



# Muni Update

Citizens' Advisory Council  
March 2, 2023



# Overview

LRV4 update

Transit hiring  
and service  
update

Ridership and  
performance  
trends



# LRV4 Update

Expanding and replacing the entire light rail fleet  
219 Rail Cars – \$1 Billion – 2014 to 2025  
30-car option 2025 to 2027



Delivery

Availability

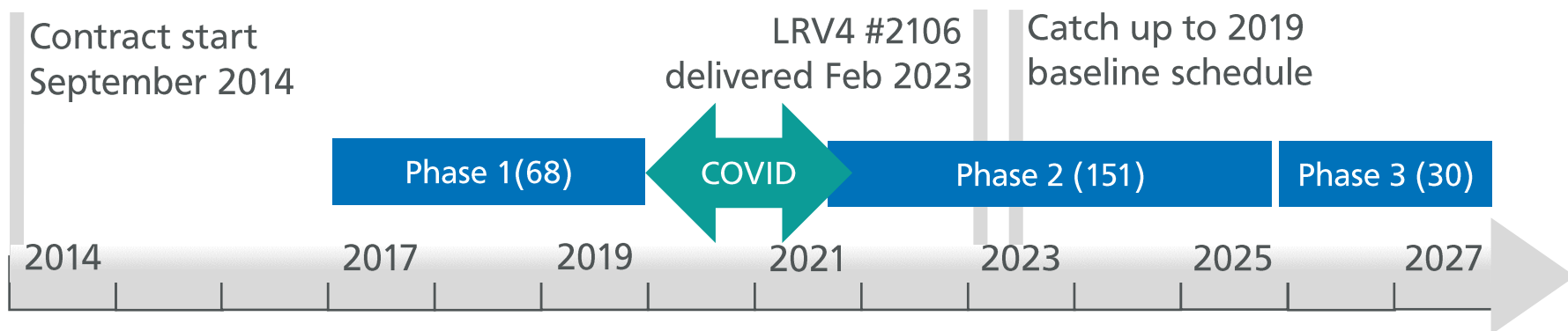
Performance

Reliability

Field Modifications

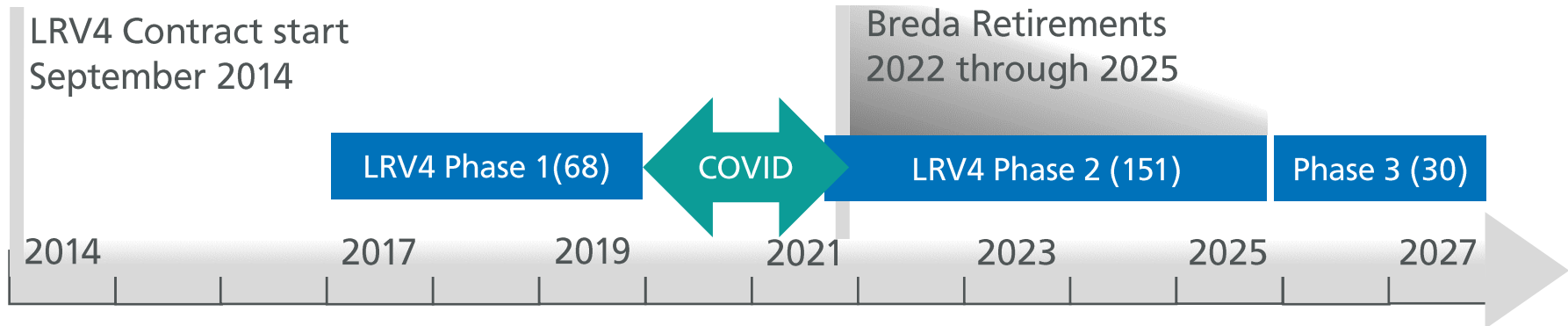


# Delivery



- Phase 2 on schedule for late 2025 completion, LRV4 #2219
- Planned 2020 production break coincided with pandemic
- Ramping up to 1 car/week through 2025
- April 2023: "Catch up" on COVID related schedule delays
- June 2025: Final date to exercise Option for 30 more cars

# Breda Retirement



- 43 Breda cars retired as of January 2023
- Retiring oldest and least reliable cars first
- Retaining spare parts from scrapped trains
  - operating cost savings
- Cancelling campaigns: HVAC, Propulsion
  - capital cost savings
- All Bredas to be retired by 2025 or sooner





# Delivery

Expanding and replacing the entire light rail fleet  
219 Rail Cars – \$1 Billion – 2014 to 2025  
30-car option 2025 to 2027



Delivery

Availability

Performance

Reliability

Field Mods

On schedule  
on budget

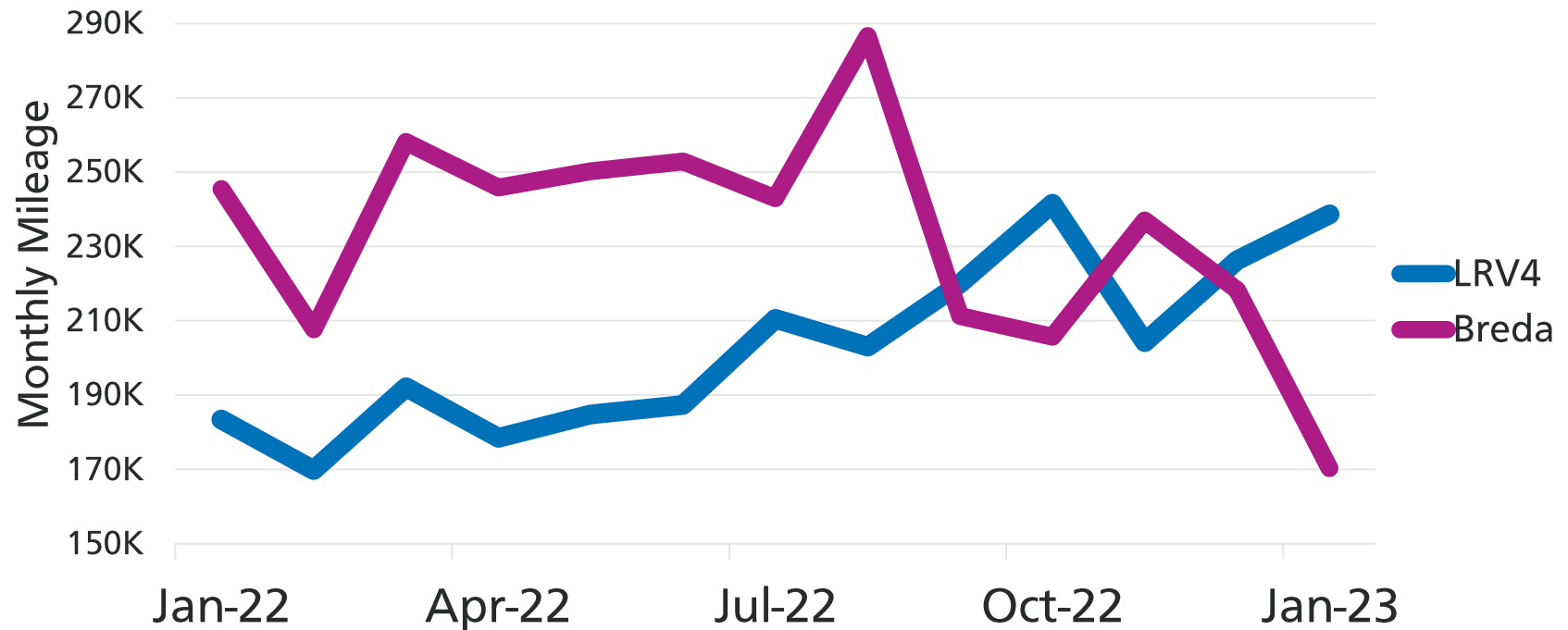
105 of 219  
delivered

94 in service



# Availability

Increases in LRV4 quantity and availability mean LRV4s now run more miles per month than Bredas



- Availability is a top priority – we want the most reliable vehicles on the road!
- Availability increasing over time, now meeting LRV4 availability target of 80%
- Vehicles not available for service rotate daily for preventative and corrective maintenance, collision repairs, field modifications (design upgrades)
- Early Phase 2 production issues addressed, resulting in higher availability

# Availability

Expanding and replacing the entire light rail fleet  
219 Rail Cars – \$1 Billion – 2014 to 2025  
30-car option 2025 to 2027



Delivery	Availability	Performance	Reliability	Field Mods
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On schedule  
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106 of 219  
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LRV4 service  
backbone

