



Muni Update

SFMTA Board
February 21, 2023



Overview

LRV4 update

Transit hiring
status

Ridership and
performance
trends



LRV4 Update

Janet Gallegos
Principal Project Manager
Transit Program Delivery



Delivery

Availability

Performance

Reliability

Field Modifications



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

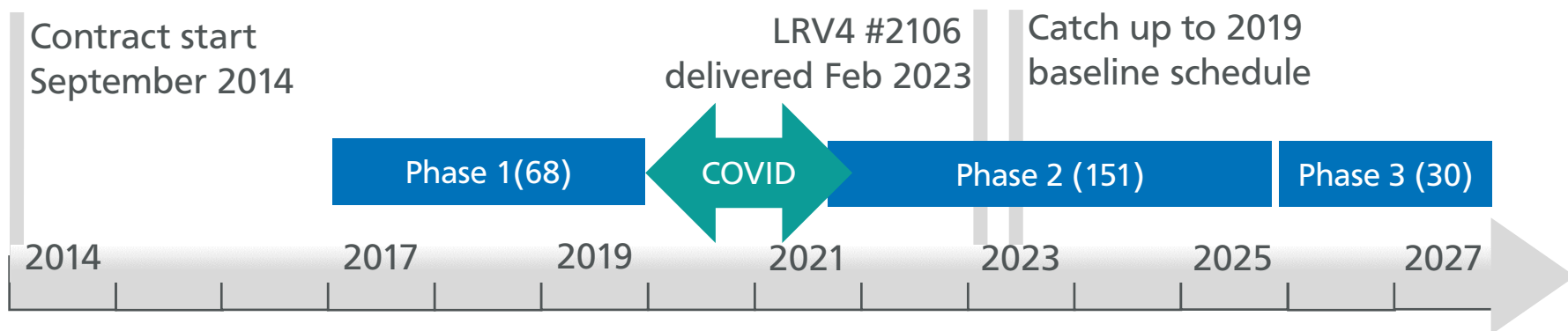
Performance

Reliability

Field Modifications

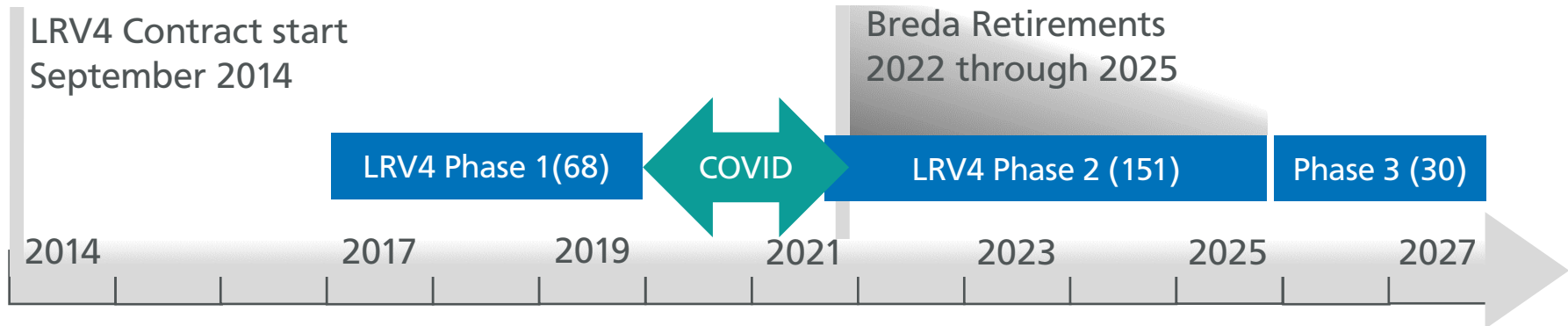


Delivery



- 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

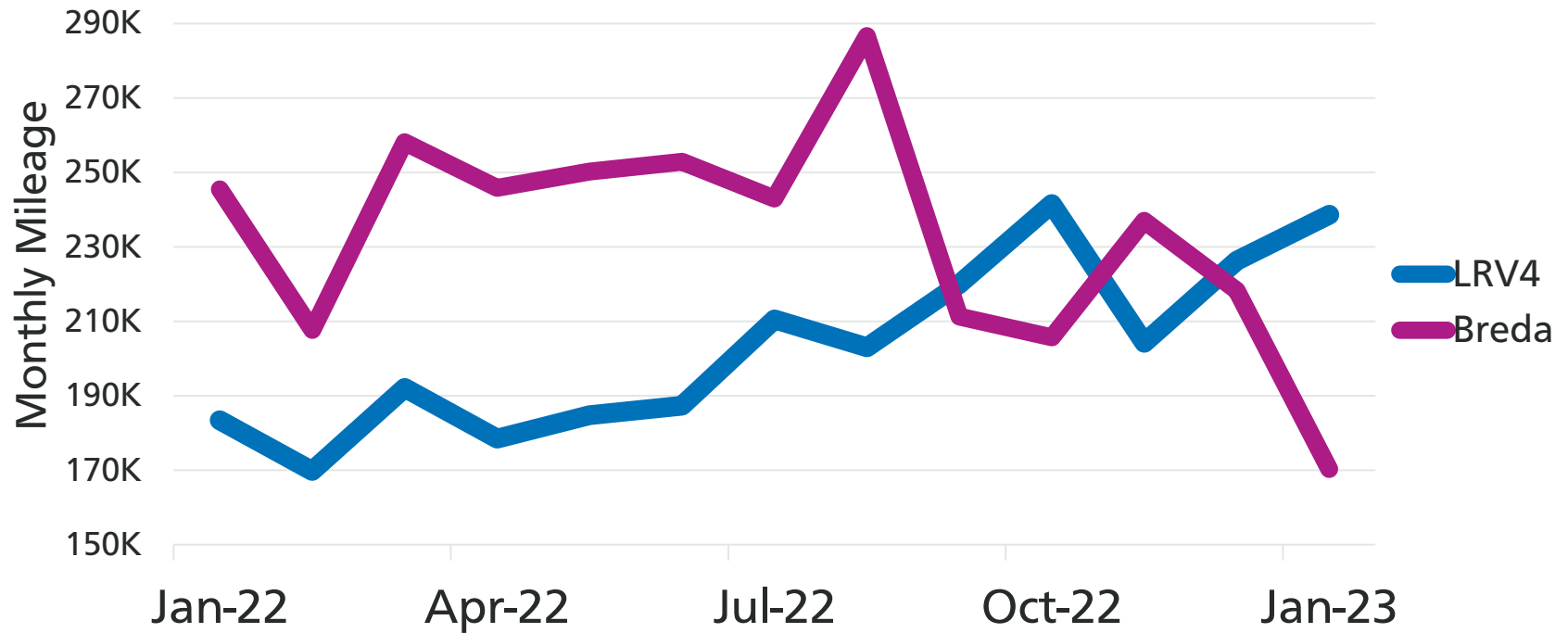
105 of 219
delivered

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

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Delivery	Availability	Performance	Reliability	Field Mods
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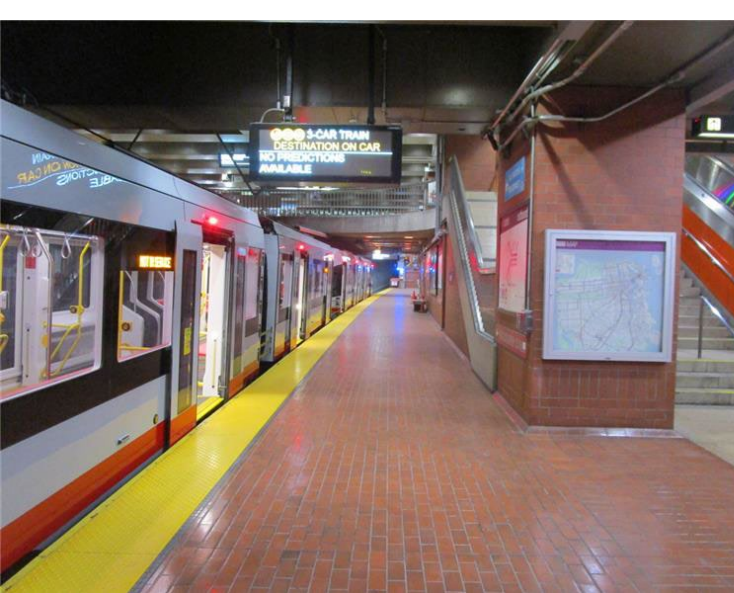
LRV4 service
