



# Fast Forward

## 10 Years of Muni Forward 2014–2024

How Muni Forward has transformed transit reliability in San Francisco since 2014—and what's coming next

San Francisco Municipal Transportation Agency  
September 2024





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## Acknowledgements

Muni Forward is a program of the San Francisco Municipal Transportation Agency (SFMTA). The SFMTA is a city department, responsible for managing all ground transportation in San Francisco, including public transportation (Muni), bicycling, paratransit, parking, traffic, walking and taxis.

The effort to plan, design, fund and build Muni Forward projects over the past decade has included support from hundreds of city staff across multiple departments. The effort is led by the SFMTA's Transit Planning section, specifically the Transit Priority, Transit Engineering and Communications groups, with help from many other units of the agency. Within the Transit Division, Muni Forward receives extensive support from Service Planning, Transit Special Operations, Long Range Transit Planning, Maintenance of Way, Transit Operations and Transit Business Administration, among others. Special acknowledgement is given to **Sean Kennedy, Julie Kirschbaum** and **Cheryl Liu** for their ongoing leadership since the program's inception.

The SFMTA's Streets Division is also critical to Muni Forward's delivery, including the Sign, Paint, Meter and Signal shops, the Environmental Review Team, the Livable Streets unit, Parking Control Officers, the Curb Management team, Special Operations, Transportation Engineering, and others.

The Capital Programs & Construction division designs and oversees construction of many Muni Forward projects, while the Finance & Information Technology division has been instrumental in ensuring funding and information technology support is available for the program. Muni Forward has also benefitted from the support of the Communications division, Accessible Services, Enforcement & Legal Affairs, the Board Secretary, Human Resources, Government Affairs, the Safety division, the Chief Strategy Office and the Chief of Staff's Office, as well as the strong support of the Director of Transportation and SFMTA Board.

Muni Forward has important project partners in other city departments, including the Mayor's Office, the San Francisco Board of Supervisors, the Department of Public Works, the San Francisco Planning Department, the City Attorney's Office, the Office of Economic and Workforce Development and others. The Controller's Office was instrumental in the launch of Muni Forward.

We also acknowledge the partnership of the San Francisco County Transportation Authority, the Metropolitan Transportation Commission, the California State Transportation Agency, Caltrans and the Federal Transit Administration.

Most of all, we acknowledge the countless Muni riders, advocates and voters who have fought to make Muni the outstanding transit system the city deserves.

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# 1

## **Overview:** How Muni Forward Has Transformed Transit in San Francisco

The SFMTA's Muni Forward program has made transit in San Francisco faster, more reliable, easier to access and safer. Muni Forward improvements have driven Muni's post-pandemic ridership recovery and boosted rider satisfaction. This section provides an overview of what Muni Forward is, what it has accomplished and why it matters to riders.

### **IN THIS SECTION:**

- 10 Years and 100 Miles of Accomplishments
- Muni Forward's Guiding Principles
- Supporting San Franciscans' Shared Values
- Muni Forward on the Map
- Timeline: The Road to Muni Forward
- Why Transit Reliability Matters
- Outreach and Engagement Shape Muni Forward Projects

# 10 Years and 100 Miles of Accomplishments

Since launching in 2014, Muni Forward has established the Muni Rapid network, created new connections, given Muni riders priority on congested streets and enhanced safety along Muni routes. This led to more people taking transit and record levels of rider satisfaction.

San Francisco is a national leader in redesigning streets to give priority to bus and train riders, with the most per-capita miles of transit lanes of any large US city, part of a suite of enhancements to transit speed and reliability.

Muni Forward projects highlight our ability to deliver improvements efficiently and equitably: our quick-build approach—implementing treatments with temporary materials while permanent infrastructure is designed—means getting high-impact projects done fast, at a lower cost. This disproportionately benefits middle- and low-income San Franciscans who depend on Muni.

Muni Forward also aligns with community priorities and our shared city values of promoting trust and accountability in government, social equity, economic vitality and environmental stewardship.



## Muni Forward Improvements



### 100 MILES OF RELIABILITY IMPROVEMENTS ON HEAVILY USED MUNI CORRIDORS

In 10 years, Muni Forward has built 100 miles of transit travel time and reliability improvements, benefitting Muni routes that serve 93% of all riders. Upgrades include red transit lanes that allow transit to skirt traffic, enhanced bus stops to help you board faster and traffic signals that stay green for buses and trains.



### SAFETY AND ACCESS IMPROVEMENTS

Muni Forward projects have reduced collisions and made streets safer for all roadway users—in line with our [Vision Zero](#) goals. Muni Forward has built safety upgrades on over 48 miles of the city's [High Injury Network](#), the 12% of city streets where 68% of severe injury crashes happen. We have also made more stops accessible for all transit riders, including people with disabilities.



### BUILDING A RAPID NETWORK

Muni Forward established the Rapid Network of five core bus routes prioritizing reliability and frequency on the busiest transit corridors. With frequent service every 10 minutes or better, the Rapid network, together with our Muni Metro rail network and frequent local bus routes, is the backbone of today's Muni system. This is paving the way for the future Five-Minute Network—a set of routes with buses or trains every five minutes or better, all day.



### NEW CONNECTIONS

We have made new connections on heavily used routes, such as extensions to the Bayview, Mission Bay, the Presidio, Fisherman's Wharf and Ocean Avenue. These new connections have helped better connect both historically underserved areas of the city and emerging job and population centers as the city continues to evolve.

## Muni Forward Results: Benefits to Riders and the Communities We Serve



### UP TO 35% FASTER TRAVEL TIMES

Muni Forward projects have reduced travel times by up to 35%. They have also resulted in up to 51% more reliable transit service, which means consistent time between arrivals and less guessing about how long your bus or train will take. See Corridor Profiles (starting on page 60) for more information.

Note: Reliability refers to lower variability in travel times. See page 104 for information about how we calculate travel time savings and reliability.



### 50% OR MORE REDUCTION IN INJURY COLLISIONS ON MULTIPLE MUNI FORWARD CORRIDORS

Muni Forward aligns with the city's [Vision Zero](#) strategy to eliminate traffic fatalities. We have made a range of improvements to help riders get safely to and from stops, such as enhanced pedestrian crossings and pedestrian head start signals. These aim to reduce crashes, which makes streets safer for everyone, including people walking, biking, taking transit and driving. They also make Muni more accessible for more people. See page 56 for more information.



### MUNI FORWARD PROJECTS DIRECTLY BENEFIT LINES THAT SERVE 93% OF ALL MUNI RIDERS AND 32 MUNI SERVICE EQUITY STRATEGY LINES

Muni Forward investments are informed by ridership data and the [Muni Service Equity Strategy](#). This strategy delivers transit improvements to neighborhoods with high percentages of households with low incomes and low rates of vehicle ownership, people of color, seniors and people with disabilities. **Ultimately, all of Muni's riders—nearly 500,000 per day—benefit**, as resources saved by Muni Forward upgrades can be reallocated across the system.





### **23% RIDERSHIP INCREASE ON RAPID NETWORK CORRIDORS BEFORE THE PANDEMIC (2015-2019)**

Ridership has grown the most where we're making improvements to both frequency and reliability, such as on the Muni Rapid network. This means more people reaching more destinations with less pollution and traffic than a car trip would cause. Overall ridership on Muni Rapid bus lines increased by 23% from 2015 to 2019, compared to a 3% decline in systemwide ridership over the same period.



### **FASTER RIDERSHIP RECOVERY ON MUNI FORWARD CORRIDORS SINCE 2020**

Compared to 2019, weekday ridership has returned faster since the pandemic on corridors with major Muni Forward improvements—including the 14 Mission (96%), 22 Fillmore (119%) and 49 Van Ness/Mission (138%)—than the Muni system as a whole (68% average). See page 22 for more information.



### **RECORD-HIGH RIDER SATISFACTION**

Muni Forward has shifted how riders perceive transit in San Francisco, leading to record levels of rider satisfaction (72% in 2024). We have raised the bar for reliability and safety, as well as customer amenity improvements such as bus stop signage, newer buses and trains and real-time information. See page 20 for more information.

# Muni Forward's Guiding Principles

Where Muni Forward has focused improvements over the past decade, ridership has grown, helping to meet our climate action goals, reduce traffic while supporting economic growth and recovery, and enhance mobility and access for everyone in the city. This is driving an overall increase in rider satisfaction as measured in recent surveys and serves as a roadmap for how a transit system can transform itself to better meet the needs of a dynamic city. We've done this by focusing on the following principles:

**Muni Forward aims to make public transportation a great way to get around San Francisco**, by improving travel time, reliability, safety, access and customer amenities. Since 2014, Muni Forward has expanded Muni's Rapid network, built 100 miles of reliability improvements to heavily used bus and rail lines, such as red transit lanes, enhanced bus stops and traffic signals that help keep transit moving, and improved safety for people walking on corridors served by Muni. The program accomplished this with a toolkit of proven transit and safety upgrades (see page 45 for more information).

**Muni Forward improvements are guided by a systemwide approach, informed by data, community and customer feedback and the Muni Service Equity Strategy.** The focus is on delivering high-impact, low-cost projects on bus and light rail lines that together carry about 93% of all Muni trips. In addition, we prioritize lines identified for improvement in the [Muni Service Equity Strategy](#). This groundbreaking strategy delivers transit improvements to San Francisco neighborhoods that rely on Muni most, where there are greater numbers of people in low- and middle-income households, people of color, seniors and people with disabilities, and lower vehicle rates.

**Muni Forward aims to reflect San Franciscans' shared community values related to transportation**—providing better mobility options, increasing access to opportunities for low- and middle-income people who rely on transit most, supporting local businesses and being better environmental stewards. The SFMTA uses ongoing community input to inform planning and design, even making adjustments to projects after implementation to ensure they meet the needs of riders, residents and other community members.



## The “3 P's” Approach Guiding Muni Forward



### PARTNER

**Coordinate with existing efforts to limit disruptions, reduce cost and maximize benefits.**

Many of our projects are delivered in tandem with necessary state of good repair work, as well as in partnership with traffic safety projects, private developments and with community organizations.



### PILOT

**Implement low-cost, quick-build projects that can be adjusted or even reversed if needed. Measure results before building permanent improvements.**

Our priority is to deliver projects that benefit as many riders as possible as quickly as possible, so most Muni Forward improvements use a relatively low-cost, fast approach to implementation that can scale citywide.



### PERSIST

**Continuously learn, iterate and adapt. Revisit projects regularly to ensure they're working well and be ready to make changes and improvements, even to “permanent” projects.**

As traffic conditions, ridership patterns and transit priority best practices evolve, we continue to make adjustments, often revisiting improvements made as recently as a few months ago, or as long as 50 years ago.

# Supporting San Franciscans' Shared Values

Improving transit service isn't just about getting people where they need to go. Done right, it's also a way to build trust with communities, promote racial and social equity, enhance economic vitality, be good environmental stewards and combat climate change.

These values are consistent with the [SFMTA Strategic Plan](#) and are deeply important to many San Franciscans.

## **BUILDING TRUST**

- Reliable transit builds trust in Muni's ability to get people where they need to go.
- Genuine community engagement builds trust and understanding as we make transit improvements.

## **RACIAL AND SOCIAL EQUITY**

- Muni Forward focuses investments on [Muni Service Equity Strategy](#) priority neighborhoods.
- People with lower incomes are over-represented among Muni riders and benefit the most from transit reliability improvements.

## **ECONOMIC VITALITY**

- Muni Forward improves access to jobs and other opportunities by increasing how far people can travel by transit—reliably—in a given window of time.
- Transit priority increases the number of people that a street can move, giving the city room to grow its business activity and housing supply despite its limited roadway space.

## **ENVIRONMENTAL STEWARDSHIP**

- Muni Forward makes transit a more attractive alternative to driving by private car. In so doing, it reduces greenhouse gases, particulate matter and other emissions. This supports our efforts to combat climate change and reduce local environmental impacts from vehicles.