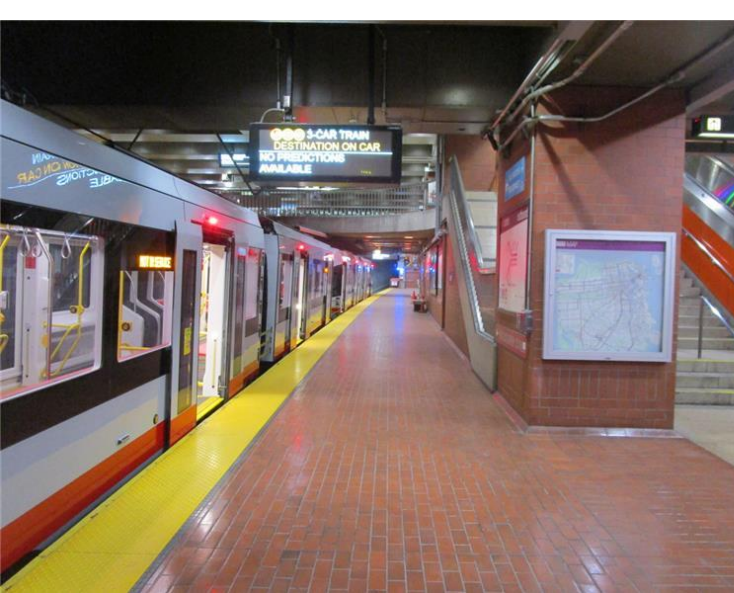
Expanding  
fleet

Focus to meet  
targets





# Performance



Modern systems and better design are translating to safety benefits and efficient maintenance, operations and cost savings

- Fewer hours to perform required preventative maintenance
- Proven collision resilience and faster, less expensive, in-house repair
- More tools for troubleshooting including diagnostic software
- Computer monitored systems detect in-service problems before vehicle is immobilized, reducing service blockages

# Performance

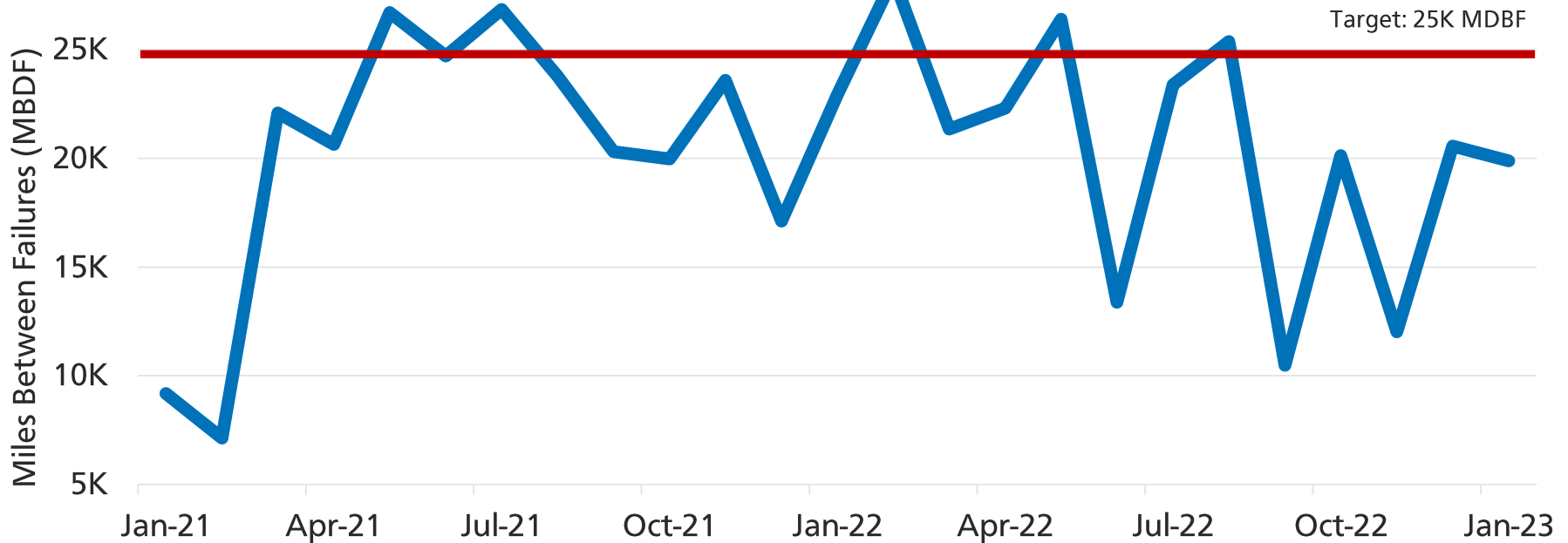
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Delivery	Availability	Performance	Reliability	Field Mods
On schedule on budget  106 of 219 delivered  94 in service  	LRV4 service backbone  Expanding fleet  Focus to meet targets  	Better design drives safety and efficiency  Easier to maintain  Easier to repair  		



# Reliability








\*Data reflects in-service failures related to LRV4 design and component issues per contract

- LRV4 fleet 4x more reliable than Bredas!
- Target of 25,000 miles between failures (MDBF) not being met consistently—SFMTA team and Siemens committed to working together until goal is met
- Focusing on design upgrades for Brakes and Steps
- Reliability Program is ongoing – active Siemens analysis and planning to address failures to consistently achieve reliability target

# Reliability

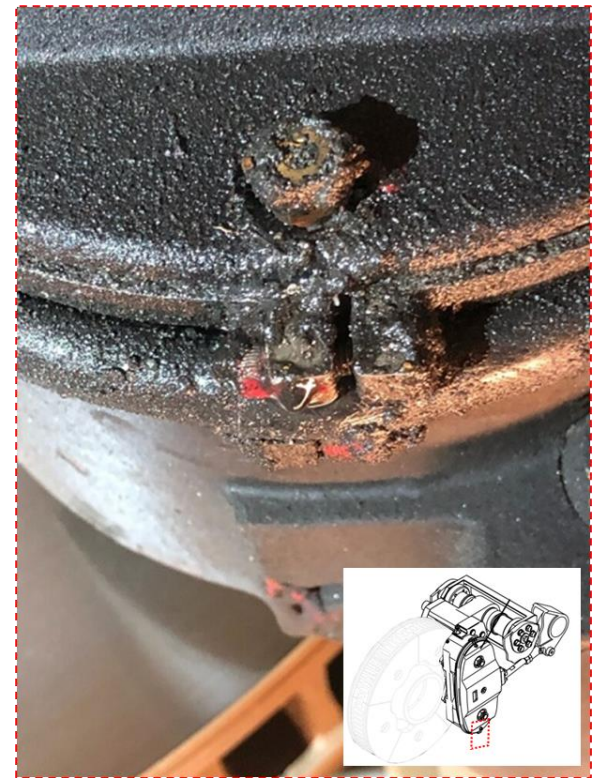
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Delivery	Availability	Performance	Reliability	Field Mods
<p>On schedule on budget</p> <p>106 of 219 delivered</p> <p>94 in service</p> 	<p>LRV4 service backbone</p> <p>Expanding fleet</p> <p>Focus to meet targets</p> 	<p>Better design drives efficiency</p> <p>Easier to maintain</p> <p>Easier to repair</p> 	<p>High reliability 4x</p> <p>Under target 25,000 MDBF</p> <p>Ongoing program to meet target</p> 	



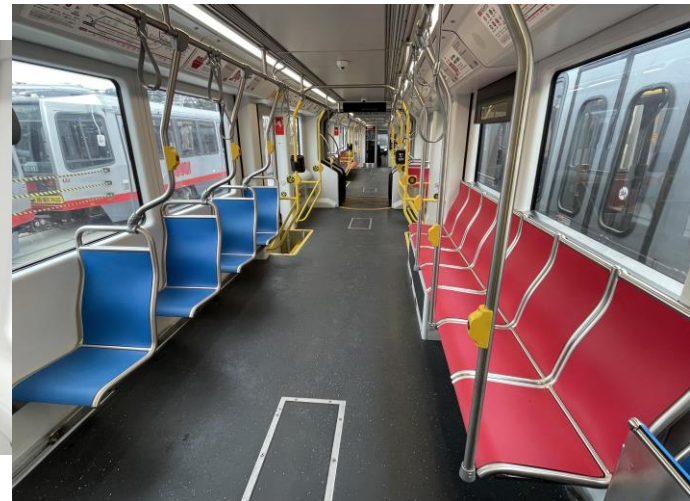
# Field Modifications



**Brakes** – Account for half of all in-service reliability issues

- **No safety concerns** – focus is on endurance and maintenance issues
- Despite resolution of earlier defects, still brake subsystem issues
- Comprehensive system review conducted to ensure stability of design
- No quick fix, SFMTA insisting on long-term upgrades over 18+ months
- Siemens on board – resolving issues, extending warranty

# Field Modifications



## Seats

Seat height and layout changed in response to passenger feedback

- All Phase 2 cars being delivered with updated interiors, including seats
  - 50 vehicles (#2069 to 2118) with single forward-facing seats
  - 101 vehicles (#2119 to 2219) with double forward-facing seats
- All Phase 1 cars being retrofitted with single forward-facing seats
  - 20 vehicles completed in 2022
  - 49 vehicles remaining planned for 2023-2024

# Field Modifications

Expanding and replacing the entire light rail fleet  
219 Rail Cars – \$1.2 Billion – 2014 to 2025  
30-car option 2025 to 2027