backbone

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

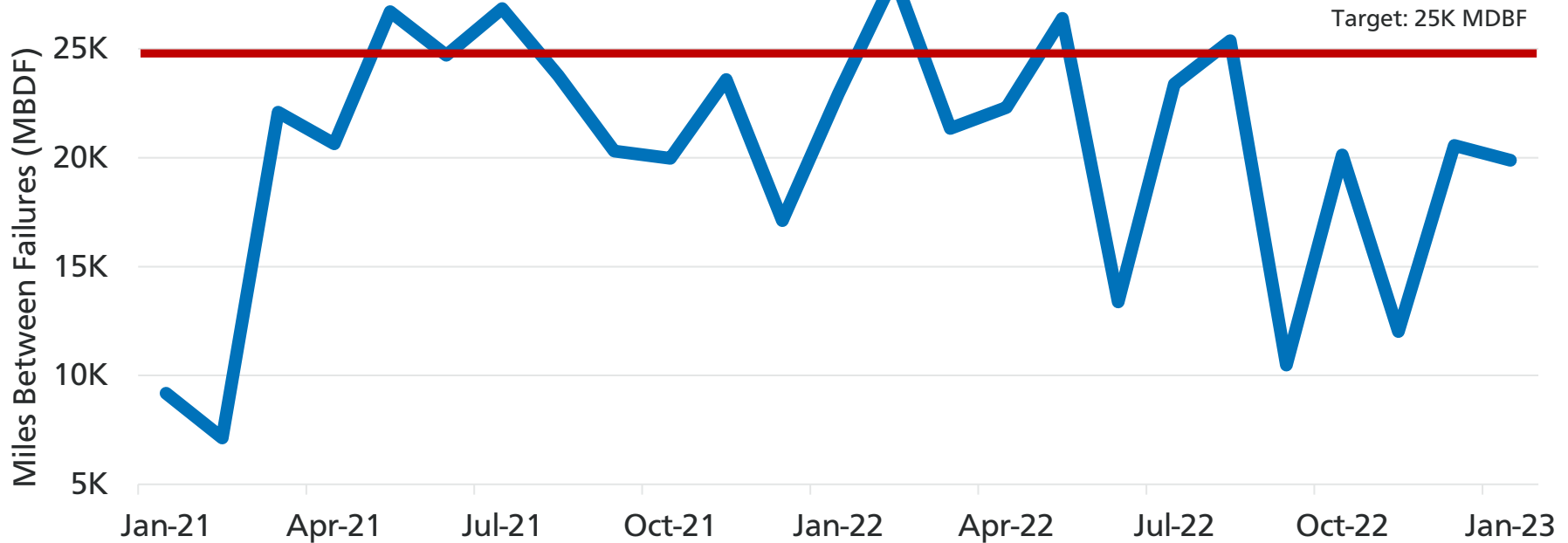
Performance

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Delivery	Availability	Performance	Reliability	Field Mods
<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 safety and efficiency</p> <p>Easier to maintain</p> <p>Easier to repair</p> 		

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 (MBDF) 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

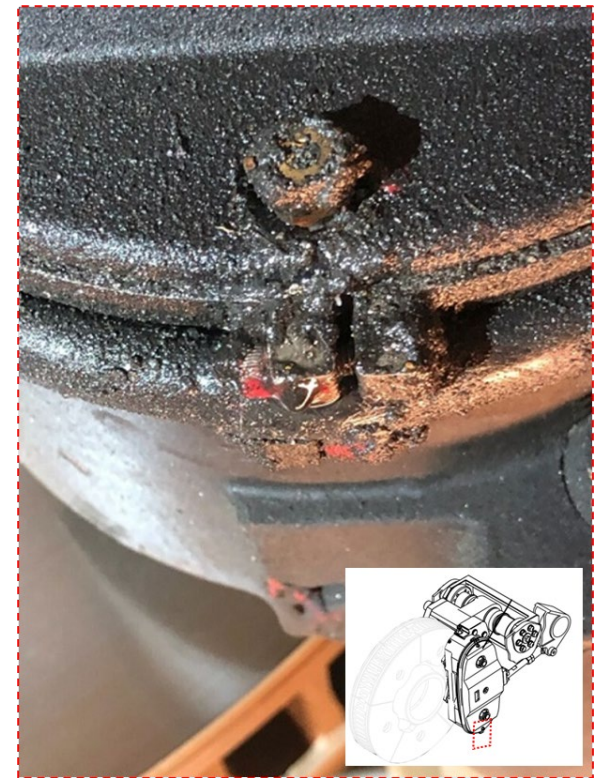
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Delivery	Availability	Performance	Reliability	Field Mods
On schedule on budget 106 of 219 delivered 94 in service 	LRV4 service backbone Expanding fleet Focus to meet targets 	Better design drives efficiency Easier to maintain Easier to repair 	High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