## Muni Forward's Objectives for Improving Transit

Muni Forward aims to grow transit ridership, improve the customer experience for Muni riders and deliver service cost-effectively to get the most out of the community's investment in Muni. While these outcomes are felt citywide, their greatest impact is in communities that rely on transit the most. To achieve these aims, Muni Forward has six main objectives:



### REDUCE TRANSIT TRAVEL TIME

Reducing travel times means getting where you need to go without needless delays. It also means we can deliver more frequent service with limited resources.



### IMPROVE TRANSIT RELIABILITY

Improved reliability means service arrives as often as it's supposed to, so riders can count on Muni showing up without an unexpected wait.



### IMPROVE SAFETY

Reducing crashes makes our streets safer for people walking, biking, taking transit and driving. We also aim to reduce transit-involved collisions and avoid the delay and costs that collisions cause.



### MAKE TRANSIT MORE ACCESSIBLE

The transit rider experience is about more than the ride: it's also about getting to and from stops and making transit more accessible for everyone.



### MOVE MORE PEOPLE IN LIMITED SPACE

Transit priority helps us to move more people within a limited right-of-way.



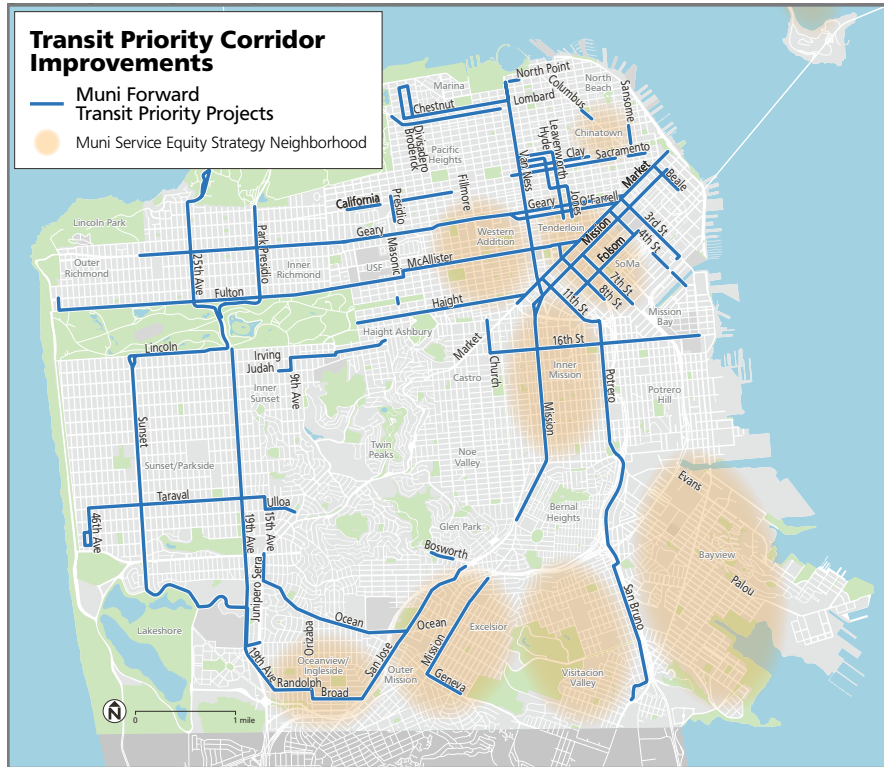
### IMPROVE CUSTOMER AMENITIES

Muni Forward projects include rider amenities such as bus shelters, real-time arrival displays, transit stop lighting and improved stop identification signage.





# Muni Forward on the Map



## 100 MILES OF TRANSIT PRIORITY CORRIDOR IMPROVEMENTS SINCE 2014

These transit priority projects include a toolkit of over 20 engineering improvements that enhance travel time and reliability, such as transit lanes, transit bulbs, boarding islands, traffic signals with transit priority, stop spacing changes, turn pockets, turn restrictions and more. Learn more about these projects in the Muni Forward Corridor Profiles section, starting on page 60.



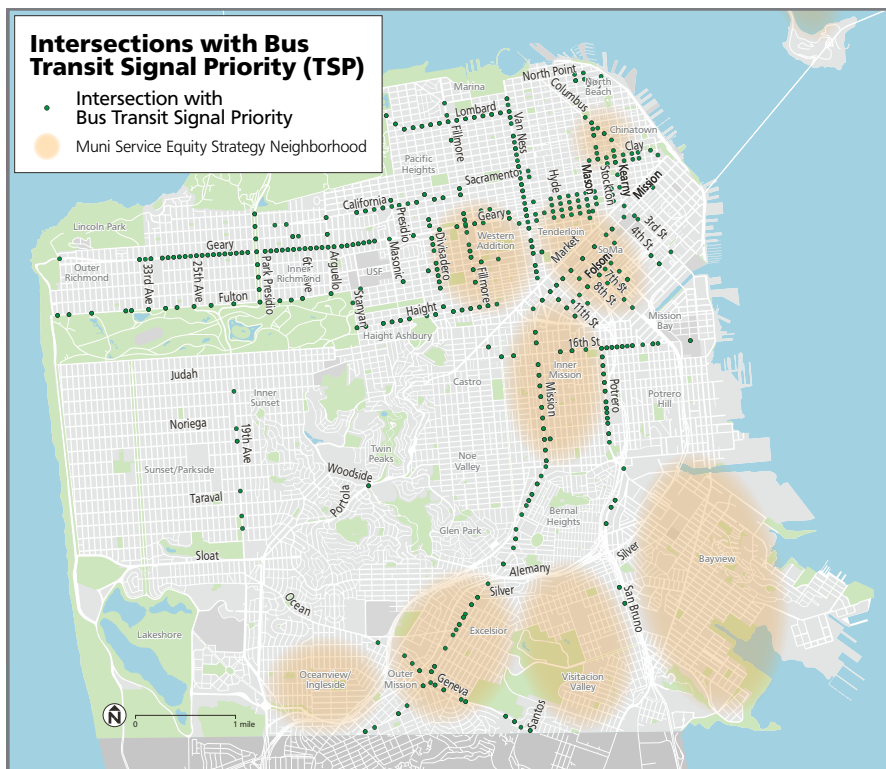
## 75-MILE NETWORK OF TRANSIT LANES CITYWIDE

Transit lanes are the most visible transit priority feature, giving buses and trains priority on the street. Out of 75 miles of transit lanes in San Francisco, over 20 miles are colorized with red thermoplastic, making them easier to see for drivers and improving compliance by about 50% on average. Learn more about transit lanes on page 46.



**NEW TRANSIT BULBS AND ISLANDS AT 200 INTERSECTIONS**

Transit bulbs and islands improve safety, accessibility and amenity for transit riders, such as providing room for transit shelters with real-time arrival displays. They also reduce delay to transit vehicles and, in the case of transit islands, can enable center-running transit lanes. Read more about transit bulbs and islands on page 51.



**TRANSIT SIGNAL PRIORITY TO KEEP LIGHTS GREEN FOR BUSES**

Transit signal priority uses GPS to hold green lights longer—and bring them up sooner—for buses. San Francisco has installed transit signal priority for buses at 318 intersections since 2014, making the city a national leader. Muni rail lines also have transit signal priority, but use a different technology and are not shown on this map. Learn more about transit signal priority on page 50.

**MUNI FORWARD SPOTLIGHT**

## Transforming San Francisco's Busiest Bus Corridor

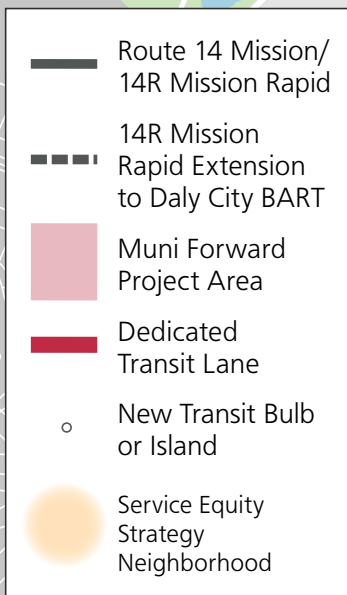
Mission Street illustrates how a series of Muni Forward improvements have acted together to make transit up to 31% faster in SoMa and 9% faster across the entire line overall. This is what Muni Forward looks like in practice.

### RELIABILITY

Muni Forward has made bus service on the Mission corridor up to 25% more reliable, with improvements like transit lanes, transit signal priority and removing some closely spaced stops.

### SERVICE

The 14R Mission Rapid serves fewer stops than the 14 Mission local to provide faster service. Muni Forward extended the 14R Mission Rapid to Daly City BART and expanded hours of service.



Daly  
City  
BART

John-Daly

Oceanview

Mission

Outer  
Mission

Mission/Geneva Safety Project

Geneva

Persia

Excelsior

Silver

Glen Park

### THREE PHASES OF TRANSIT PRIORITY PROJECTS

- **Mission District (2016):** The [14 Mission Rapid Project](#), with transit priority and safety investments, resulted in 2 minutes time savings in the Inner Mission section of the route. However, surveyed riders perceived a 10-minute improvement, in part due to the better reliability.
- **SoMa (2020–2022):** Temporary Emergency Transit Lanes and related safety improvements—which have since been approved to remain permanently—reduced bus travel times by up to 31% in SoMa.
- **Excelsior and Outer Mission (Construction):** Construction is underway for the [Muni Forward Mission/Geneva Safety Project](#).



## SAFETY

Muni Forward improvements reduced injury collisions on this corridor by 59% (2015-2019). Examples of safety improvements include:

- Wider sidewalks at intersections (also called "pedestrian bulbs")—two built, 27 under construction on the Mission corridor—and pedestrian head start signals to make crossing the street safer for people walking.
- Left turn restrictions at certain intersections to improve pedestrian safety, as well as transit reliability and general traffic flow.



### WHAT DO MUNI FORWARD TRANSIT PRIORITY IMPROVEMENTS LOOK LIKE?

- 1** Dedicated bus lanes to avoid delays from congestion
- 2** Traffic signals with transit signal priority (TSP) to help buses keep moving through intersections.
- 3** Bus stops with wider platforms—"transit bulbs" or "transit islands"—to help riders board the bus more easily.
- 4** Safety features for people walking and biking, such as protected bike lanes that are separated from the bus stop, continental crosswalks and pedestrian head start signals.

More information on the 14 Mission/14R Mission Rapid corridor is available on page 70.

# Timeline: The Road to Muni Forward



## BEFORE 1999

- **Improvement Plan for Transportation (1972):** The plan included a policy to give priority to transit vehicles on designated streets to improve speed and reliability.
- **Transit-First Policy Resolution (1973):** Following up from the Improvement Plan for Transportation, a [Transit-First Policy resolution](#) calls for a system of Transit Preferential Streets.
- **Early Transit Priority (1970s and 1980s):** Early transit lanes and other transit priority measures are built on Geary, O'Farrell, Sutter, Post, Mission and Judah streets.



## 1999-2005

- **Proposition E (1999):** Voters approve Proposition E, consolidating Muni and the Department of Parking and Traffic into a single agency (SFMTA) and updating the Transit-First Policy in the City Charter.
- **A Vision for Rapid Transit in San Francisco (2002):** This [SFMTA plan](#) outlined corridors for rail and bus priority improvements, many of which would become future Muni Forward corridors.



## 2006-2013

- **Transit Effectiveness Project (TEP) launch (2006):** The SFMTA begins effort to identify causes and solutions to Muni's greatest challenges, including customer experience and transit reliability—the precursor to Muni Forward.
- **T Third (2007):** T Third light rail line opens with a dedicated right-of-way on 3rd Street and signal priority.
- **All-Door Boarding Policy (2012):** Systemwide policy to let people get on and off transit vehicles from any door, resulting in 38% less time spent at stops ([All-Door Boarding Evaluation Report](#)).
- **TEP Pilot Projects (2013):**
  - 5 Fulton Limited Pilot provides limited service with fewer stops as well as other quick-build improvements on the corridor.
  - First red transit lanes installed on Church Street.