Delivery	Availability	Performance	Reliability	Field Mods
On schedule on budget	LRV4 service backbone	Better design drives efficiency	High reliability 4x	Needed upgrades
106 of 219 delivered	Expanding fleet	Easier to maintain	Under target 25,000 MDBF	Prioritize availability
94 in service	Focus to meet targets	Easier to repair	Ongoing program to meet target	Warranty extensions



# Looking Forward – Next Steps








- Continue to invest in training to ensure maintenance excellence
- Maintain Siemens' accountability for all aspects of delivery
  - Drawings, manuals, special tools, spare parts
  - Resolution of all fleet defects with warranty extensions
- Initiate planned system overhauls for vehicles approaching 5-year mark
- Ensure quality delivery through production end in 2025 (#2119)
- Conduct planning/analysis for final decision on Phase 3 expansion



# LRV4 Update

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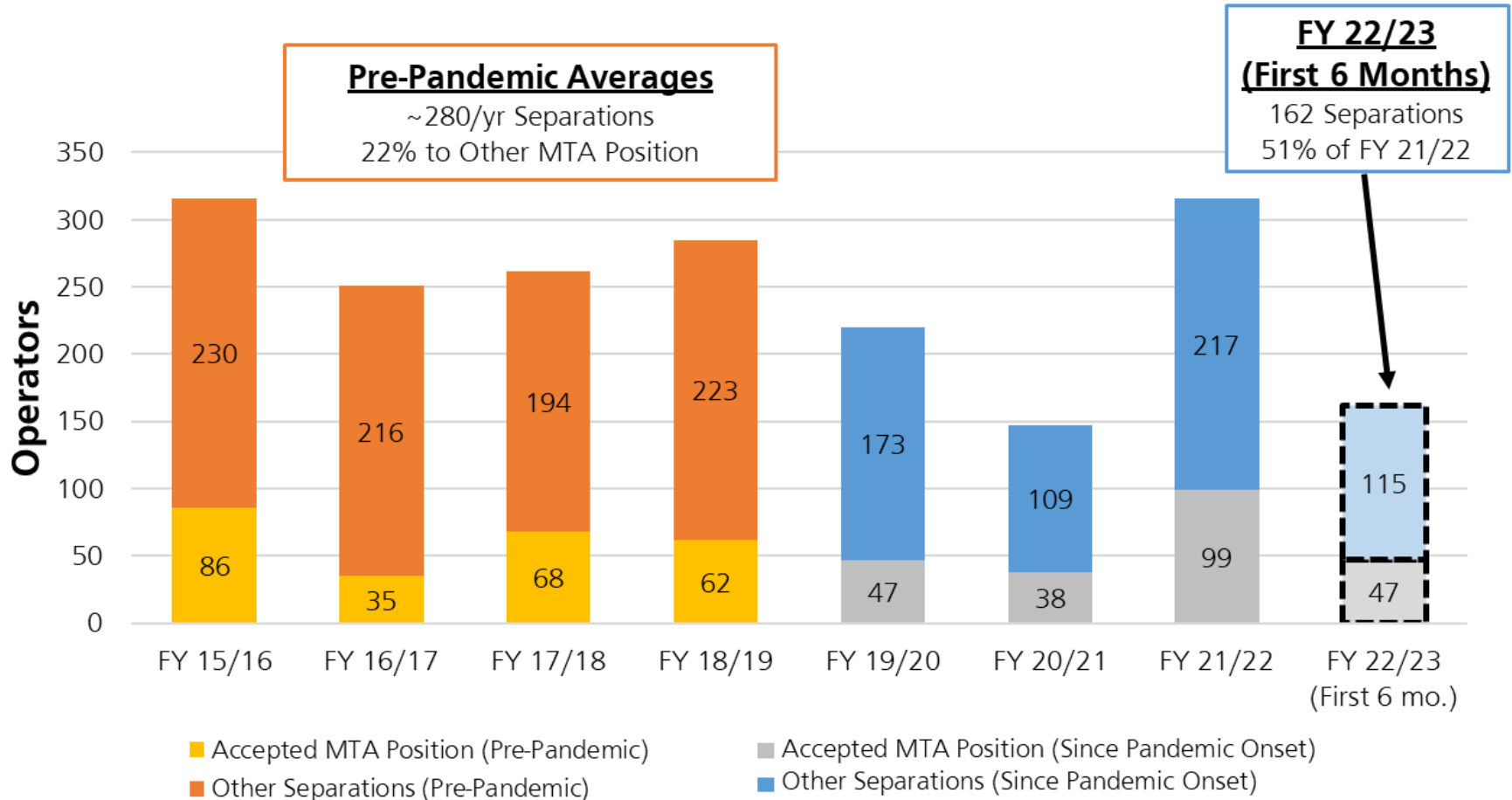


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# Transit Hiring and Service Update

# Operator Attrition Trends

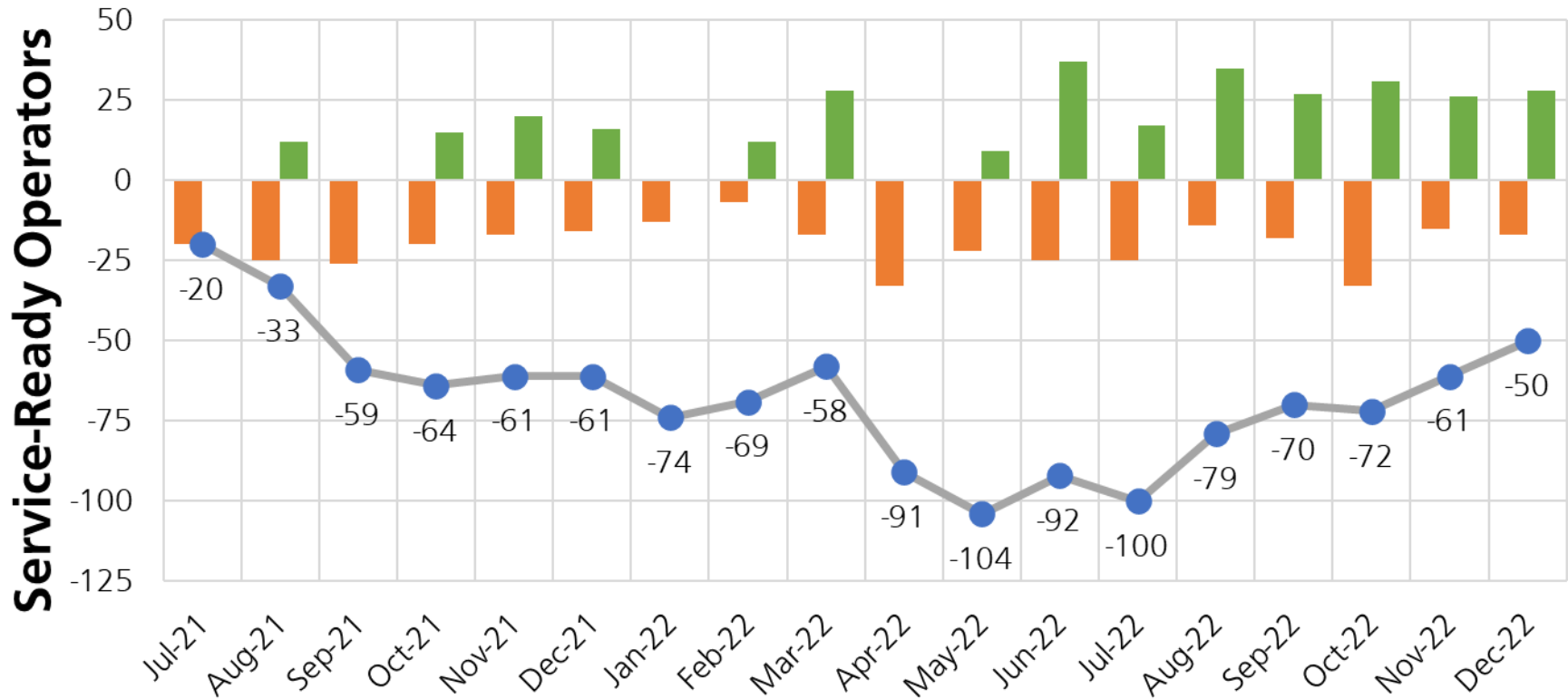


- Most operator separations are due to retirement or promotions, some operators do not complete initial training program
- FY22 operator attrition was significantly higher than previous 2 years
- First half of FY23 is on pace to be similar to FY22

# Monthly New Operators vs Attrition

- Attrition of Service-Ready Operators
- New Operator Graduates
- Cumulative Change in Available Operators

Note: Chart reflects corrected monthly attrition data. At 11/15/22 SFMTA Board meeting, this slide showed attrition data assigned to incorrect months.