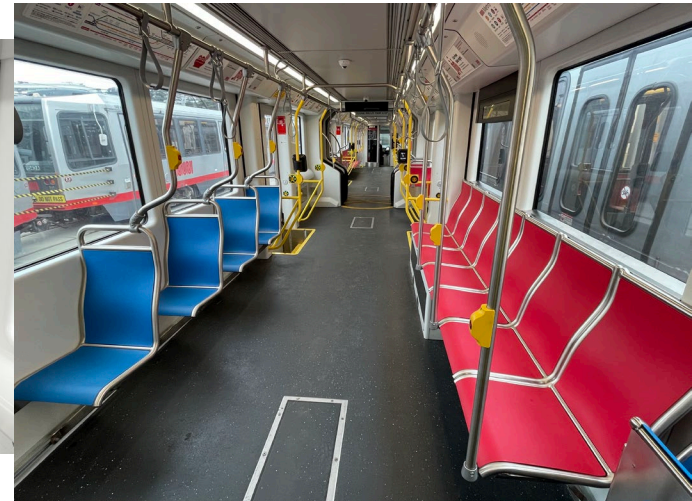
Field Modifications



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

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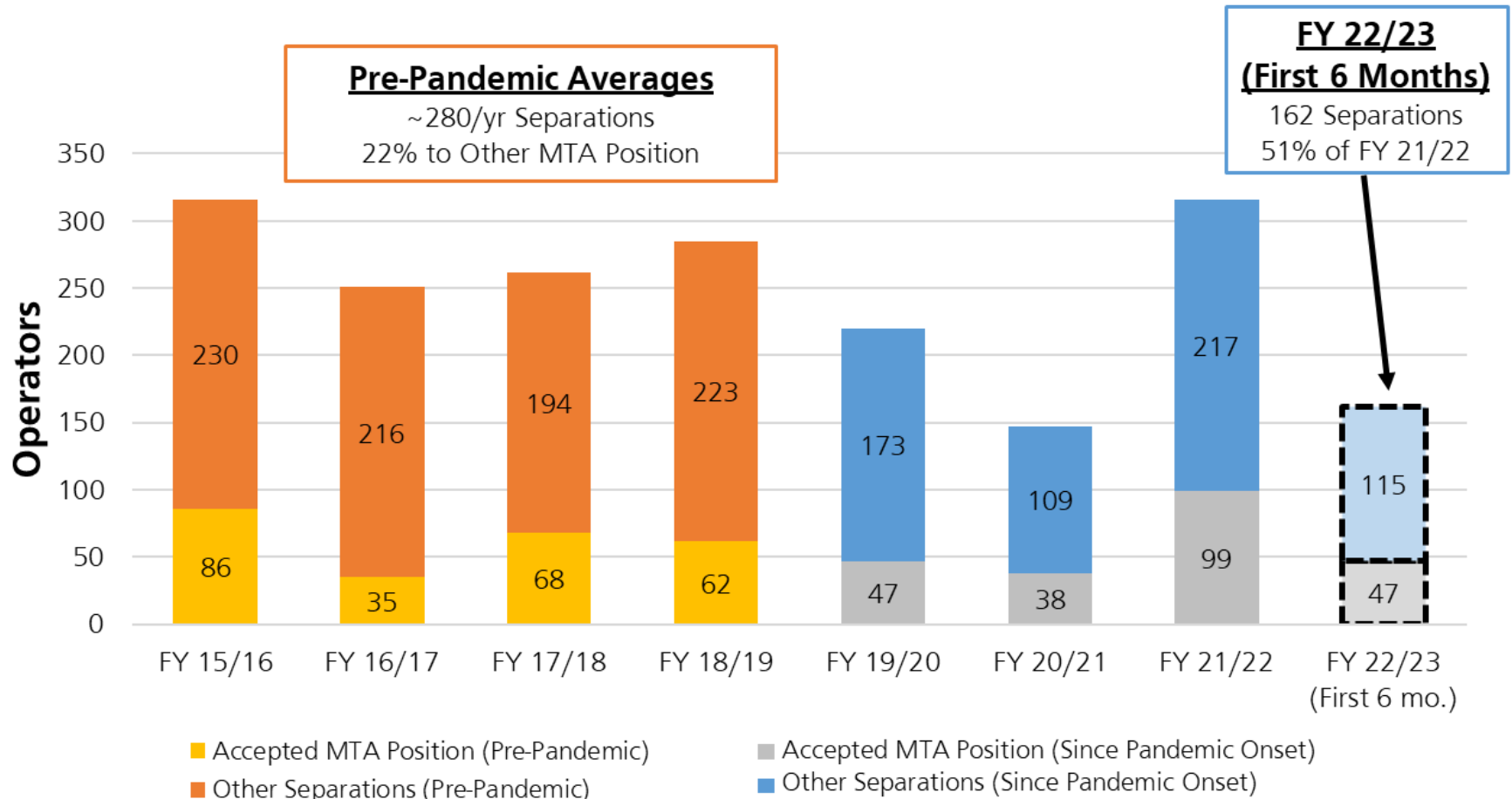


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On schedule on budget 106 of 219 delivered 94 in service 	LRV4 service backbone Expanding fleet Focus to meet targets 	Better design drives efficiency Easier to maintain Easier to repair 	High reliability 4x Under target 25,000 MDBF Ongoing program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