## 2014–2024

## Ongoing implementation of Muni Forward transit reliability improvements



## 2014-2019

**Proposition A  
General Obligation**
**Bond: Muni Forward**

**launches**, funded by voter-approved Proposition A, to improve travel time on heavily used Muni corridors, building on the TEP's recommendations.

- **Safer Market Street (2015):** [Safer Market Street](#) implemented, extending red transit lanes on Market Street.
- **Muni Rapid Launch (2015):** "Rapid" service replaces "Limited" service and expands on select high-ridership routes. Rapid routes come very frequently, make fewer stops than local routes and include transit priority improvements such as transit lanes. Today's Rapid routes include the 5R Fulton Rapid, 9R San Bruno Rapid, 14R Mission Rapid, 28R 19th Avenue Rapid and 38R Geary Rapid.



## 2020-2022

- **Car-Free Market Street (2020):** Car-Free Market Street implemented, closing remaining gaps in transit lanes on the corridor.
- **Transit Delay Hot Spots and Transit Priority Quick-Build Programs (2020):** Two programs to identify and address places with the most transit delay and make [quick-build transit priority improvements](#).
- **Temporary Emergency Transit Lanes (2020-2022):** As a response to the pandemic, the SFMTA quickly implemented transit lanes between 2020 and 2022—leading to the [fastest ever expansion of transit lanes](#) in San Francisco.



## 2023-2024

- **100 miles of transit reliability improvements completed (2014-2024),** such as red transit lanes, enhanced transit stops and signal priority. San Francisco now has a total of over 75 miles of transit lanes.
- **New Transit Priority Projects (2023–2024):** New transit priority projects approved on the 19 Polk, 29 Sunset, 38 Geary, J Church, K Ingleside and M Ocean View, while permanent project construction is completed on Taraval Street (L Taraval), 16th Street (22 Fillmore), 19th Avenue (28 19th Avenue) and through the Tenderloin (27 Bryant), as well as on several quick-build corridors and Transit Delay Hot Spots.

Detailed corridor-specific timelines are available in the **Muni Forward Corridor Profiles** (starting on page 60).

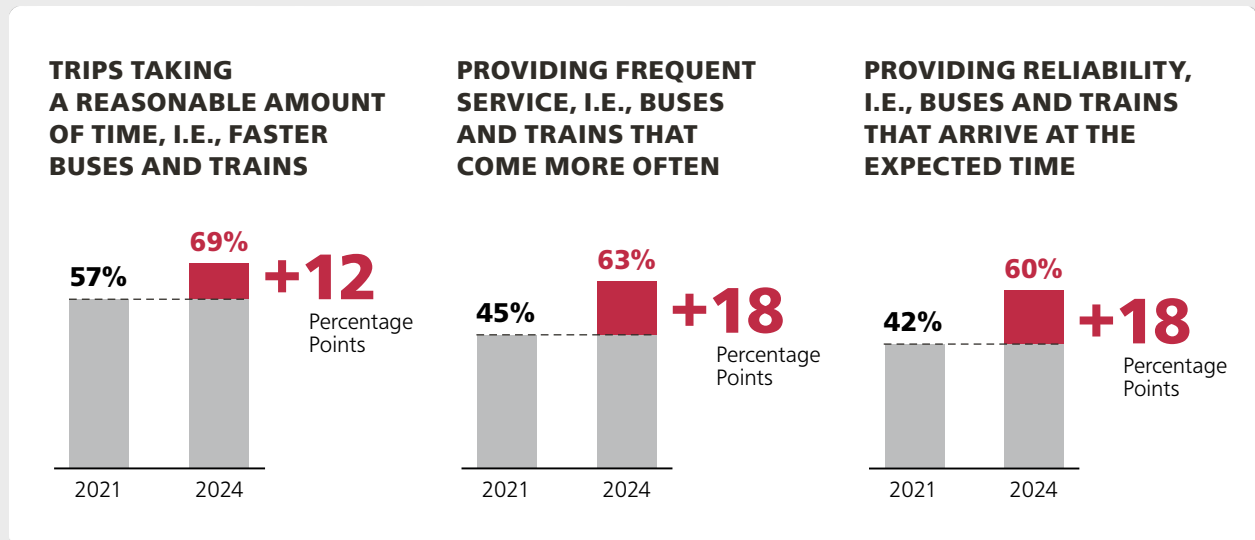
**MUNI FORWARD SPOTLIGHT**

## Record Rider Satisfaction

72% of Muni riders rated service as good or excellent in 2024, an increase from 66% in 2023 and the highest rating since annual customer surveys started in 2001.

Between 2021 and 2024, rider satisfaction increased considerably for three attributes that relate directly to Muni Forward improvements.

### Muni does an “excellent” or “good” job at trips taking a reasonable amount of time, providing frequent service and providing reliability



Source: [Muni Rider Survey](#), SFMTA, 2024

Faster service, frequent service and reliability are core focus areas of Muni Forward improvements. Together with broader agency efforts, such as [switching to headway management](#) rather than timepoint schedules and an improved fleet, Muni Forward has helped to positively shift customers' perception of transit.

**“The recent improvements to these lines are amazing. I use these buses all the time to get to the grocery store and I'm so happy I live in a neighborhood where transit is becoming more and more convenient and reliable.”**

**–14/14R and 49 Rider (2016)**



**MUNI FORWARD SPOTLIGHT**

## Leading Muni's Ridership Recovery

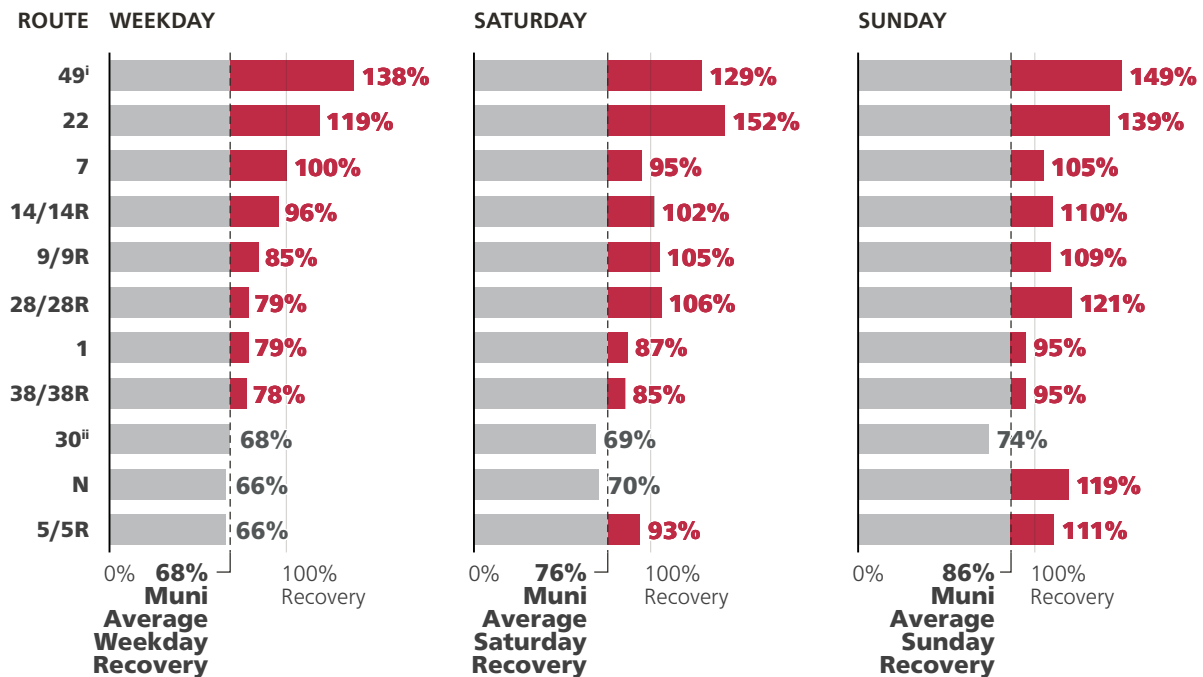
Since the pandemic, ridership has bounced back faster on core Muni Forward corridors where we've made the greatest investments over the past decade, relative to systemwide ridership recovery.

Muni Forward has prioritized service and reliability improvements to the system's most heavily used routes as well as Muni Service Equity Strategy routes over the past decade, with an even sharper focus on equity since the pandemic.

The routes where we've made these improvements have proven to be the most resilient in retaining and growing ridership in the wake of the pandemic, with a ridership recovery rate of 100% or greater in some cases, particularly on weekends. With lines like the 22 Fillmore and 49 Van Ness/Mission exceeding their pre-pandemic ridership, Muni Forward has demonstrated that San Franciscans will still choose transit when it's fast, frequent, reliable, safe and convenient.

### Ridership on nearly all Muni Forward routes has recovered faster than the overall Muni system on average—for both weekdays and weekends

Ridership recovery shown as the percent of May 2024 ridership relative to May 2019 ridership



Source: [Average daily Muni boardings by route and month \(pre-pandemic to present\)](#), SFMTA, May 2024 and May 2019

Data Notes: (i) The 47 Van Ness also ran on Van Ness Avenue prior to the pandemic but is no longer in service. The ridership recovery rate is 100% when including the entire 49-line and boardings on the 47-line that occurred on Van Ness before the pandemic. (ii) Ridership for the 30 Stockton has been partly diverted to the T Third with the opening of the Central Subway, as well as to the 15 Bayview Hunters Point Express.



# Why Transit Reliability Matters

Transit reliability is critical for San Francisco. Prior to Muni Forward, transit delays had been a longstanding issue for riders on nearly every Muni line, making it hard for people—particularly people with low and middle incomes—to get around the city.

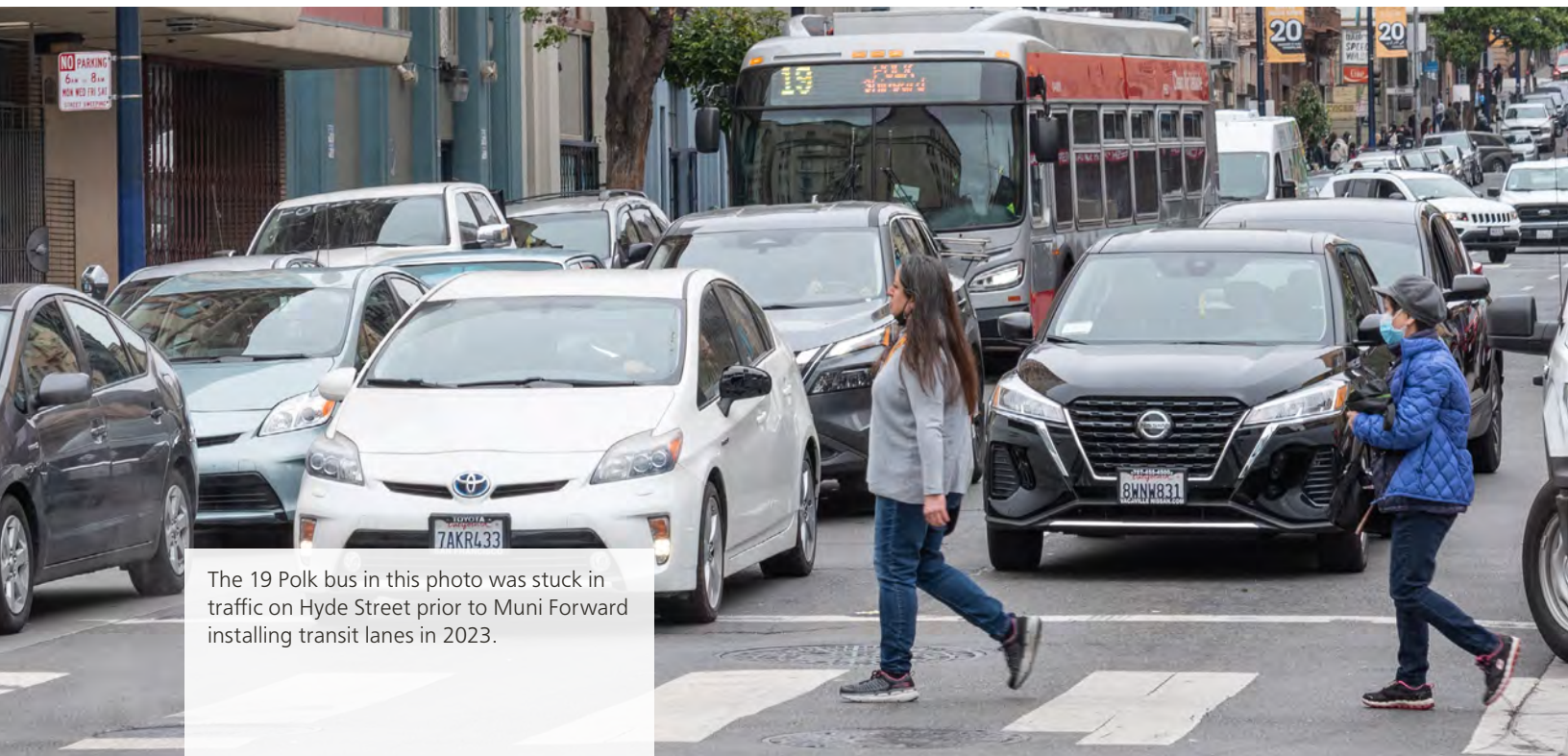
## Before Muni Forward, Transit Was Unreliable and Getting Worse