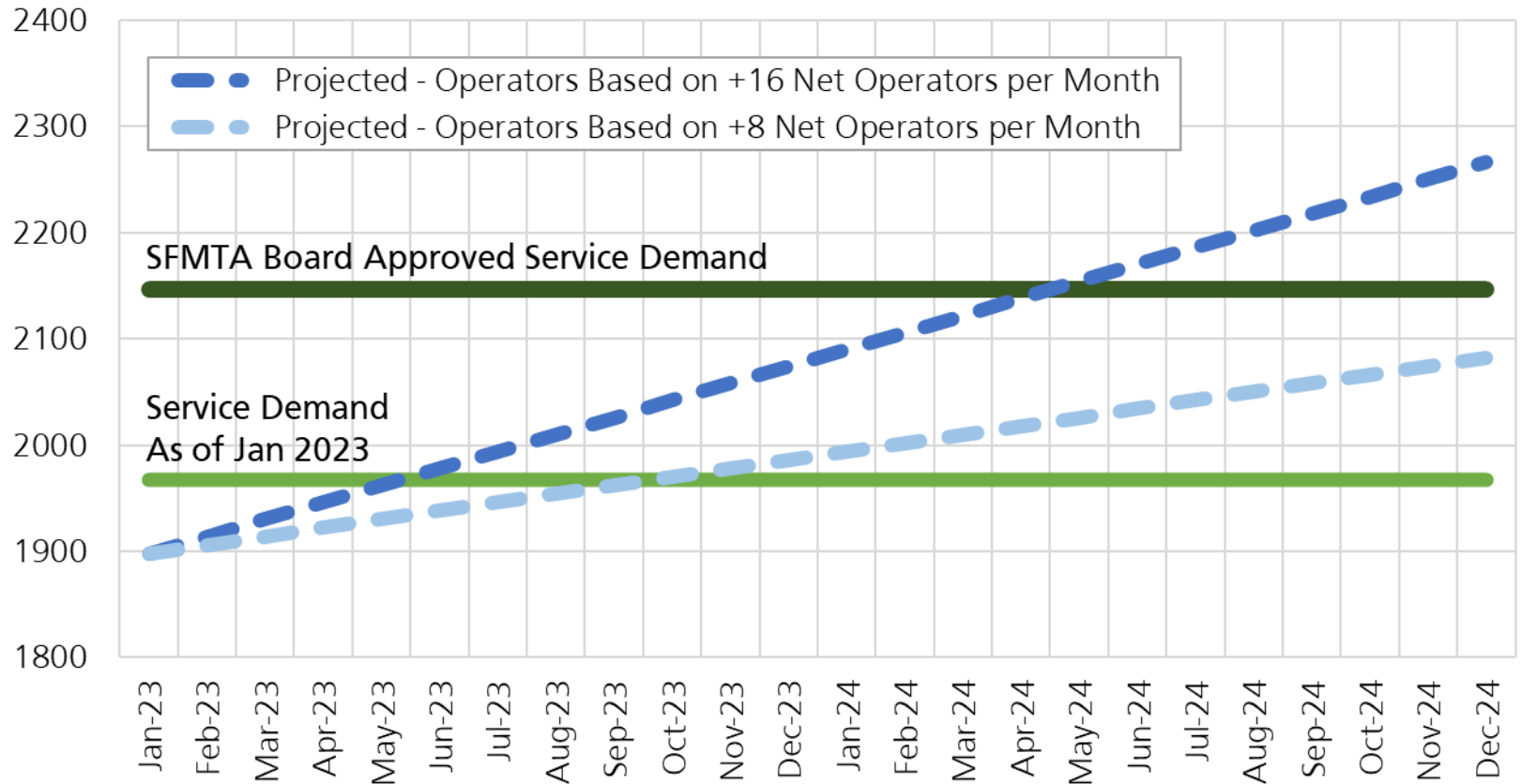
- High attrition and small operator classes led to decline in operators in FY22
- Larger class sizes continuing to help increase operator availability in first half of FY23



# Operator Availability Projections

(Jan 2023 - Dec 2024)

Number of Service-Ready Operators



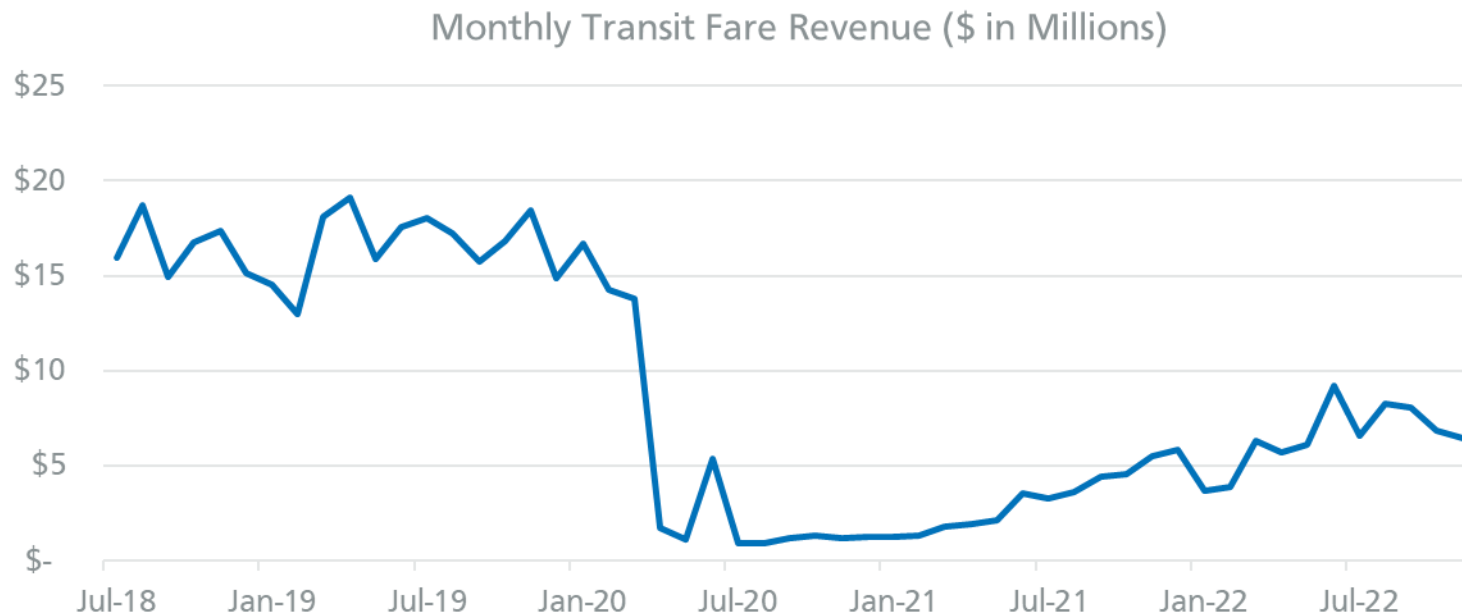
- Pace of service improvements dependent on number of net new Operators each month
- Operator availability impacted by many factors - hiring rate, attrition and attendance
- All bus divisions were neutral or gained operators between July and January sign ups; rail operators declined in the same period
- Overtime used in short term to bridge gap between Operator availability and service levels

# Current financial trend

	Revenue
↓	Transit fare revenue
↓	SF General Fund transfer
×	Federal relief funds
→	Parking fees & fines subsidize Muni
	Expenses
↑	Labor costs
↑	Inflation

# FY23 Transit Revenue

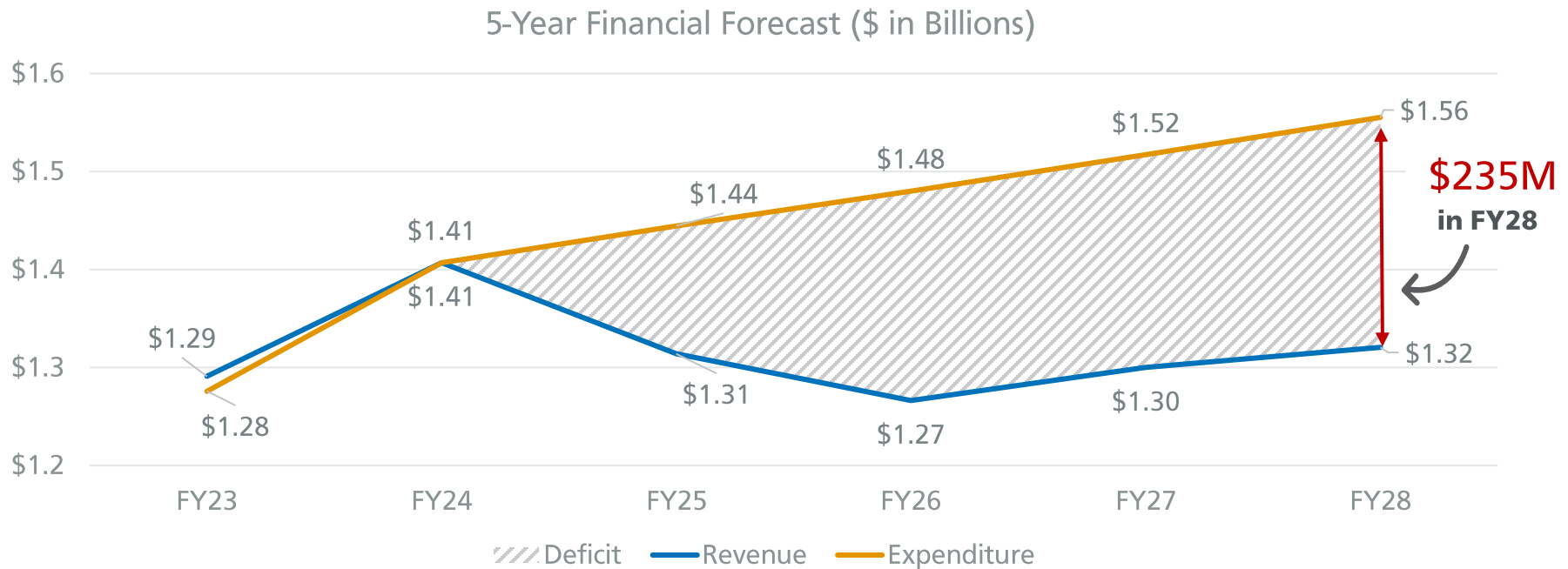
**Transit revenue is far below pre-pandemic level and flattening**