Transit Hiring and Service Update

Operator Attrition Trends

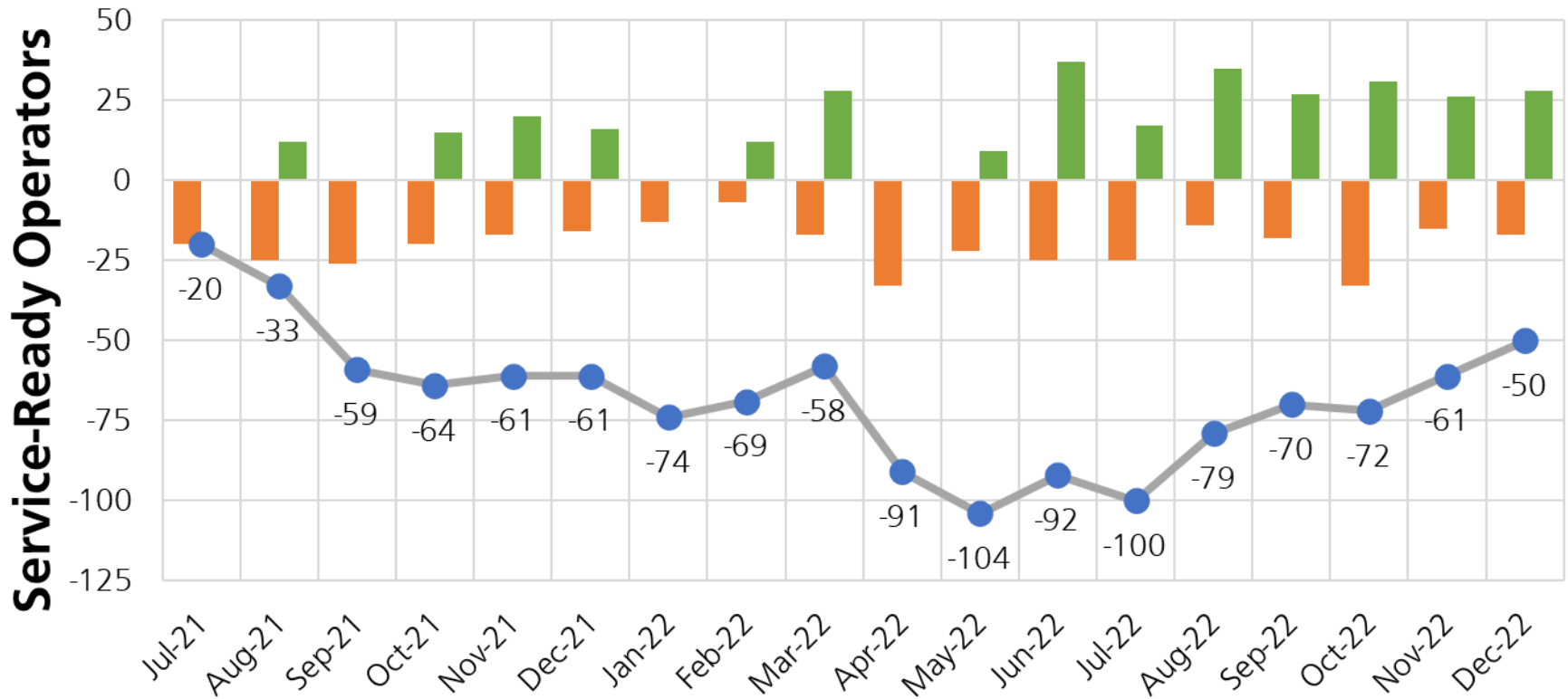


- Most operator separations are due to retirement or promotions, some operators do not complete initial training program
- FY22 operator attrition was significantly higher than previous 2 years
- First half of FY23 is on pace to be similar to FY22

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.

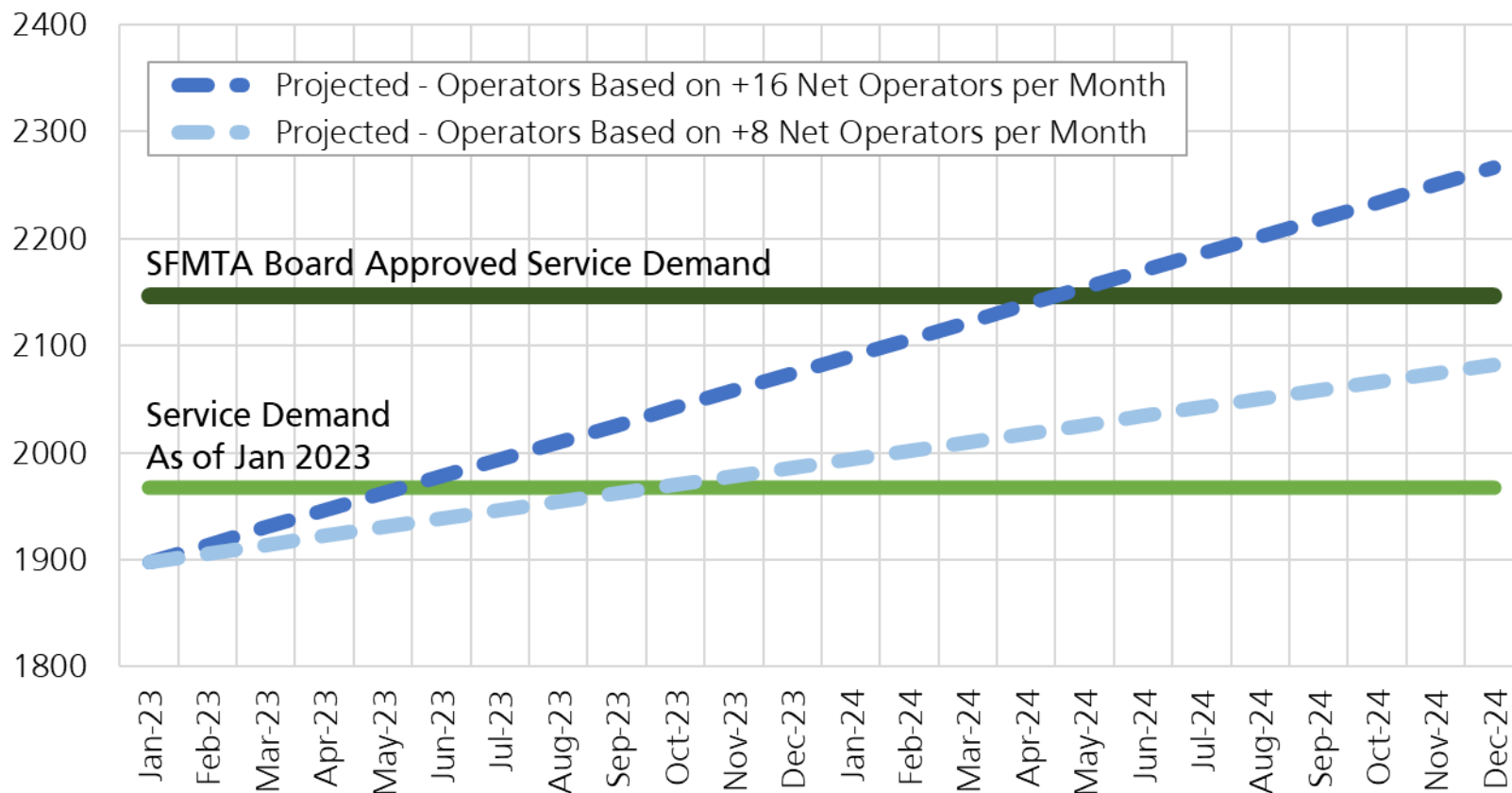


- High attrition and small operator classes led to decline in operators in FY22
- Larger class sizes continuing to help increase operator availability in first half of FY23