Muni speeds were gradually declining from the 1970s through the 2000s. By 2004, we had the second slowest bus system in the country. This was due to traffic congestion, double-parking, frequent stop signs, traffic signals without transit priority and closely spaced stops. Slow buses pose an especially urgent problem in San Francisco: Compared to other dense cities like New York and Washington, D.C., San Francisco relies more on buses and street-level trains since there isn't a citywide subway network.

In the mid-2000s, reliability—the percentage of transit trips without “bunching” or “gaps”—was also well short of our target of 85%. People waited longer than expected for a bus to arrive at their stop and then saw two buses arrive at the same time—the first one crowded with passengers and the second one nearly empty.

Source: [San Francisco Transit Effectiveness Project Briefing Book](#), SFMTA, 2008.

**“I take the L downtown & back 5 days a week and the frequency with which it's delayed is very frustrating.”**  
**–L Taraval rider (2015)**

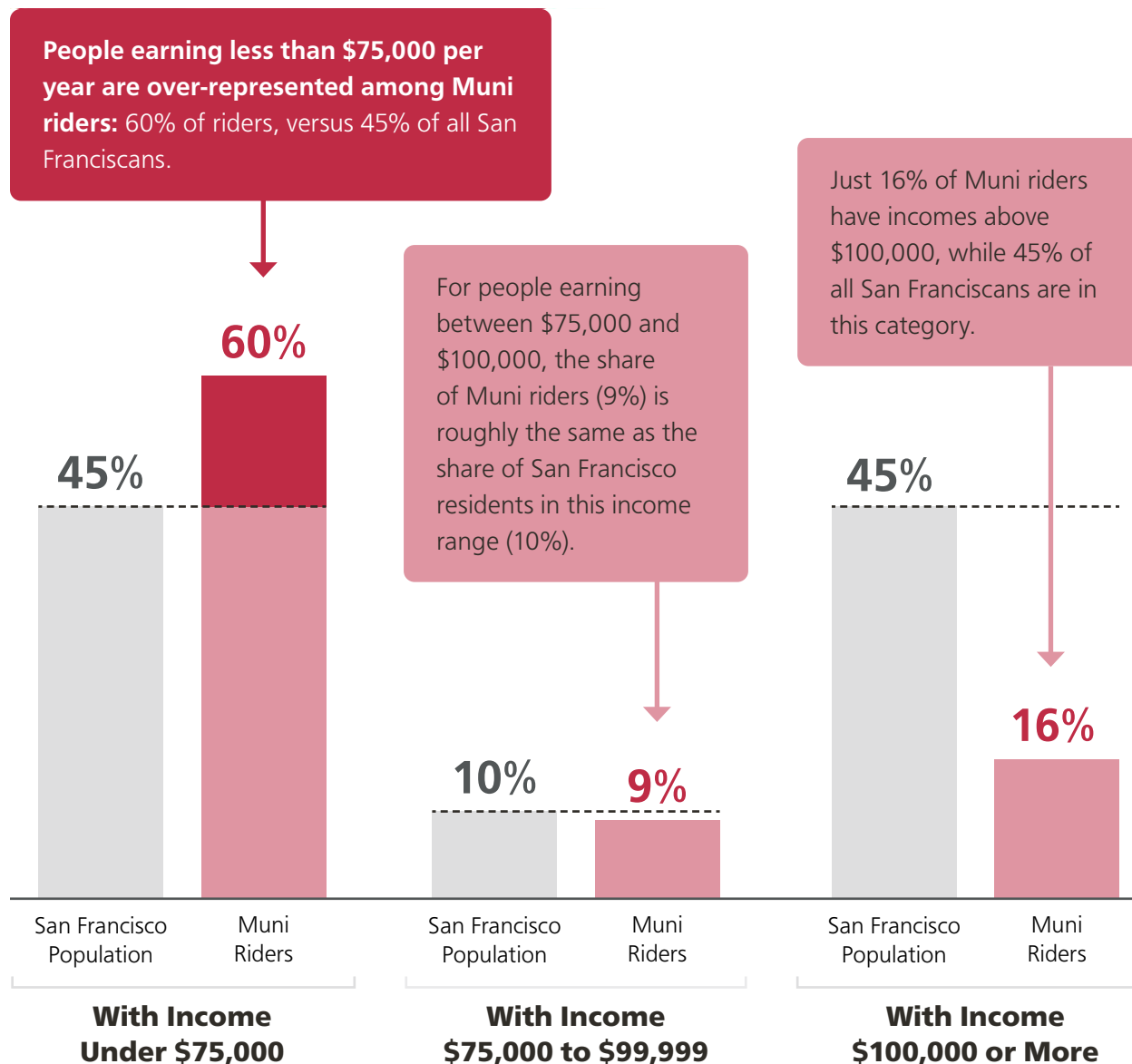


The 19 Polk bus in this photo was stuck in traffic on Hyde Street prior to Muni Forward installing transit lanes in 2023.



## Transit Delays Affect People with Middle and Low Incomes Most

Who are the people who take transit and suffer most as a result of delay? In short, people with low and moderate incomes. In general, people with lower incomes have less flexibility about when they arrive to work, less ability to work remotely and longer commutes. Transit delays can mean losing a job, or having to make a long and expensive drive every day.

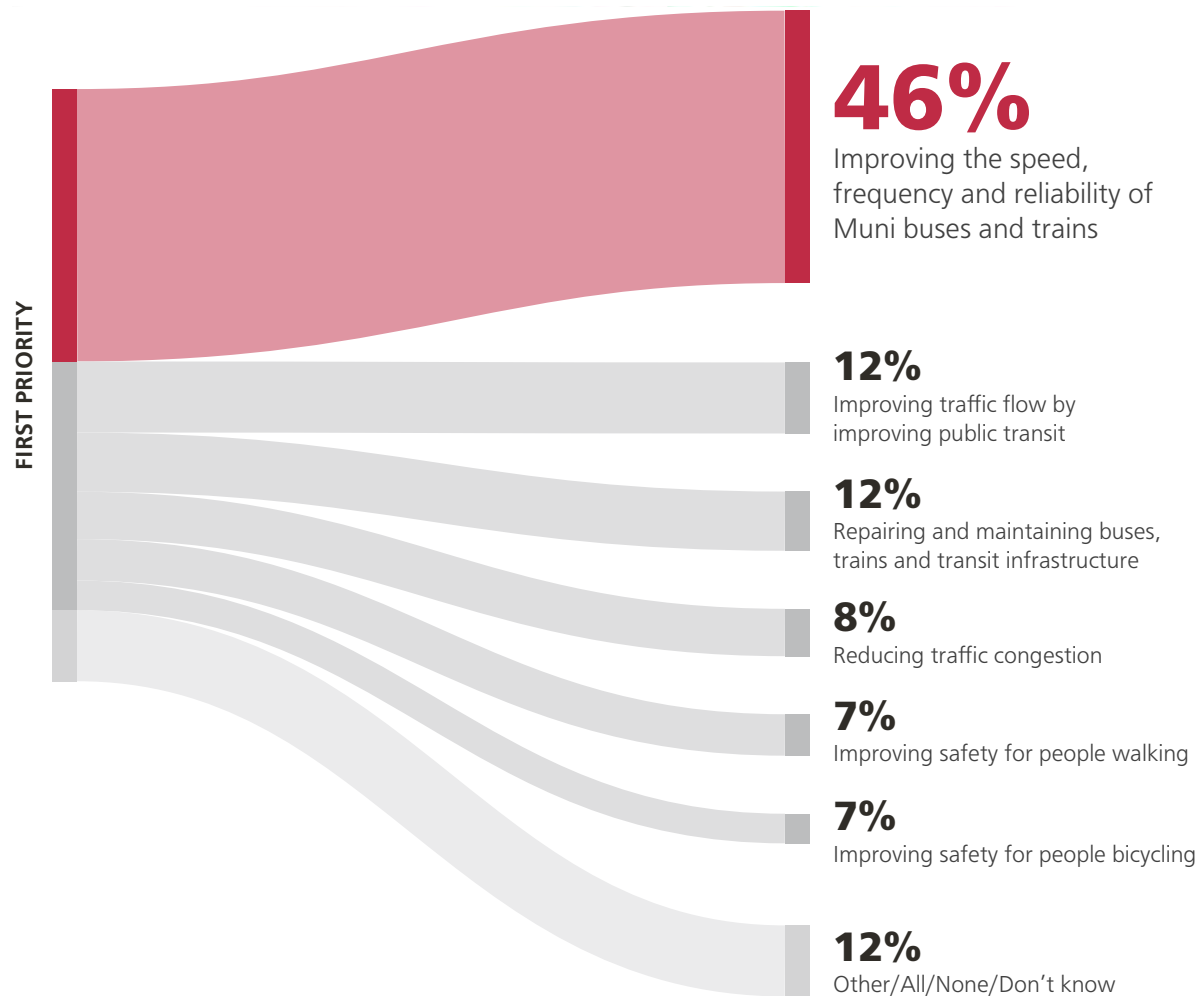


Data Sources: Muni On-Board Survey, SFMTA, 2017; American Community Survey 1-Year Estimates, US Census Bureau, 2017. These are the most recent available sources for comparison.

## Transit Delay and Reliability Are Riders' Top Concern

Transit delay is a top concern for riders and San Francisco residents. According to the SFMTA's 2023 Community Survey, 46% of respondents identify improving Muni's speed, reliability and frequency as the most important transportation goal for San Francisco—by far the highest of any transportation priority, across all modes of travel. This is consistent with survey feedback we've heard from riders repeatedly over the past two decades.