- Recovery of transit fare revenue is slower than ridership recovery
- Transit revenues are 43% of FY19 revenues at same point in the fiscal year

# Five Year Forecast

**When federal funds run out in FY25, the SFMTA will have a large and growing deficit**





# Impact of Deficit



If additional funding is not secured:

- We'll be forced to roll back Muni service (\$130M deficit = more than 20 Muni lines)
- Hundreds of thousands who depend on Muni every day will be impacted
- Economic recovery of SF downtown will be put at risk
- We'll be forced to gut Muni vehicles maintenance, cut basic street safety programs

# Upcoming Muni Service Changes

- We want to add Muni service as soon as we can, but in addition to our operator shortage, revenue across all sources is down
- We're working hard to identify funding—advocating for state funding, collaborating with regional agencies and maximizing local sources of revenue
- We'll have to pause fully implementing the 2022 Network until we have a better understanding of how we're going to address the financial situation
- We'll continue using ridership data to make near-term adjustments for crowding and improvements 2-3x annually

## Board Approved Service Changes

### Adding lines

- 10 Townsend
- 28R 19<sup>th</sup> Avenue Rapid

### Extending routes

- 31 Balboa (to Caltrain)
- 12 Folsom/Pacific (extension to Jackson & Fillmore)

### Adding frequency

- 1 California
- 2 Sutter
- 5 Fulton
- 6 Haight/Parnassus
- 9R San Bruno Rapid
- 21 Hayes
- 38R Geary Rapid

Details at [SFMTA.com/2022Network](https://www.sfmta.com/2022Network)

# Developing a Muni Service Vision

We will update the SFMTA Board periodically during the evaluation process and anticipate seeking Board approval of the service equity vision and the components of the service plan that can be delivered as part of the fiscally constrained two-year budget

**Review approved service plan, data and stakeholder feedback**

Travel patterns and trip choices changed significantly since 2020. Begin ongoing, iterative public process to review data and collect feedback on possible future service changes

**Develop future service options**

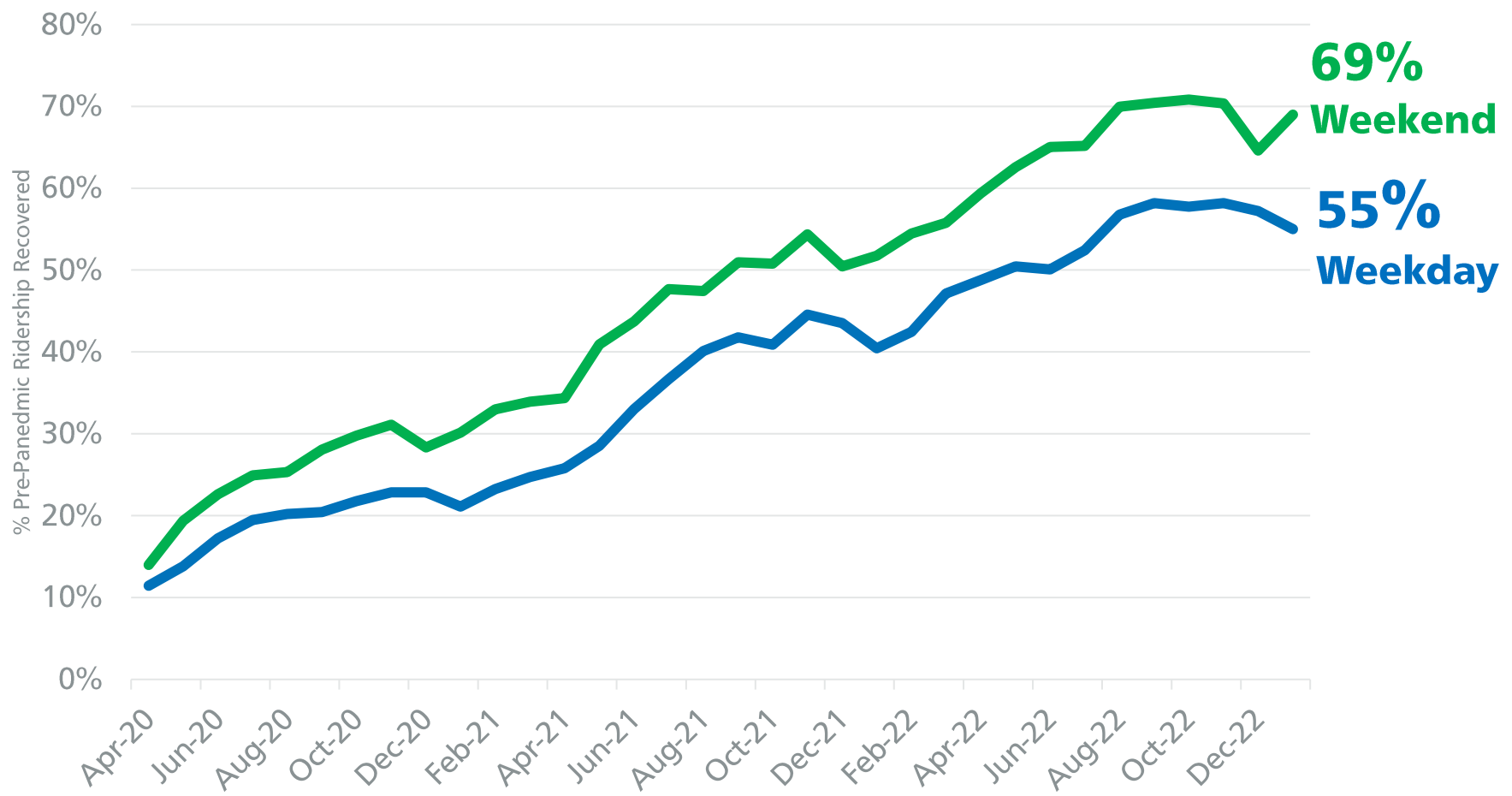
Using data and public feedback, provide service options by summer 2024 to inform any potential initiatives for additional operating funds





# Ridership and Performance Trends

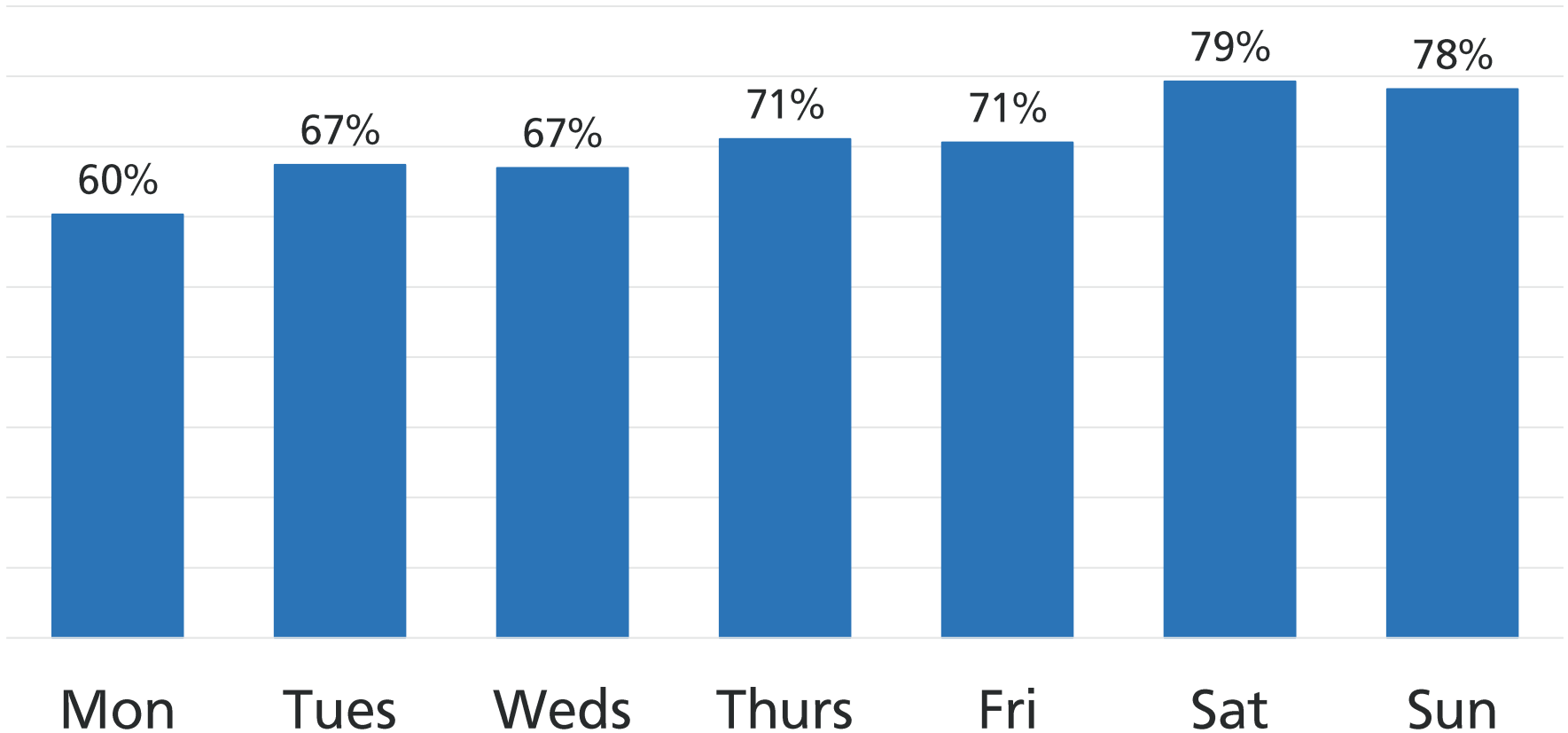
# Bus and LRV Ridership Trends: Weekend and Weekday