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

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 2-3x annually

Board Approved Service Changes

Adding lines

- 10 Townsend
- 28R 19th 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

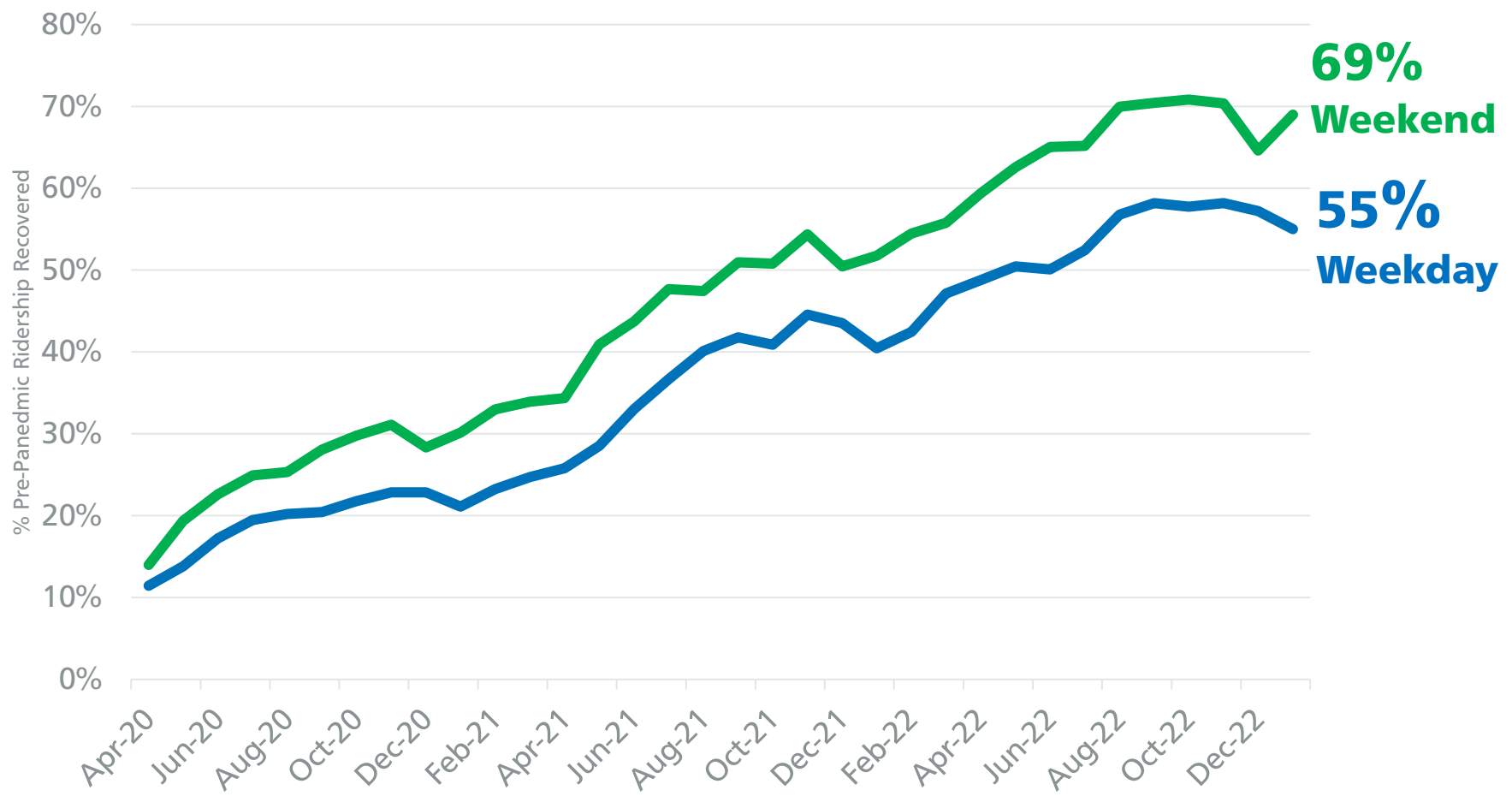
Develop future service options

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



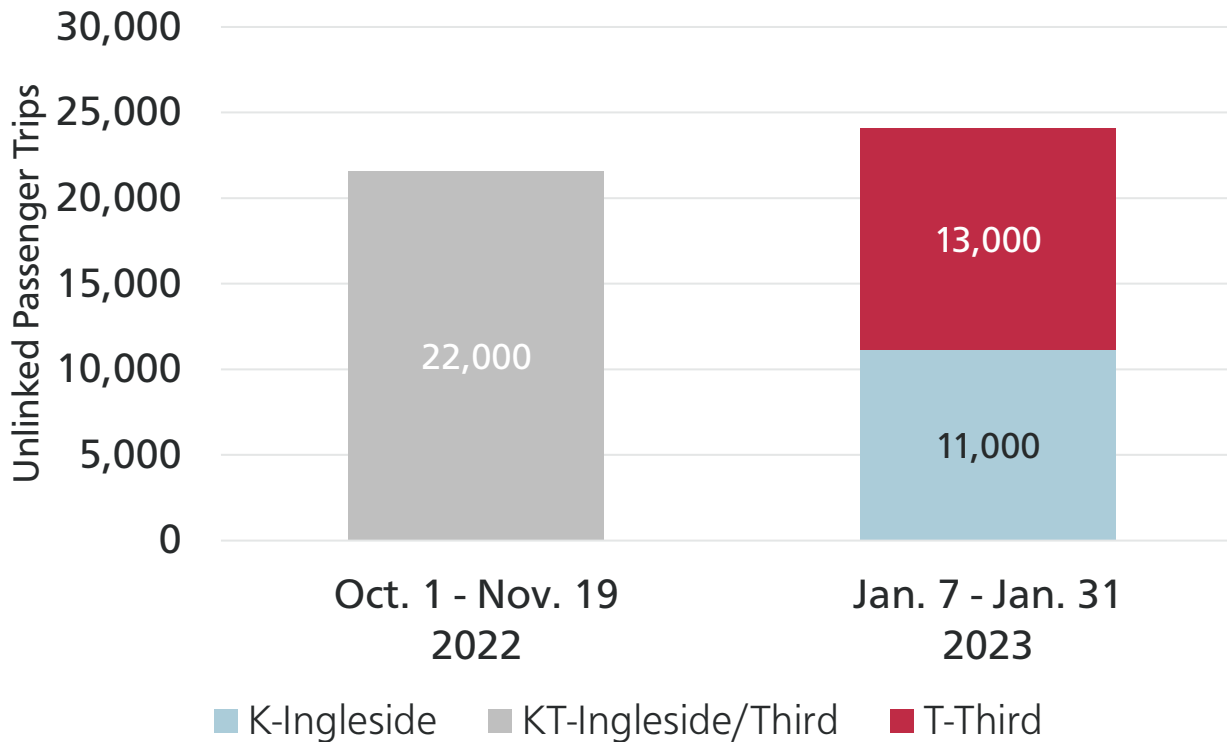
Ridership and Performance Trends

Bus and LRV Ridership Trends: Weekend and Weekday



Central Subway Ridership

Average Weekday Boardings

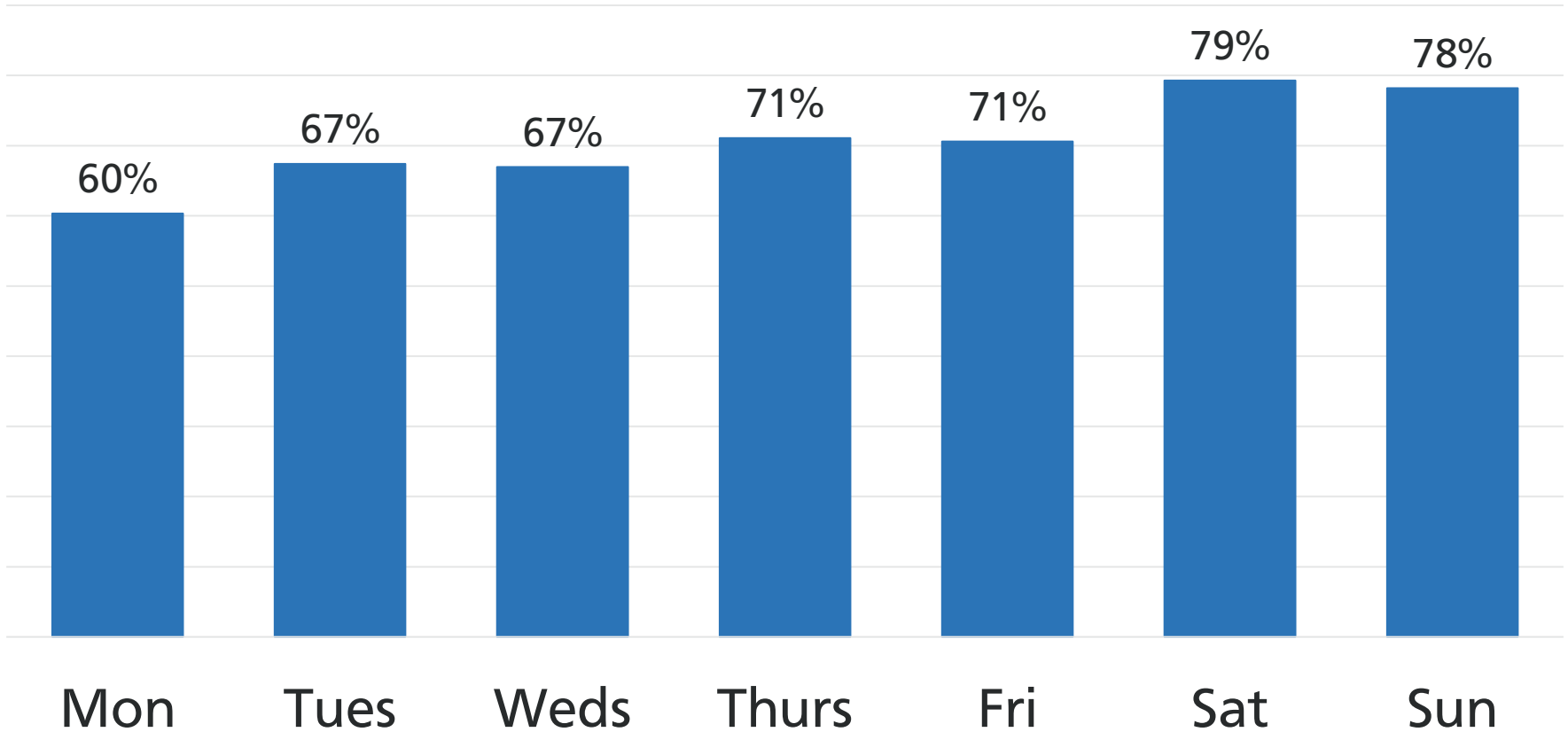


Even with storming weather conditions in January, first weeks of new T Third service showing ridership gains