### Nearly half (46%) of surveyed residents selected better Muni speed, reliability and frequency as their number one priority for improving the city's transportation



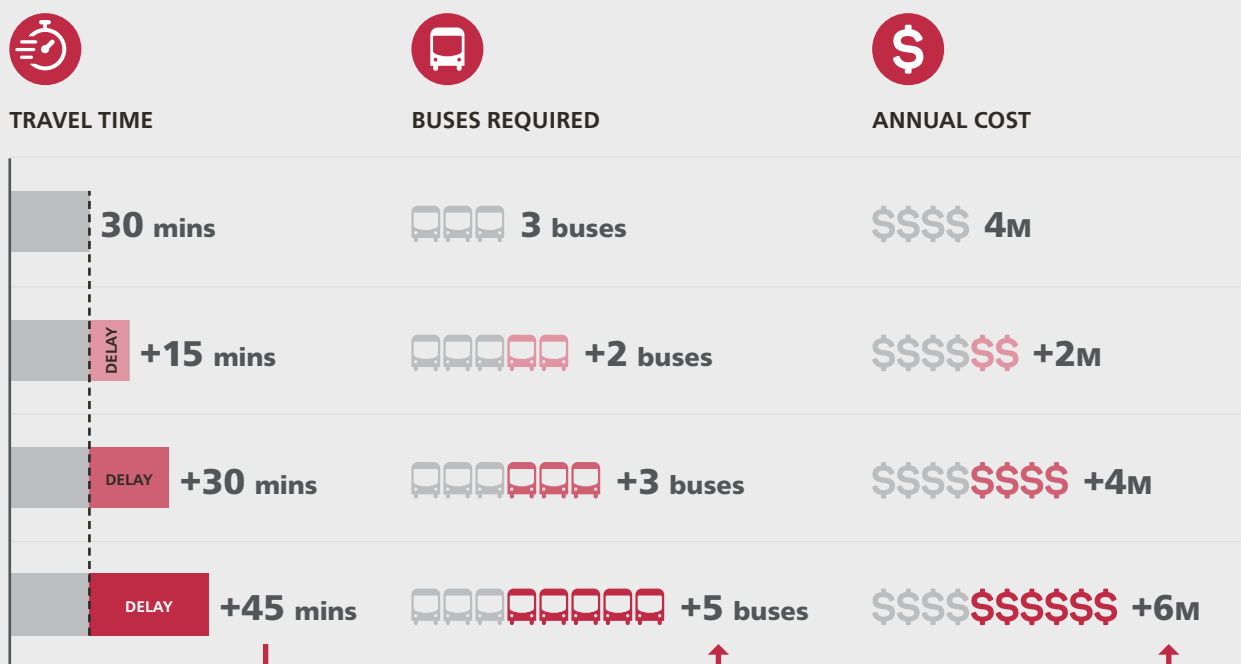
Source: [Community Survey Results Summary](#), SFMTA, 2023.

Muni Forward continually solicits community input and uses this feedback to guide decisions. See page 36 for more information on our approach to public outreach and engagement.

## Transit Delay Means Higher Costs for Worse Service

Delay doesn't just cost riders time and make their transit experience worse. As transit becomes slower due to traffic congestion and other delays, it also becomes more expensive for Muni to provide. Longer trip times mean we have to run more buses to provide the same frequency of service, increasing costs without providing any benefit to riders.

**How much does it cost to provide Muni bus service every 10 minutes, from 6 a.m. to midnight daily?**



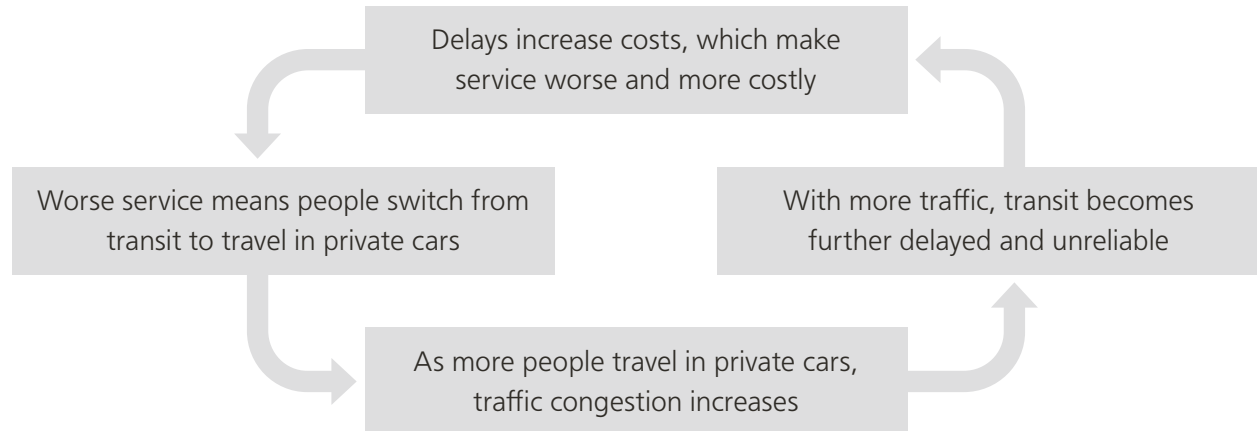
**Delays Increase the Cost to Provide Service**  
 Annual costs assume operating costs of \$200 per hour per vehicle for example purposes only. Actual costs vary by mode.

Like any public entity, the SFMTA is required to balance its budget. So how do we make up for the added costs of slower service? In short, increased delay on a transit line means we have to cut frequency on the route to make it work with the same number of buses, or “take a bus” from another route, cutting the other route's frequency. Either way, slower service leads to service cuts.

## Transit Delays Cause a Downward Spiral

Transit delays can lead to a downward spiral where higher costs lead to less frequent and reliable service, which causes fewer people to choose transit and increases trips in private cars. This increases traffic congestion and further worsens transit delay, while also decreasing revenue from transit fares, leading to service cuts.

### DOWNWARD SPIRAL CAUSED BY TRANSIT DELAYS



**Fortunately, it is possible to reverse the spiral. This is what Muni Forward has been doing since 2014.**

Reduced delay improves service quality and allows us to avoid reducing frequency to make up for slower service. This causes more people to choose transit. For example, Muni Forward investments on Mission Street led to a 9% roundtrip travel time savings on the 14 Mission (2015–2023). The 14 Mission/14R Mission Rapid corridor saw a combined 9% increase in ridership over the same period.

### VIRTUOUS CYCLE CAUSED BY SHORTER TRANSIT TRAVEL TIMES AND MORE RELIABLE SERVICE



The Muni Forward Toolkit section (page 41) explains the tools that Muni Forward uses to reverse the downward spiral and make transit work better in San Francisco.

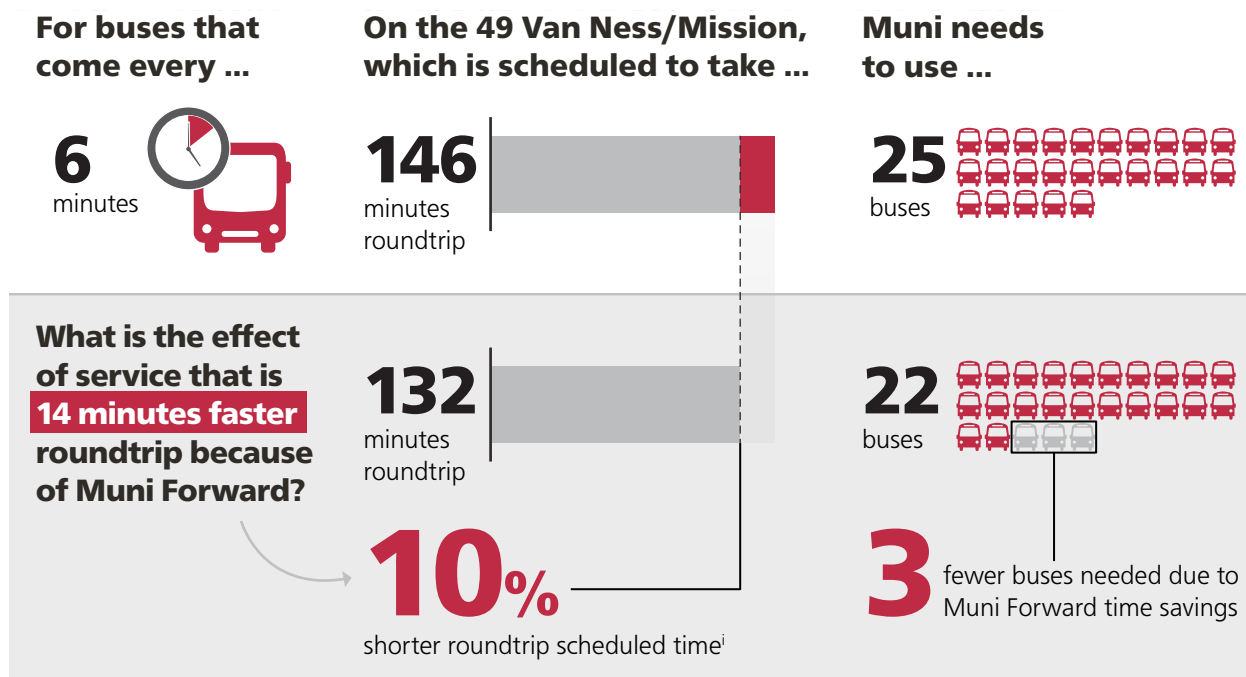
## Muni Forward Reduces Delay and Lowers Costs

**One fewer bus running 12 hours a day, six days a week, results in approximately \$1 million in annual savings.** Estimates of cost savings from Muni Forward improvements are based on several factors, including how long a transit vehicle takes to run a given route, the number of buses or trains that serve a route and delays that would have otherwise worsened without Muni Forward efforts.

**Systemwide, we estimate that Muni Forward has reduced operating costs by as much as \$5-10 million per year** compared to what it would cost to provide our current level of transit service without Muni Forward improvements. This is because time savings enables the SFMTA to provide the same level of service with fewer transit vehicles—reversing the trend described on page 27.

**Saving a transit vehicle is easiest to accomplish on frequent routes.** Of the 17 routes featured in the Muni Forward Corridor Profiles in this report (starting on page 60), all operate using at least 10 buses or trains in service on weekdays, some with up to 27. As a result, the roundtrip time savings required to save a transit vehicle on these routes is roughly 4-10%. We have seen time savings in this range or greater for most of our segment-by-segment analyses.

**For example, as a result of Muni Forward, the 49 Van Ness/Mission roundtrip schedules are approximately 10% shorter in 2024 relative to 2015, saving three buses.** Had Muni Forward not reduced travel times, the 49 Van Ness/Mission would have needed three additional buses to provide service every six minutes—which is how often buses come during rush hour in 2024.



Data Note: (i) Based on weekday scheduled runtimes, 2015–2024. Actual observed time savings were even greater.

## Low-Cost, High-Impact Solutions for Transit Delays

Muni Forward focuses on low-cost, high-impact investments that can scale quickly across the most heavily used lines in the city's transit network. For example, transit lanes have a very low cost relative to their resulting time savings for riders. The table below shows approximate cost ranges and time savings associated with typical Muni Forward transit priority interventions in San Francisco. By comparison, the cost of rebuilding a highway can be hundreds of millions of dollars per mile. See page 32 for a summary of total project costs for a range of Muni Forward corridors.

| FEATURE  | TIME SAVINGS                         | UNIT COST <sup>i,ii</sup>  | WHO INSTALLS IT?                    |
|--|--------------------------------------|--|-------------------------------------|
| Transit lane                                     | 5-35% on block with transit lane     | \$100-200K per mile (non-red), \$1M per mile (red) per direction | SFMTA shops                         |
| Transit signal priority (TSP) at existing signal | 1-5% on block approaching TSP signal | \$20-70K per intersection  | SFMTA shops                         |
| New traffic signal replacing stop sign           | 1-20% on block approaching signal    | \$700K per intersection  | Contractor                          |
| Transit bulb                                     | 1-5% on block with bulb              | \$250-500K+ each   | Contractor or SF Public Works crews |
| Transit island                                   | 1-5% on block with transit island    | \$100-500K each  | Contractor or SF Public Works crews |
| Turn restriction                                 | 1-5% on block with turn restriction  | Less than \$2K each  | SFMTA shops                         |
| Transit stop removal and optimization            | 5-20% in route segment with changes  | \$4-8K per stop change   | SFMTA shops                         |

Notes: (i) Costs do not include soft costs (e.g., planning, environmental review, design, permitting). Soft costs are typically about 30% of total costs for larger projects delivered by contractors. Soft costs may be a larger share of project costs for lower-cost projects delivered by city crews. (ii) Generalized costs. Actual cost varies by location.