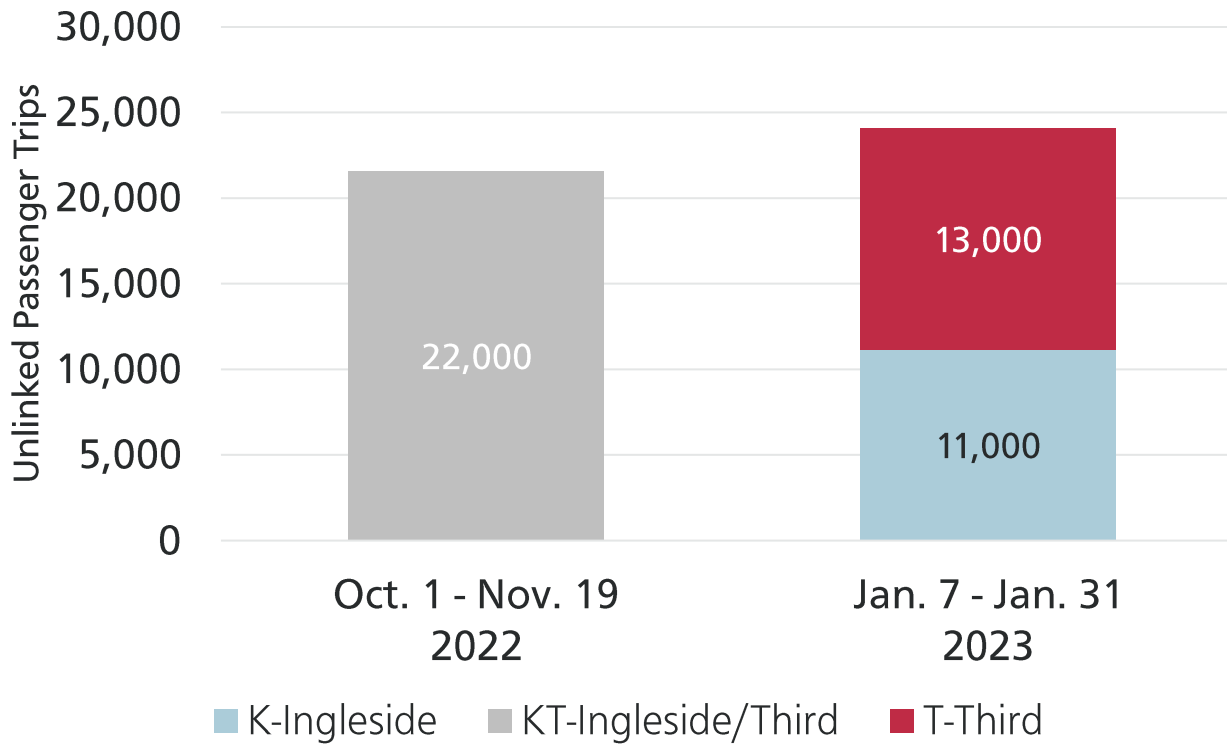
# Bus Ridership Recovery

## *Day of the Week*



# Central Subway Ridership

## Average Weekday Boardings

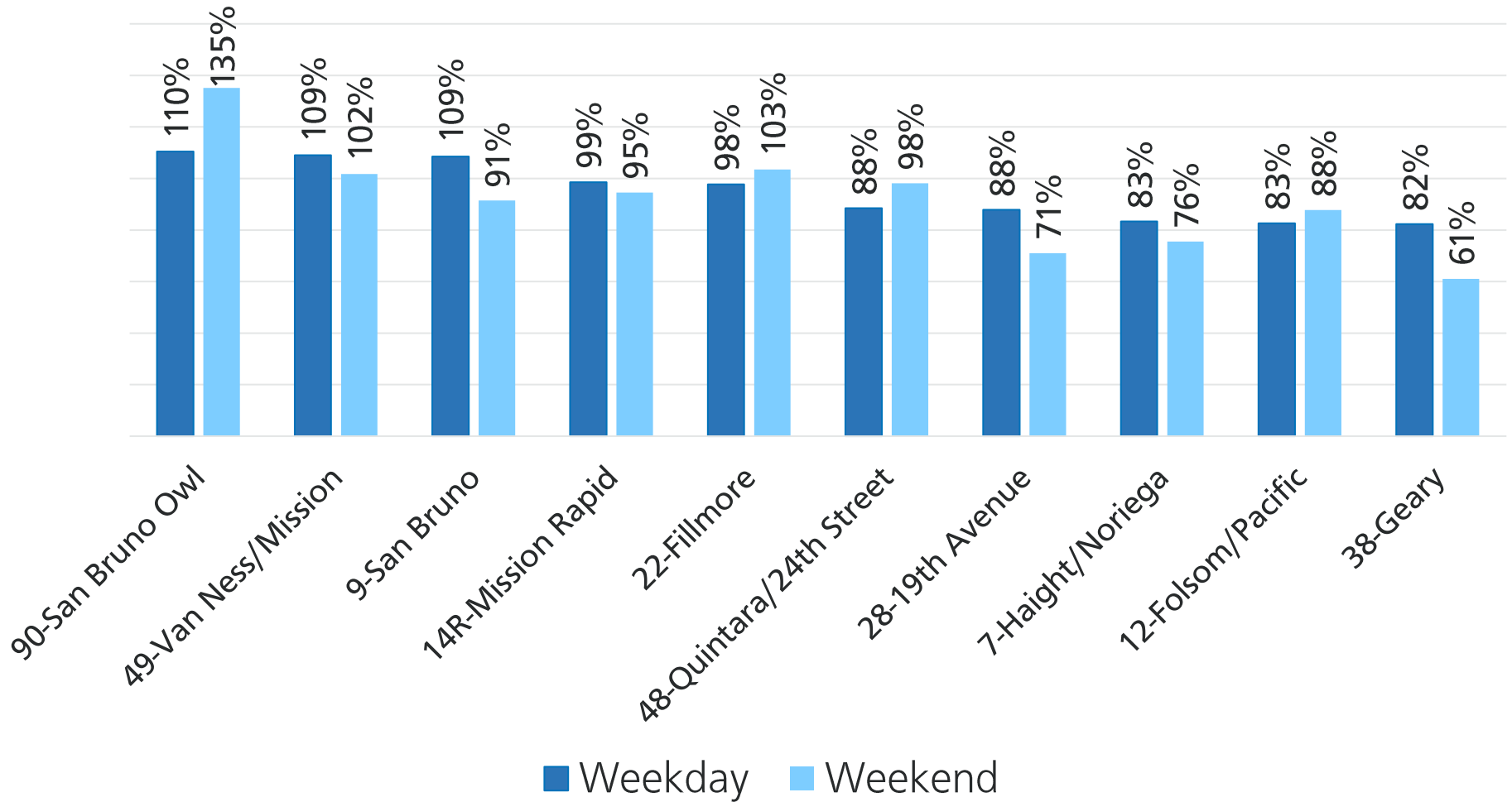


*Even with storming weather conditions in January, first weeks of new T Third service showing ridership gains*



