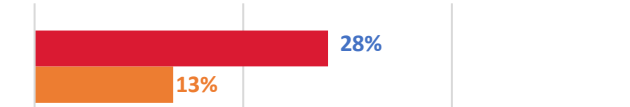


# Caltrain Ridership

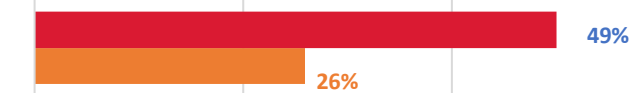
- Before the pandemic, Caltrain carried **~65,000-70,000 riders per day** (ridership is currently ~15% of normal due to the pandemic).
- Caltrain has a **bi-directional ridership market**, with consistently strong ridership in the north in San Francisco, in the south in San Jose, and in between on the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



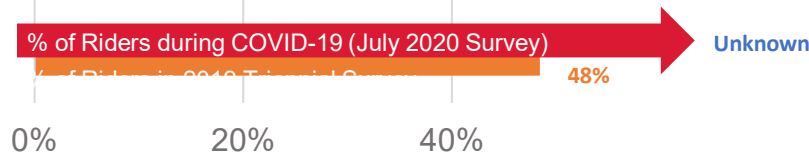
Share of riders that qualify for **low income housing assistance**



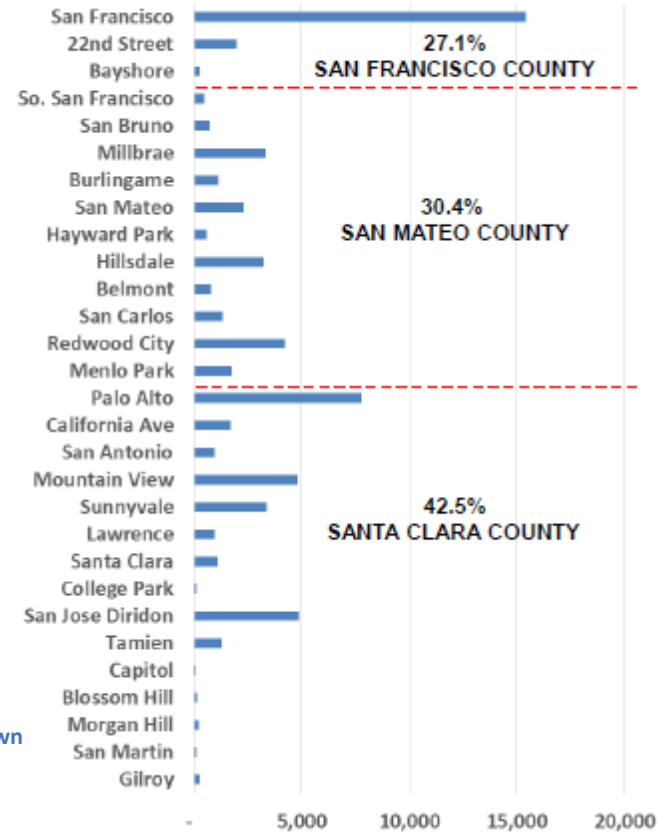
Share of riders that live in households earning **less than \$100k per year**



Share of riders that **did not have a car**

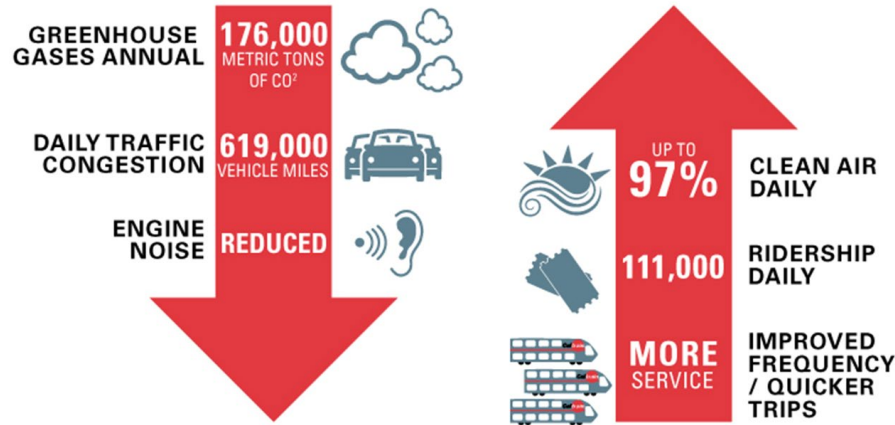


2018 Average Weekday Boardings



# 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



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 Maintenance, Rehabilitation, and Replacement



## Why make this investment?

Annual investment in this capital program is critical for keeping the railroad in a state of good repair so that Caltrain service may continue to safely operate.

## What will be funded?

Caltrain's annual state of good repair program, including the upgrade, rehabilitation, and replacement of:

- Caltrain's trains and their components
- Stations and access facilities
- Signals and communications equipment
- Fare collection equipment
- Other equipment and facilities that are required to operate Caltrain service

# Caltrain Maintenance, Rehabilitation, and Replacement

## What other funding sources can be used for these investments?

**Local contributions are crucial** to help leverage funding from State and Federal sources for state of good repair investments in Caltrain's facilities and equipment.

Local contributions enable Caltrain to keep its trains in a state of good repair **by funding routine, ongoing train maintenance projects.**

## How much funding does Caltrain receive annually?

Federal Funding: \$13.6 million (requires minimum 20% match)

State Funding: \$8.5-\$13.5 million

**Member contributions are needed to supplement this funding**, with all three members sharing equally in state of good repair costs: \$5-\$7.5 million per member agency.

## Notable funding source limitations

**Federal sources:** The Metropolitan Transportation Commission's (MTC) funding policies place restrictions on Federal funding sources and limit their use on train maintenance projects to major vehicle replacement and overhaul projects, which are only completed every ~15 years or so.

**Measure RR:** a 1/8 cent sales tax in the three counties, passed in 2020 by voters in for Caltrain's operating and capital needs.

- In the near and mi-term, the vast majority of Measure RR funds are anticipated to be needed to support Caltrain operations each year.
- It is not expected that Measure RR funds will be able to fully cover Caltrain's state of good repair costs - **outside sources such as local contributions from the three member agencies will continue to be needed.**







**Thank you!**



# Questions?



**San Francisco  
County Transportation  
Authority**