**MUNI FORWARD SPOTLIGHT**

## Finding and Fixing Transit Delay Hot Spots

Established in 2020, the Transit Delay Hot Spots Program identifies the 10 slowest segments in the Muni system—where buses or trains often run slower than 4 miles per hour. We then develop simple, targeted solutions to address the problem spots. Once fixed, we develop a new list of hot spots, ensuring that help is on the way for riders experiencing the worst delays.



Source: [Transit Delay Hot Spots Program](#), SFMTA, 2020

Example location: the 54 Felton was identified in the Transit Delay Hot Spots Program in 2020. The short segment on Van Dyke Avenue at 3rd Street saw slow very travel times, due to the bus stopping at both sides of the same intersection. The stop at the near side of the intersection was removed, reducing delay by one minute, or 50%, while continuing to provide a stop across the street. Similar improvements have been implemented at six other locations and will continue to roll out in the year ahead.

**MUNI FORWARD SPOTLIGHT**

## Different Levels of Transit Priority Investment

Muni Forward selects tools from a transit priority toolkit tailored to each project's needs and context. The tools used can range in terms of level of investment from very low-cost, quick-build projects like basic side-running transit lanes, all the way up to more extensive projects that by Muni Forward standards involve a relatively high level of capital construction, such as Van Ness Bus Rapid Transit. Most Muni Forward projects are in the mid-range level of investment, similar to the 14/14R Mission or 30 Stockton corridors. However, even the most capital-intensive street transit priority investments are much less expensive than constructing a subway or new freeway, especially when separating out the core costs for transit priority improvements from other project costs, such as state-of-good-repair upgrades to utilities, pavement and other aging infrastructure in the public right-of-way.

Typical Muni Forward projects

**Lower Cost**



### 19 POLK TRANSIT LANES (7TH, 8TH, HYDE STREETS)

#### CHARACTERISTIC

#### Length (bidirectional miles)

1.6 miles

#### Core cost per bidirectional mile for core transit priority improvements

Less than \$500,000

#### Cost per bidirectional mile including related infrastructure upgrades<sup>i</sup>

No related infrastructure upgrades

#### Time from planning to opening

6–12 months

#### Construction time

1–3 months

#### Transit priority features

- Transit lanes without red colorization

#### Related utility and public space investments

None



Muni Forward with streetscape enhancements

Bus Rapid Transit with extensive streetscape enhancements and complex utility work

**Higher Cost**



**MISSION CORRIDOR (SOMA AND MISSION DISTRICT)**

**GEARY RAPID PROJECT**

**VAN NESS BUS RAPID TRANSIT**

|   |  |   |
|---|--|---|
| 4 miles   | 3 miles  | 2 miles   |
| \$5 million   | \$12 million   | \$35 million <sup>ii</sup>  |
| No related infrastructure upgrades  | \$22 million   | \$173 million   |
| 2-3 years   | 5 years  | 19 years  |
| 1 year  | 2 years  | 6 years   |
| <ul style="list-style-type: none"> <li>• Side-running red transit lanes</li> <li>• Transit signal priority</li> <li>• Transit bulbs and island</li> <li>• Changes to stop spacing and placement</li> <li>• Turn restrictions</li> <li>• Right turn pockets</li> <li>• Pedestrian safety infrastructure</li> </ul> | <ul style="list-style-type: none"> <li>• Side-running red transit lanes</li> <li>• Transit signal priority</li> <li>• Transit bulbs</li> <li>• Changes to stop spacing and placement</li> <li>• Left turn restrictions</li> <li>• Right turn pockets</li> <li>• Utility upgrades (SFPUC)</li> <li>• Repaving (SF Public Works)</li> <li>• Pedestrian safety infrastructure</li> <li>• Removal of old infrastructure</li> </ul> | <ul style="list-style-type: none"> <li>• Center-running red transit lanes</li> <li>• High-amenity boarding islands</li> <li>• Changes to stop spacing</li> <li>• Transit signal priority</li> <li>• Utility upgrades (SFPUC)</li> <li>• Repaving (SF Public Works)</li> <li>• Overhead wires</li> <li>• New street lights</li> <li>• New trees</li> <li>• Public art</li> </ul> |

Notes: (i) Costs include planning and design. (ii) Cost for transit priority features is approximate, as all project scope—including utility upgrades and other state-of-good-repair improvements—was combined in a single design and contracting process.

**MUNI FORWARD SPOTLIGHT**

## Supporting San Francisco's Pandemic Recovery with Low-Cost, Quick-Build Transit Lanes

Through Muni Forward's Temporary Emergency Transit Lanes (TETL) program, the SFMTA built over 15 miles of transit lanes in two years, part of the fastest expansion ever in San Francisco. The lanes reduced transit travel times by up to 31% for riders.

TETL was an effort between 2020 and 2022 to minimize rider exposure to COVID-19 due to crowded buses and trains and to deliver reliable transit during the pandemic recovery. It was a critical part of the SFMTA pandemic response. Informed by data and focused on equity, it ensured that essential workers who depend on transit weren't stuck in slow, crowded buses during the worst months of the pandemic.

TETL also introduced the concept of piloting at scale. It gave people the opportunity to experience changes right away and enabled us to quickly evaluate the impact of our work.

### DATA-DRIVEN APPROACH

TETL measured travel time savings resulting from a drop in overall traffic in March and April 2020 compared to pre-pandemic conditions. We used the data to inform where to install transit lanes to preserve travel times as traffic returned.

### EQUITABLE INVESTMENTS

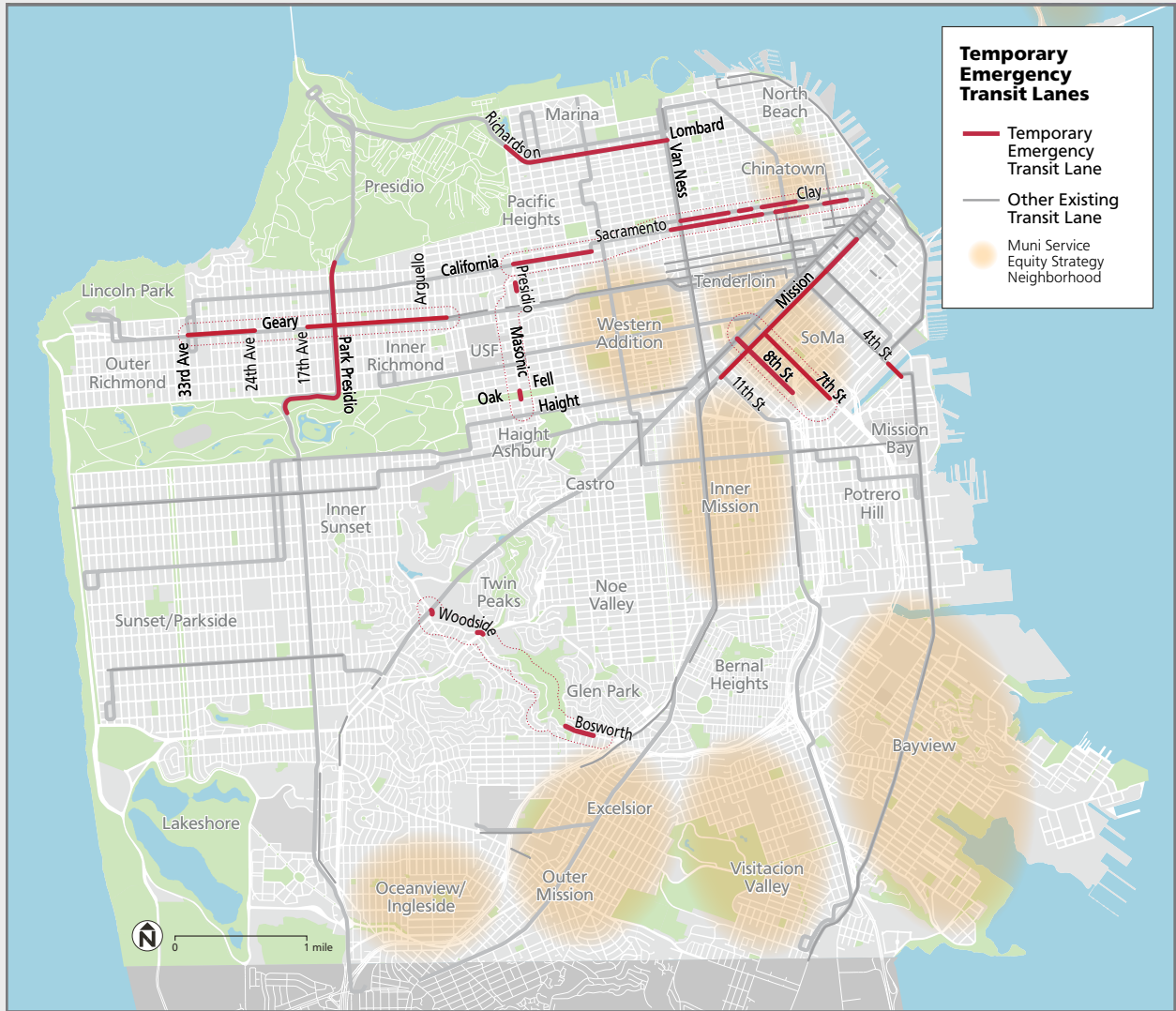
All TETL projects benefited lines that serve neighborhoods identified by the [Muni Service Equity Strategy](#).

### COMMUNITY OUTREACH

TETL projects were successful in reducing delays and had strong community support.

Following a robust outreach process, most of the transit lanes were eventually approved to remain permanently. But where we received strong feedback that the projects weren't working well for the community, we made adjustments. And in a few cases, short sections of transit lanes were removed as the pandemic eased, in keeping with the temporary emergency-response nature of the program.





Source: Temporary Emergency Transit Lanes Evaluation Summary, SFMTA, 2022



# Outreach and Engagement Shape Muni Forward Projects

Community input helps to identify priorities, set goals, generate ideas and measure success for Muni Forward. And SFMTA uses outreach to provide ongoing, accessible information that keeps everyone up to date.

## Muni Forward Tailors Outreach Tools and Activities

SFMTA tailors all Muni Forward outreach tools and activities to individual neighborhood contexts and needs. Tools and activities can include:

- "Listening tours" in early stages of planning
- Conversations with community groups
- Door-to-door merchant outreach
- In-person and virtual community meetings
- Project websites, including interactive "StoryMaps"
- Walk and ride audits
- Pop-up open houses at transit stops and key destinations
- Emails, text messages and mailers
- Surveys distributed to riders, residents, visitors and merchants
- Virtual office hours

Nearly all Muni Forward projects now begin with a listening tour to gather insights from community members. Following this phase, we use what we've heard to develop concepts, gather additional community feedback and ultimately finalize a proposal for approval by the SFMTA Board of Directors.



## Public Outreach and Engagement Team Strategy

The public outreach approach for all SFMTA efforts, including Muni Forward, is called the "Public Outreach and Engagement Team" ([POETS](#)) and is guided by the following values:

- Consistent requirements for public outreach throughout the agency
- Resources to support staff who work directly with the public
- Inclusive practices to increase access and participation
- Development and cultivation of strong community relationships

All Muni Forward efforts—including quick-build projects—develop communications and outreach plans, which (1) identify community-based organizations and neighborhood partners, (2) establish outreach goals and (3) ensure that project information and materials are available in community-appropriate languages.

## Muni Service Equity Strategy: Supporting People Who Rely on Transit

The [Muni Service Equity Strategy](#) identifies priority neighborhoods to address transit performance disparities. The neighborhood selection process considers concentrations of households with lower incomes, people of color, levels of vehicle ownership, the location of affordable and public housing developments, and Muni routes disproportionately used by people of color and with lower incomes.