# Highest Ridership Recovery Routes

## October 2019 vs October 2022



# Ridership Patterns

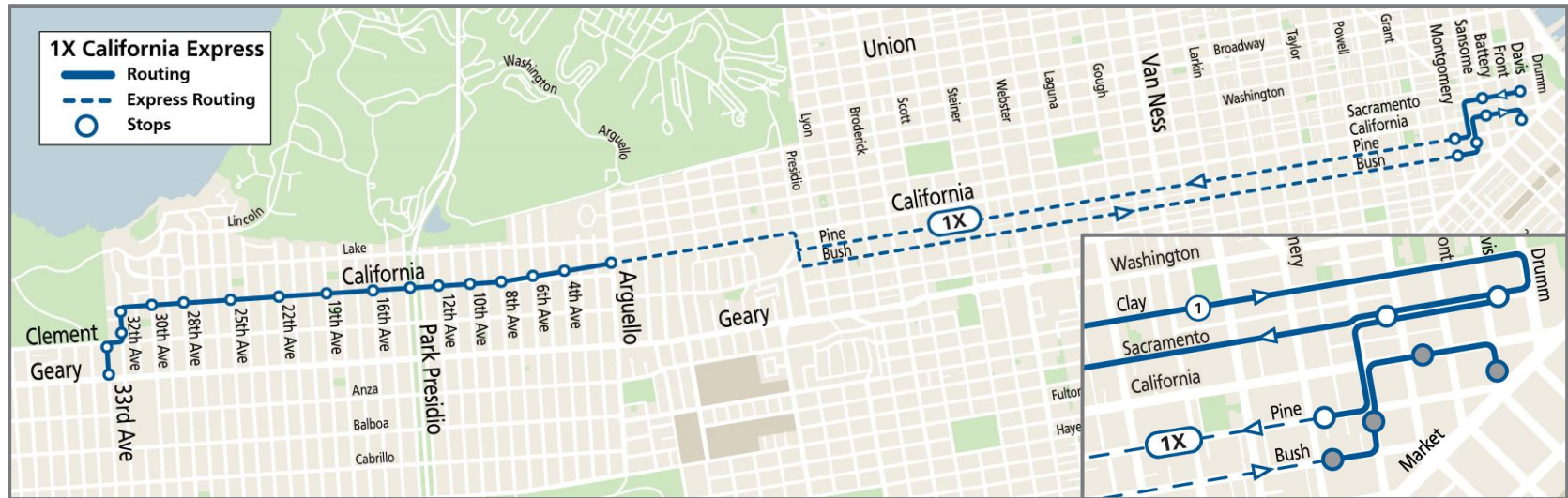
Very high ridership on lines that:

- Do not go downtown
- Got recent speed and reliability investments like transit lanes, signal priority, bus bulbs, stop spacing adjustments
- Serve schools

Very low ridership on lines that:

- Focus on downtown commute
- Offer low frequency, speed and/or reliability

# 1X California Express Pilot

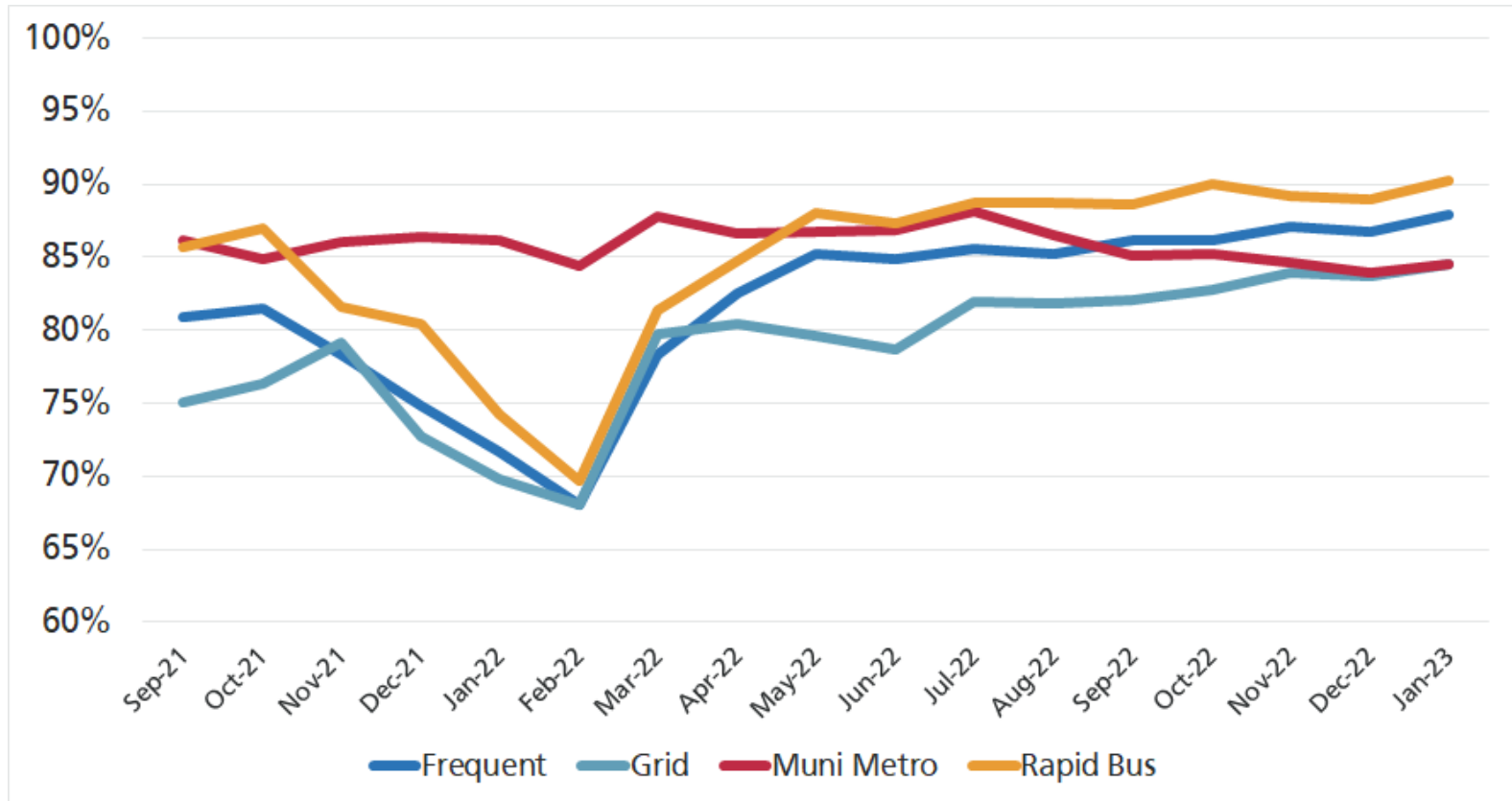


Departs from 33<sup>rd</sup> Avenue and Geary Boulevard at 8, 8:30 and 9 a.m.

- Stops along 33<sup>rd</sup> Avenue, 32<sup>nd</sup> Avenue and California Street until Arguello Street, then express straight to Downtown
- Departs from Sacramento and Davis streets at 4:30, 5 and 5:30 p.m.
- First two stops of 1X California Express aligned with 1 California local stops  
Last downtown stop is at Pine and Montgomery
- **SFMTA.com/1x** for details