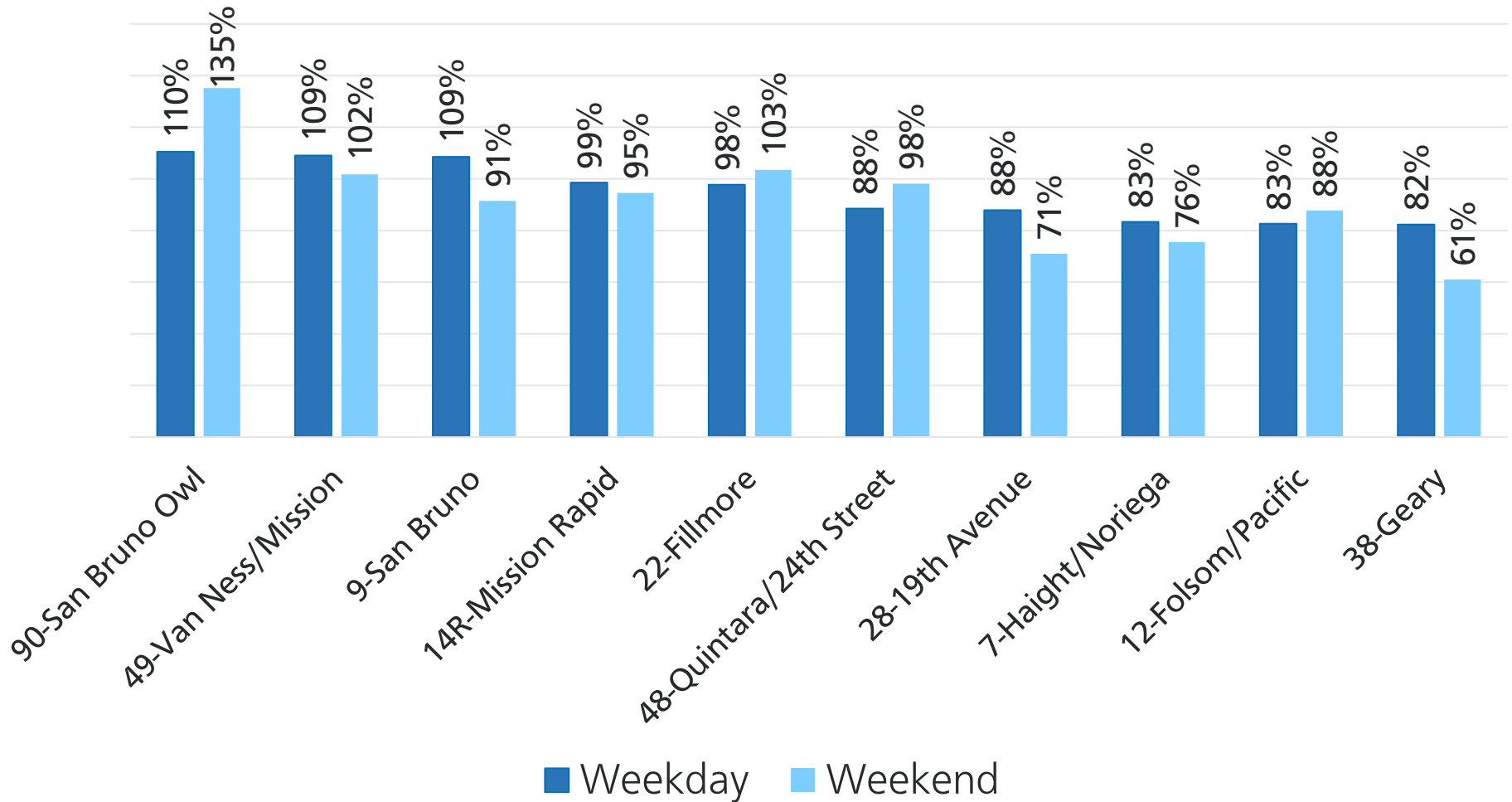
Bus Ridership Recovery

Day of the Week



Highest Ridership Recovery Routes

October 2019 vs October 2022



Ridership Patterns

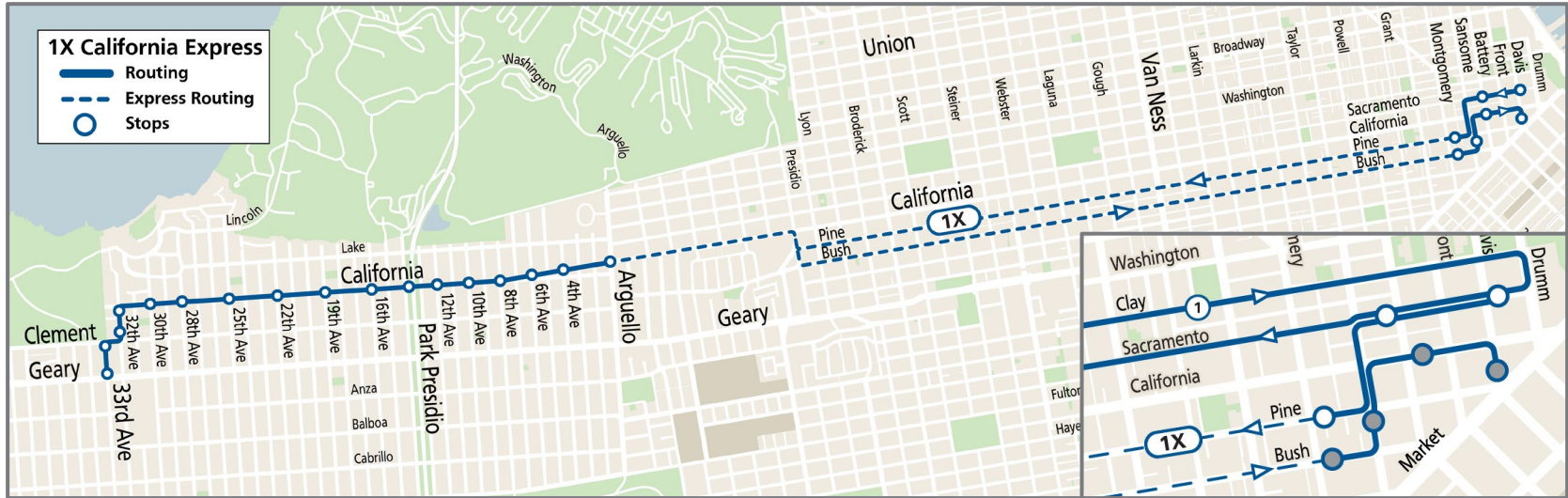
Very high ridership on lines that:

- 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

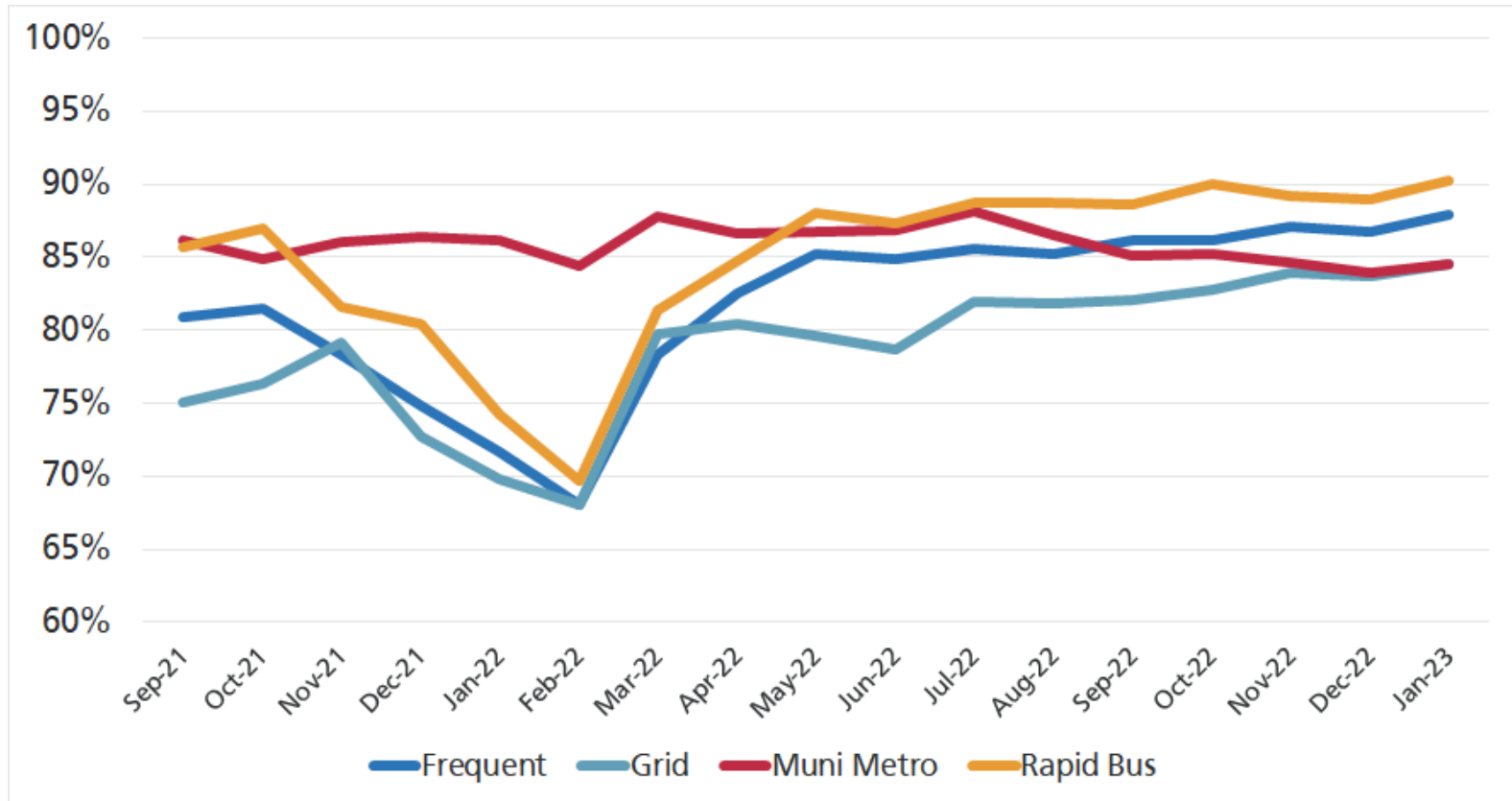
1X California Express Pilot



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

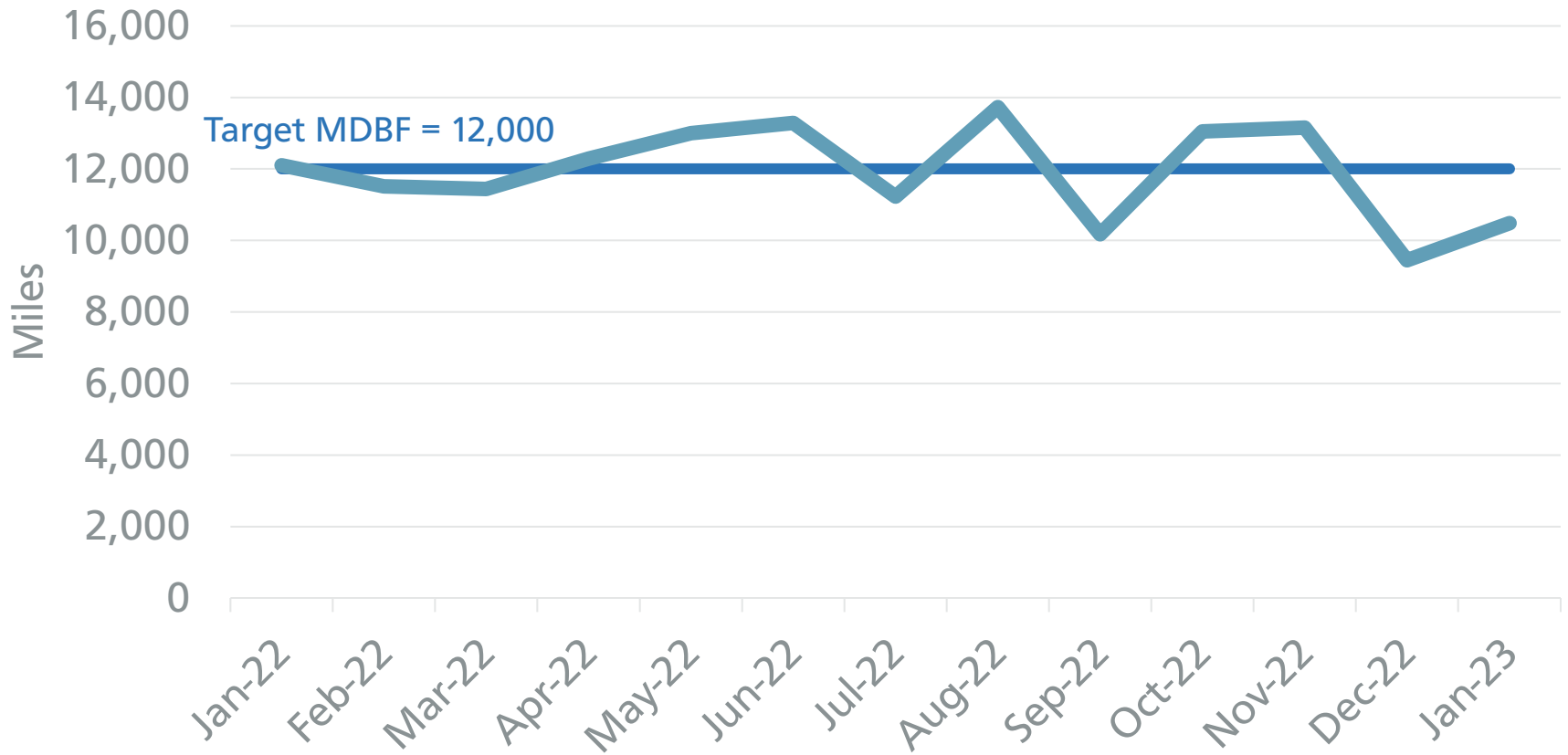
- Stops along 33rd Avenue, 32nd Avenue and California Street until Arguello Street, then express straight to Downtown
- Departs from Sacramento and Davis streets at 4:30, 5 and 5:30 p.m.
- First two stops of 1X California Express aligned with 1 California local stops
Last downtown stop is at Pine and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

Headway Adherence by Service Category