The Service Equity Strategy establishes principles to guide decisions and improvements:

- Prioritize Equity Strategy routes when increasing service and when facing constraints on resources
- Perform ongoing evaluations of customer-reported issues on Equity Strategy routes
- Leverage ongoing community engagement efforts to identify key service and capital needs, including opportunities for Muni Forward improvements



## MUNI FORWARD SPOTLIGHT

# Community Collaboration

Efforts on three routes—the 19 Polk, 27 Bryant and 29 Sunset—illustrate how Muni Forward has made improvements using extensive community engagement and the Public Outreach and Engagement Strategy approach. These routes were selected in part to invest equitably based on the Muni Service Equity Strategy.

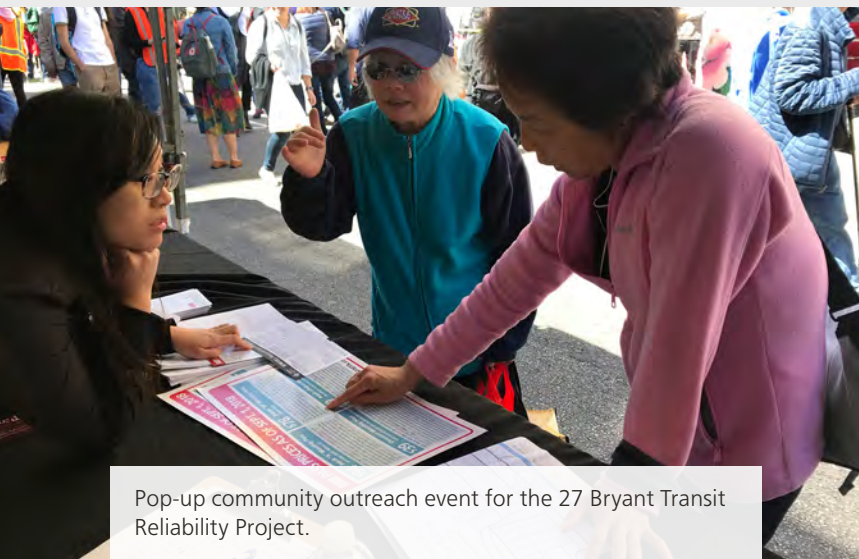
## Prioritizing Equity on the 19 Polk and 27 Bryant

The [19 Polk on 7th and 8th Streets Transit Improvements Project](#) was part of the Temporary Emergency Transit Lanes program. Portions of the route were selected for temporary transit lanes, based on pre-pandemic bottlenecks on 7th and 8th streets. Due to popular support among riders, 40% of whom have incomes below \$35,000, Muni Forward gained approval to keep the transit lanes permanently.

The [27 Bryant Transit Reliability Project](#) focused on improvements north of Market Street in the Tenderloin and Nob Hill neighborhoods. We also rerouted the 27 Bryant from 5th Street to 7th and 8th streets so riders can benefit from the new transit lanes on these streets. The project's outreach was honored with an [award by the International Association for Public Participation \(IAP2\) USA](#).

## OUTREACH TOOLS AND ACTIVITIES

- Open houses, virtual community meetings, tabling at events like Sunday Streets and farmers markets, virtual office hours
- Walk-ride audit
- Multilingual mailers, posters, emails and text message updates
- Onboard surveys, operator surveys, pre- and post-evaluation surveys
- Door-to-door merchant outreach
- Project website



Pop-up community outreach event for the 27 Bryant Transit Reliability Project.



New transit bulb on Leavenworth Street at Pine Street, serving the 27 Bryant.

## CHANGE THE MUNI 29 BUS!

THE 29 BUS HAS MADE IT DIFFICULT TO GET TO + FROM SCHOOL.  
WE NEED YOUR HELP TO IMPROVE THE 29!

### 1. FOLLOW OUR INSTAGRAM

⇒ "[@Students.change29](https://www.instagram.com/students.change29)" ⇐

### 2. SEND DM / POST ON STORY

We are collecting your 29 bus experiences.

IS IT PASSING YOU? VIDEO IT.  
REALLY CROWDED? TAKE A PHOTO.  
TELL US YOUR STORY!

OPEN DM: MON. 2/10 - FRI. 2/14

WE WILL SHARE THE RESULTS WITH MUNI.

### 3. USE #FIXOUR29

TO SUPPORT THE CAMPAIGN!



Credit: @students.change29 Instagram account (left); SF Youth Commission (right)

## Working with Students on the 29 Sunset

With an average weekday ridership of 16,400, the 29 Sunset serves many schools and colleges, as well as several Equity Strategy neighborhoods, including the Bayview, Visitacion Valley, Excelsior-Outer Mission and Oceanview-Ingleside.

Outreach for improvements on the 29 Sunset began in 2019 as a grassroots effort led by students at Lowell High School and other schools along the route. A rider survey in 2021 found that reducing wait time, travel time and crowding were the three highest priorities among riders.

Community input informed Muni Forward and other transit improvements, such as additional school hour service ("school trippers") to reduce crowding, as well as changes to bus stop design and spacing. The changes are anticipated to reduce travel times by 15-20% between Junipero Serra Boulevard and Baker Beach.

Phase 2 will focus on the southern and eastern parts of the 29 Sunset.

### OUTREACH TOOLS AND ACTIVITIES

- Listening tour:
  - Lowell High School students
  - Neighborhood groups
  - San Francisco Youth Commission
  - San Francisco Unified School District
- Community meetings
- Survey
- Door-to-door merchant outreach
- Email lists and mailers
- Project website

Source: [29 Sunset Improvement Project Storymap](#), SFMTA, 2023





# 2

## **Muni Forward Toolkit:** How We're Making Muni Faster, More Reliable, Safer and Easier to Access

This section describes how Muni Forward makes transit work better—by providing Rapid service, making new connections and other route improvements and building transit priority upgrades. It also shows how different levels of investment can be applied, from smaller spot fixes to larger corridor-wide improvements.

### **IN THIS SECTION:**

- Building a Rapid Network
- New Connections and Routing Improvements
- Transit Priority Toolkit
  - Transit Lanes
  - Transit Signal Priority
  - Enhanced Transit Stops
  - Stop Spacing and Placement
  - Curb and Traffic Management
  - Pedestrian Safety Infrastructure

## Building a Rapid Network

The Rapid Network is a key part of Muni Forward. Rapid routes—which have an "R" next to their number, like 14R Mission Rapid and 5R Fulton Rapid—stop less often than local buses to get riders where they need to go in less time.

**Service with wider bus stop spacing has been available since at least the 1950s on certain routes**, with buses that skip lower volume local stops to provide a faster trip for riders. But in the past, only two routes—the 14L Mission Limited and 38L Geary Limited—offered this limited-stop service all day and neither operated 7 days a week.

**In 2015, as part of Muni Forward, Limited service transformed into Rapid service.** Rapid routes continued to make fewer stops than local service, but unlike their Limited predecessors, Rapid routes come more often, all day, with more weekend service on some lines as well. This enhanced Rapid Network launched together with Muni Forward investments on all of the Rapid lines, to reduce travel times even further.

**Rapid routes include a combination of Muni Forward transit priority measures**, such as transit lanes, wider boarding areas ("bus bulbs") to make it safer and faster for people to get on the bus, and transit signals that stay green for buses. Most transit priority measures for Rapid routes benefit local bus service on the same corridors as well.

**Today, the Rapid Network includes five routes, each with frequent, all-day service:** 5R Fulton Rapid, 9R San Bruno Rapid, 14R Mission Rapid, 28R 19th Avenue and 38R Geary Rapid. The five Rapid routes carry over 65,000 riders each weekday, which represents 14% of the average systemwide weekday ridership (March/April 2024).

**In the future, we intend to expand the Rapid Network** as resources allow, providing more coverage throughout San Francisco.





# New Connections and Routing Improvements

Designing better routes is an important part of Muni Forward's toolkit.

We have made many routes more convenient for riders with relatively low-cost changes. These include extensions of existing routes to reach important destinations, more direct routes—with fewer turns—to help you get where you need to go faster and new routes to give you better connection options.

| ROUTE                          | ROUTING IMPROVEMENT   | YEAR |
|--------------------------------|---|------|
| <b>29 Sunset</b>               | Route change to Ocean Avenue to make it more direct and improve travel times                          | 2015 |
| <b>43 Masonic</b>              | Extended to Presidio Main Post and Fort Mason   | 2015 |
| <b>35 Eureka</b>               | Extended to Glen Park BART  | 2016 |
| <b>48 Quintara–24th Street</b> | All-day service to Ocean Beach and more direct service through Noe Valley                             | 2018 |
| <b>54 Felton</b>               | Route change in the Excelsior to make it more direct  | 2019 |
| <b>30 Stockton</b>             | Extended to the Presidio  | 2020 |
| <b>22 Fillmore</b>             | Extended to Mission Bay   | 2021 |
| <b>15 Third Express</b>        | New route connecting Bayview/Hunters Point and Downtown   | 2021 |
| <b>27 Bryant</b>               | Route change in the Tenderloin and SoMa to take advantage of new transit lanes on 7th and 8th streets | 2021 |
| <b>28 19th Avenue</b>          | Extended to Fisherman's Wharf   | 2022 |



The 43 Masonic was extended to the Presidio in 2015, connecting city residents to national park space.

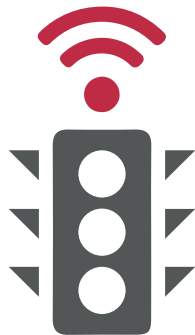
# Transit Priority Toolkit

Building transit priority infrastructure—to improve travel time, reliability, safety and the rider experience—is a core function of Muni Forward. More information on the categories below is available on the following pages.



## TRANSIT LANES

Dedicated transit lanes allow transit to bypass traffic and keep moving



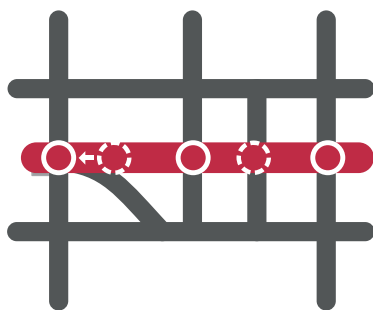
## TRANSIT SIGNAL PRIORITY

Transit signal priority keeps lights green longer for transit



## ENHANCED TRANSIT STOPS

Enhanced transit stops make it easier and faster to get on board



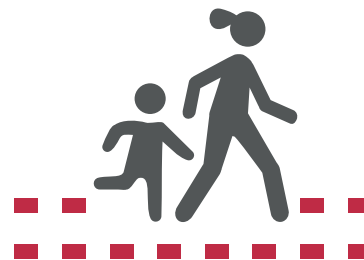
## STOP SPACING AND PLACEMENT

Transit stop spacing as well as placement (near or far side of the intersection) directly affect travel time



## CURB AND TRAFFIC MANAGEMENT

Managing curb space and vehicle turning movements can make transit more reliable and increase safety



## PEDESTRIAN SAFETY INFRASTRUCTURE

Safety features for people walking reduce injuries and improve access to transit



## Toolkit: Transit Lanes Keep Muni Moving



### CENTER TRANSIT LANE

- Transit lane in the middle of the street, separated from the parking lane by one or more general traffic lanes.
- Most effective where the friction from vehicles making right turns and double-parked vehicles heavily affects transit service.
- Can be paired with left turn restrictions for the greatest travel time and reliability benefits.
- Transit experiences almost no traffic delay with this type of transit lane.
- Ideal for rail corridors that already have center-running service in mixed traffic lanes.
- Less suitable for corridors with both local and Rapid service because there is not room for Rapid buses to pass local service at stops.
- Requires boarding islands, which may trigger relocating utilities and other street infrastructure.



### OFFSET TRANSIT LANE

- Transit lane between the parking lane and a general traffic lane.
- Fastest to implement: no boarding islands or special stop infrastructure required.
- Allows Rapid buses to pass local buses.
- Preserves parking.
- Friction from vehicles making right turns and double parking can still affect transit service in these lanes. They can be paired with separate right turn lanes and curb management improvements to address these sources of delay.