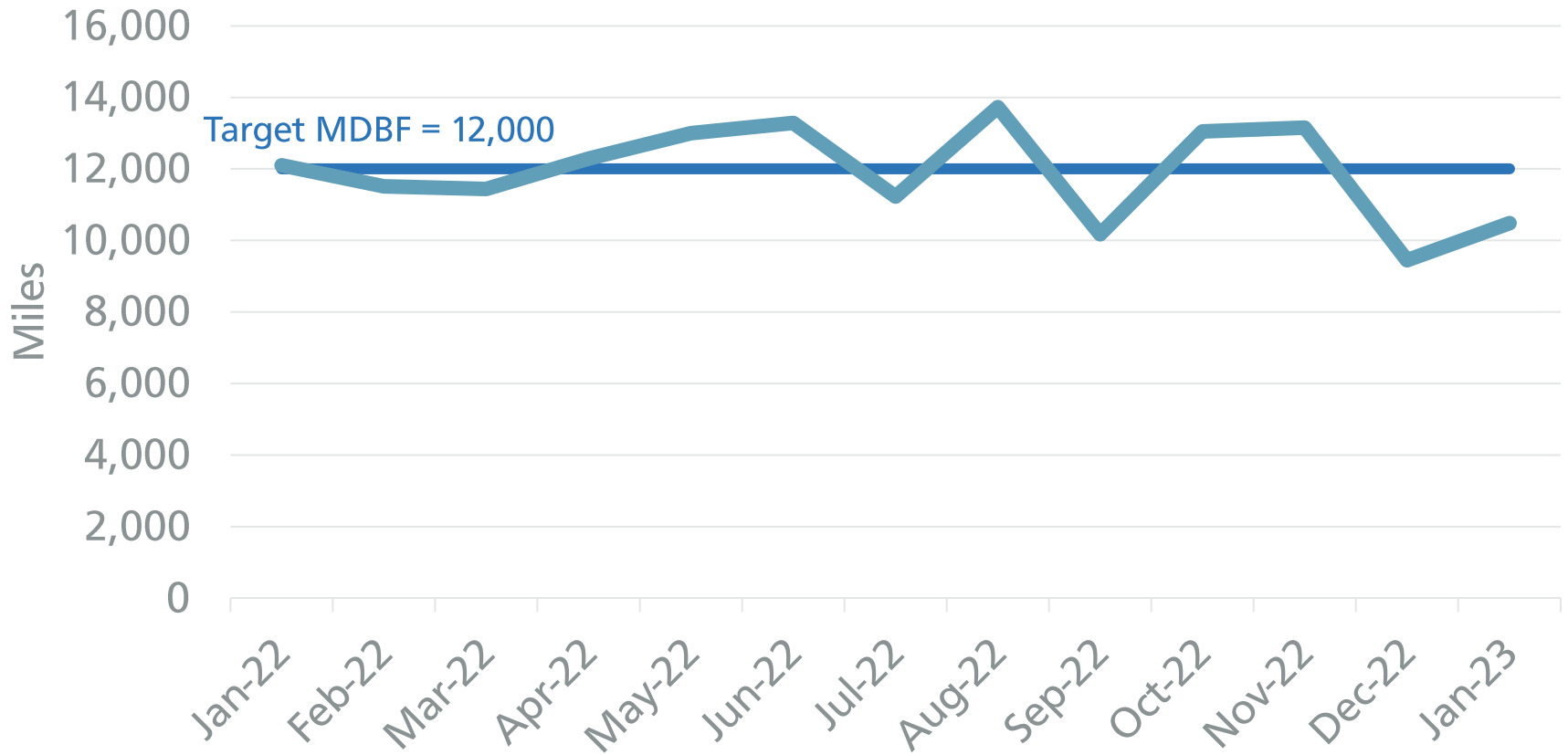


# Headway Adherence by Service Category

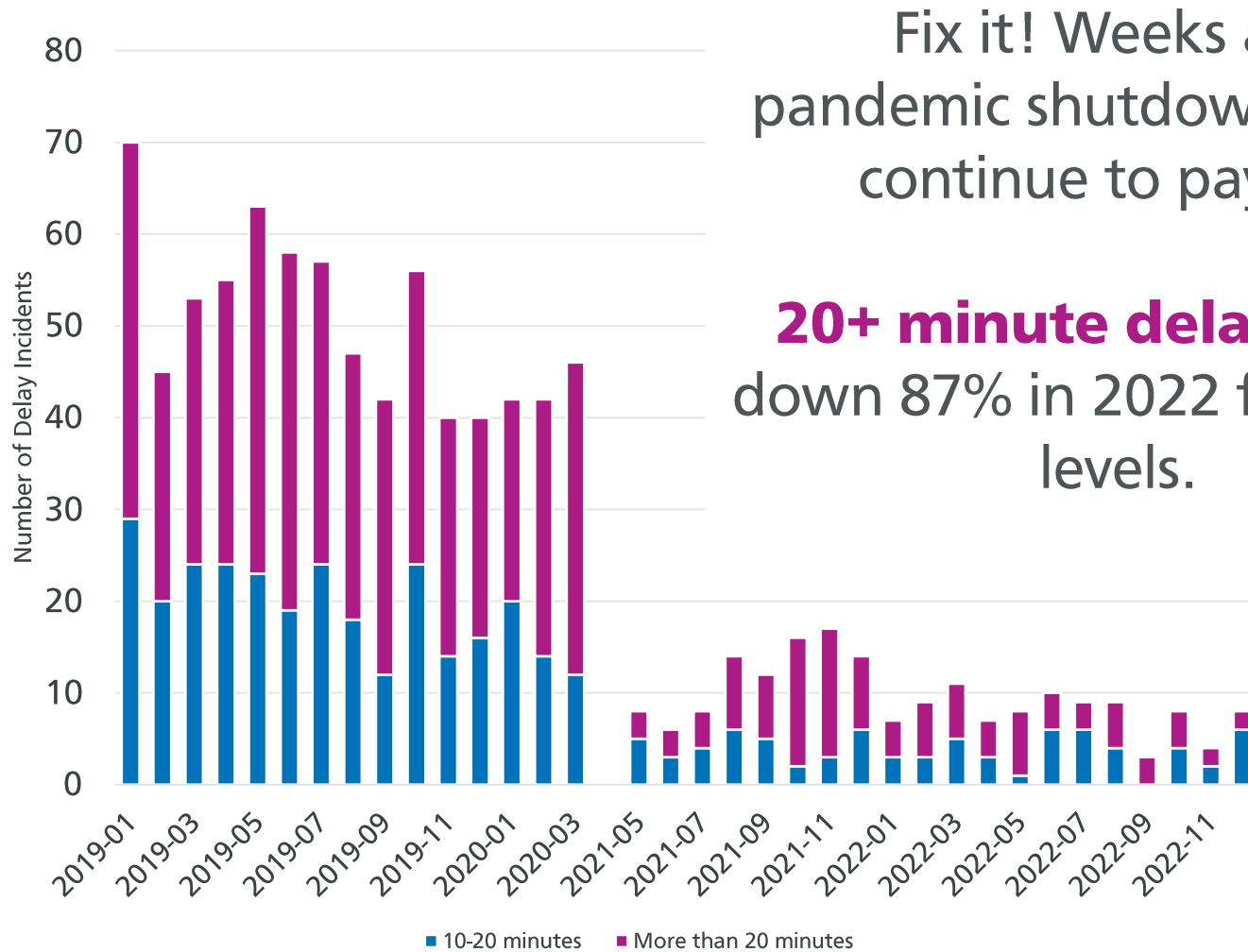


*Note: only routes managed on a headway included. Muni Metro excludes KT, which switched to headway-management in January 2023.*

# Mean Distance Between Failures (Bus)



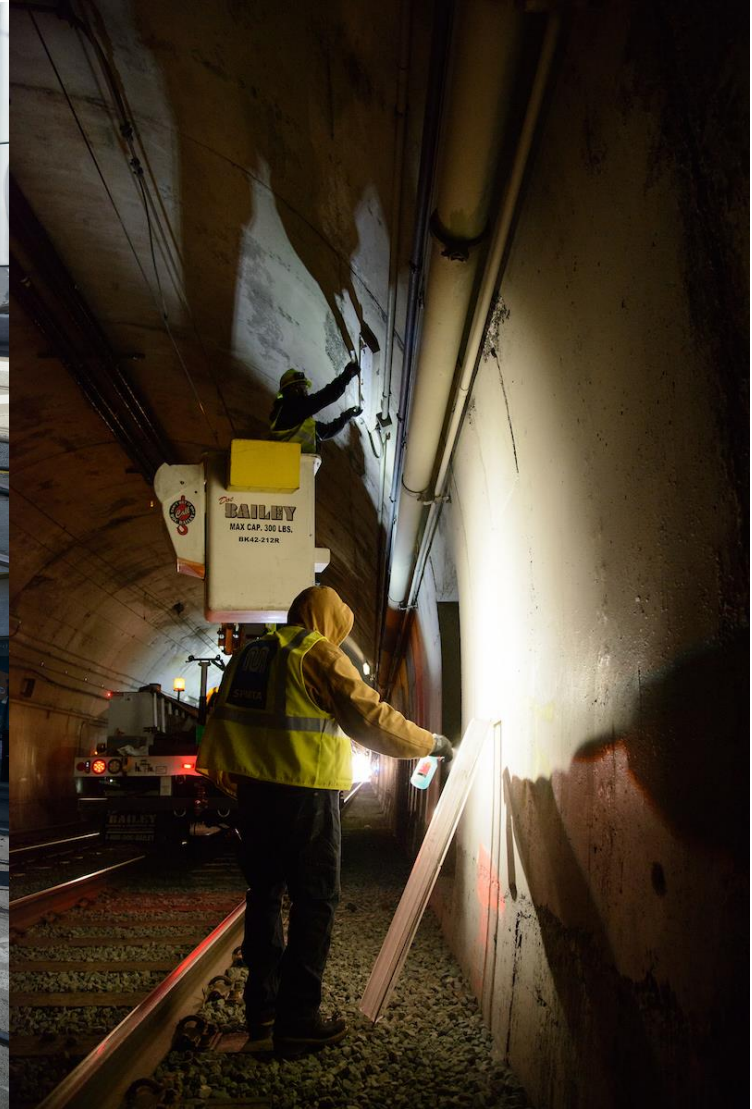
# Subway Delay Events



Fix it! Weeks and pandemic shutdown repairs continue to pay off.

**20+ minute delays** were down 87% in 2022 from 2019 levels.

# N Judah Motorization








**Union Square**    Yerba Buena    4th & Brannan    
  

  
 BART, 2, 5, 5R, 6, 7, 8, 8AX, 8BX, 9, 9R, 15, 30, 38, 38R, 45, F, J, K, M, N, Cable Car    **Sunnydale**

PLEASE WATCH YOUR STEP

Thank you!

**Central Subway**  
**Route Changes**  
**New Transfer**  
**Destinations**

**New Central Subway**  
**Service starts / 服務開始**  
 1/7/2023  
 8 a.m. - 12 a.m.  
 8 a.m. - 12 a.m.