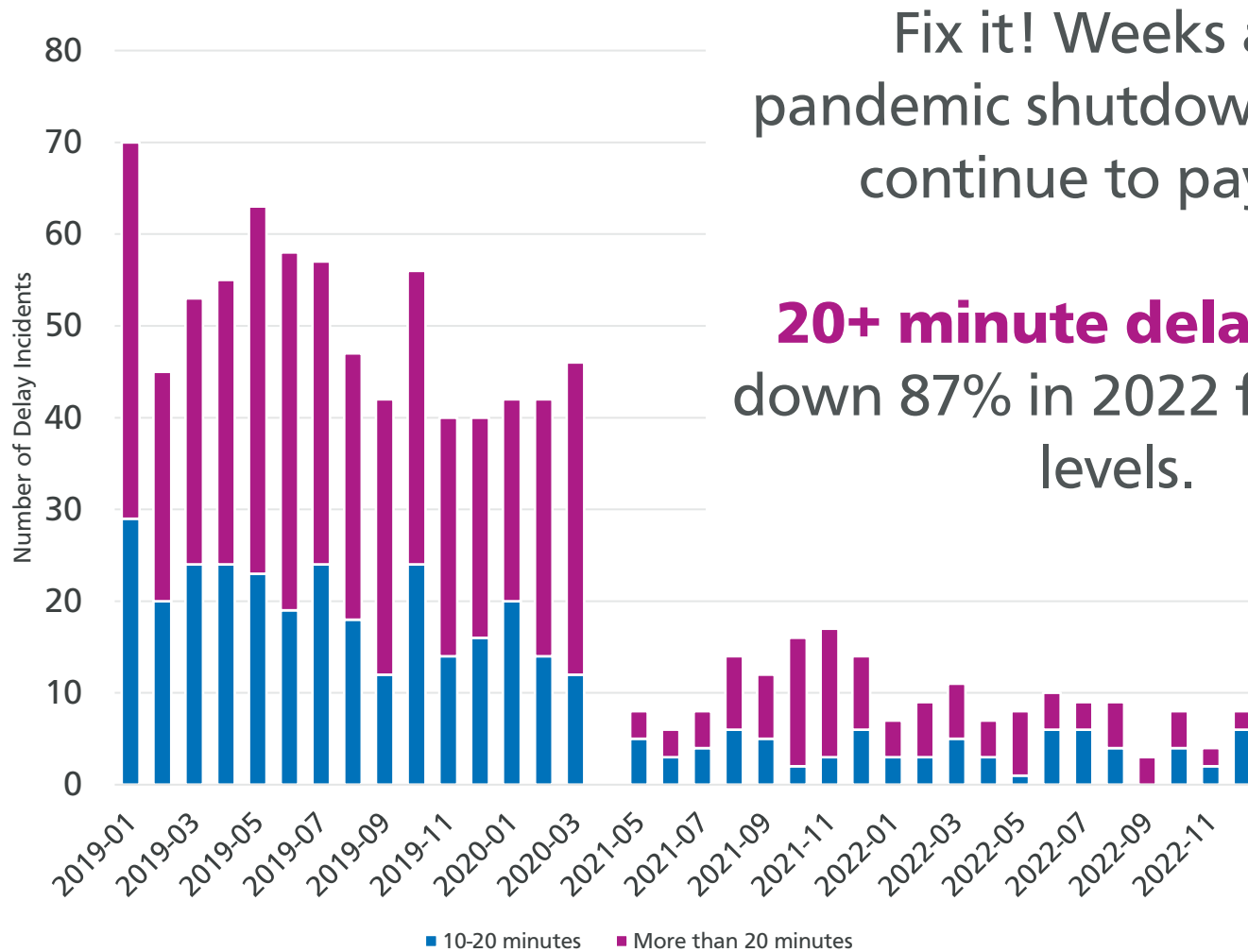


Note: only routes managed on a headway included. Muni Metro excludes KT, which switched to headway-management in January 2023.

Mean Distance Between Failures (Bus)

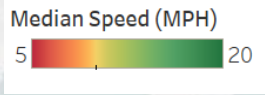


Subway Delay Events



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

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



Future Analysis

Mapping Median Bus Speeds






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!

New! Control Subway
 Route Changes
 New Transfer
 Destinations

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