### CURBSIDE TRANSIT LANE

- Similar to offset lanes, but without curbside parking.
- Often necessary where space is limited and curbside parking and loading cannot be provided.
- Can lead to increased delays from illegally stopped vehicles where no legal loading or parking spaces are provided. A strong curb management strategy is needed to ensure curbside transit lanes work effectively.

The 29 Sunset uses a transit queue jump on Lincoln Way at 19th Avenue.



A transit queue jump traffic signal on Geary Boulevard.





### CONTRAFLOW TRANSIT LANE

- On one-way streets, a contraflow transit lane can be installed in the opposite direction.
- In some cases, contraflow lanes can help straighten a route and avoid “jogs” to reduce travel times—as in the case of the Sansome Street contraflow bus lane, which reduced travel times by several minutes by enabling a more direct route.
- Depending on local needs, commercial vehicles and other local access may also be allowed in the lane.



### HIGH-OCCUPANCY VEHICLE (HOV)/TRANSIT LANE

- Appropriate where transit volumes are relatively low compared to vehicle volumes.
- HOV/transit lanes provide benefits to transit riders while also supporting carpoolers.



### PART-TIME TRANSIT LANE

- This type of transit lane is created through part-time parking restrictions along the curb.
- May be appropriate where space does not permit a 24/7 transit lane and curbside space is still needed for loading at some times of day.
- Reduces parking impacts compared to a full-time curbside transit lane.
- Provides less benefit outside of peak hours.
- May be more confusing for people attempting to park.

### TRANSIT QUEUE JUMPS AND LEADING TRANSIT INTERVALS

Short transit lanes approaching an intersection—often called “queue jumps”—can be used where there isn’t enough room for a transit lane for the full length of the block. Queue jumps work best when paired with a traffic signal that provides a head start for transit (“leading transit interval”).

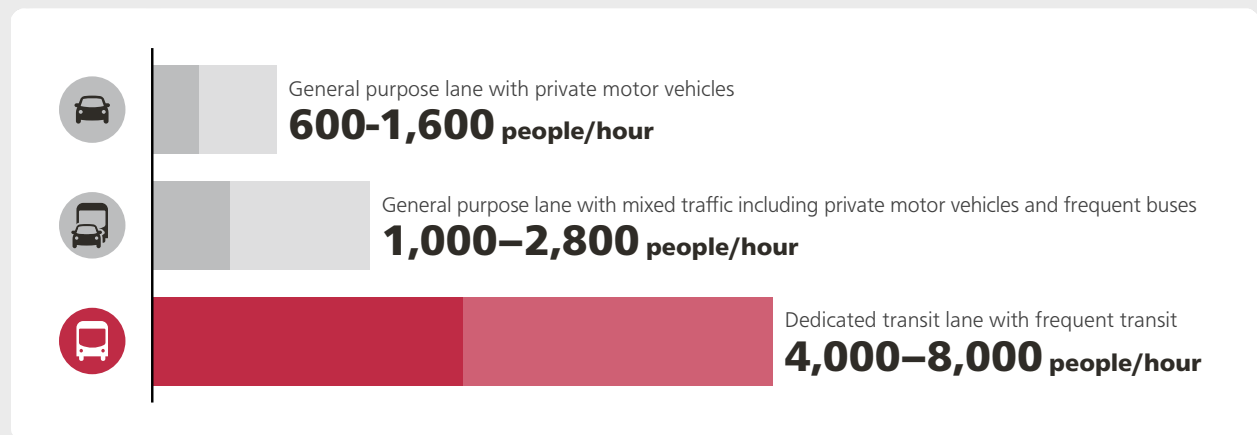
**MUNI FORWARD SPOTLIGHT**

## Using Transit Lanes to Move More People

Transit lanes can move more people than general purpose lanes. This is because transit is a space-efficient form of transportation relative to cars.

Since our streets have a fixed width, transit lanes are an important way to mitigate traffic congestion by helping more people get where they need to go using less space. In other words, transit lanes build capacity for future growth, without making traffic worse. If just a fraction of people who currently take transit decided to use cars instead, traffic in the city would quickly become unmanageable.

### Dedicated transit lanes can move more people than general purpose lanes



Source: [Transit Street Design Guide](#), National Association of City Transportation Officials, 2016

The red transit lanes on Church Street were the first installed in the city.



### Red Transit Lanes Work Better

Red colorization helps vehicle drivers know to stay out of transit lanes. Since the first red lane was installed on Church Street in 2013, multiple SFMTA studies—on Geary, O'Farrell and 3rd streets—have found a **50% improvement in driver compliance compared to standard "non-red" transit lanes.**

The lanes on Church Street achieved their purpose, reducing transit travel times by 14% and improving reliability by 27%. This led to the expansion of red transit lanes across the city.

[Church Street Transit Lanes Final Report](#), 2015.





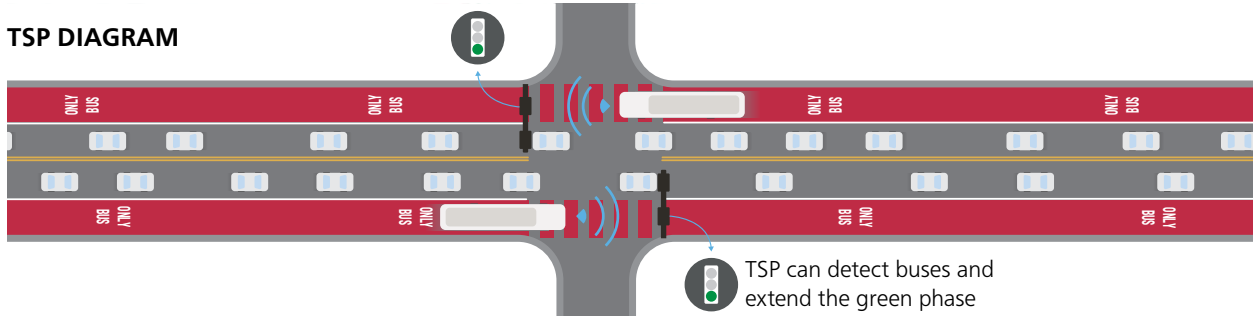
The bus in this photo is carrying up to 80 people, while all the cars in the adjacent general purpose traffic lane are carrying about 15 people combined, despite the cars taking up much more space.



## Toolkit: Signal Priority Gives Green Lights to Transit

Transit Signal Priority (TSP) can detect buses and extend green lights, with a 4% average travel time reduction on blocks with TSP. The Muni Forward team is continuously improving the city's TSP program, adjusting parameters and adopting new technology to further reduce transit travel times along busy corridors.

### TSP DIAGRAM



The basic timing of traffic signals also affects transit performance. The Muni Forward team often adjusts traffic signals by retiming them to keep transit moving. The combination of TSP and signal retiming is a powerful tool to reduce unnecessary delay.





## Toolkit: Enhanced Transit Stops Make It Easier and Faster to Get on Board

Transit stops with comfortable seating and shelter can enhance the waiting experience. Transit stops are a key component of improving customer experience. When designed effectively, transit stops can also support faster transit service, reduce delay from traffic congestion and improve streetscapes. Muni Forward constructs transit bulbs and transit islands to achieve these benefits. These often also include accessibility improvements, such as wheelchair-accessible ramps for light rail stops.



### TRANSIT BULBS

Transit bulbs are curb extensions that allow buses to pick up and drop off passengers without leaving the traffic lane and are most effective on busy streets. For example, Muni Forward installed quick-build transit bulbs at two stops on Fulton Street in the Inner Richmond, reducing stop times by about 10 seconds per stop, while providing a smoother ride and boarding experience.



### TRANSIT BOARDING ISLANDS

Transit boarding islands are boarding areas for transit in the middle of the street, either next to a vehicle travel lane or a bike lane. Like transit bulbs, transit islands can reduce travel time for buses, but their design also creates a safe refuge area and shortens distances for pedestrians crossing the intersection. They can also separate bikes and buses, helping to reduce conflicts at stops.

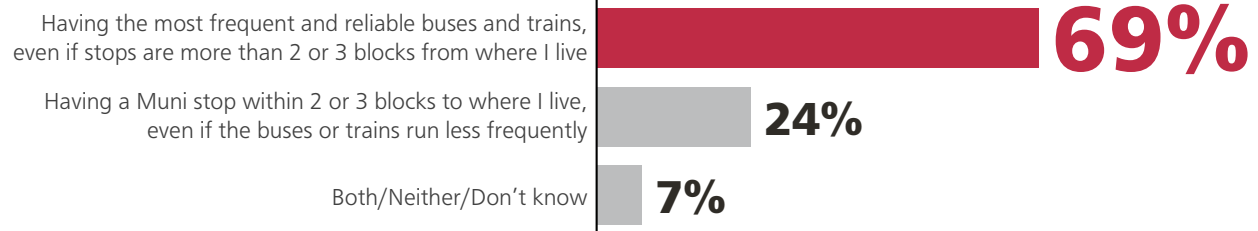


## Toolkit: Stop Spacing and Placement Directly Affects Travel Time

Every time a bus or train stops, it has to slow down, let passengers on and off and speed back up, sometimes pulling back into traffic as well. Stopping takes Muni transit vehicles up to 30 seconds per stop on average. This is the primary reason why Rapid routes are so much faster than their equivalent local routes, despite benefiting from the same transit priority infrastructure: Rapid routes stop less.

### More than two-thirds (69%) of respondents to the 2023 SFMTA Community Survey expressed a willingness to walk or roll farther for frequent, reliable transit

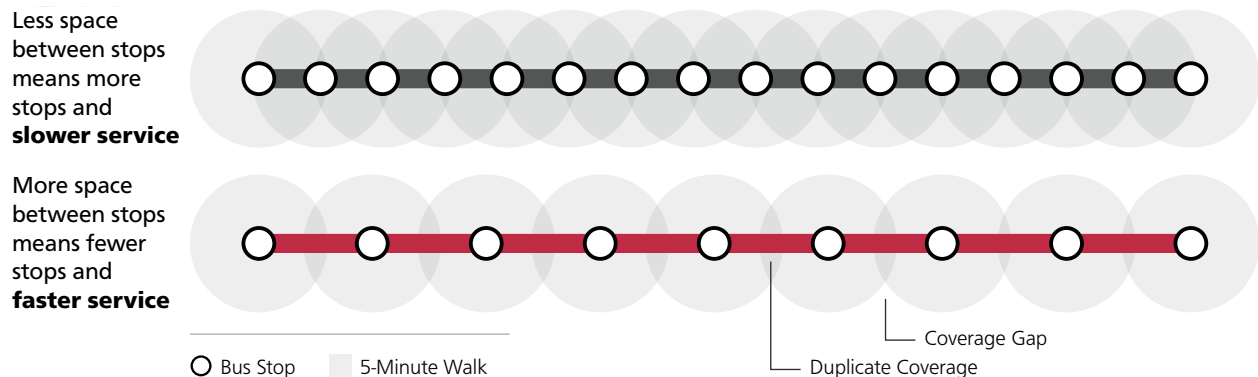
#### RESPONSES TO "WHICH IS MORE IMPORTANT?"



Source: [Community Survey Results Summary](#), SFMTA, 2023

### Stop spacing should be close enough for riders to access Muni conveniently, but not so close that it creates excessive transit delay

We analyzed stop spacing as part of the Transit Effectiveness Project, the precursor to Muni Forward. Based on extensive community input and data analysis, we found that the ideal stop spacing is 800-1,360 feet on local bus routes. For instance, this means spacing of two blocks on 19th Avenue. Areas with steeper hills or key destinations, such as senior centers or schools, can warrant closer spacing.



In practice, the specific stop location matters. We account for many factors when proposing changes to stop spacing, including community feedback. We work closely with community groups representing seniors and people with disabilities, and share analysis of each proposed stop removal for review.

### **In addition to spacing, stop *placement* on the far side of signalized intersections helps buses and trains get through a signal before stopping**

Far-side stop placement works best with transit signal priority, to help transit avoid red lights. At intersections with all-way stop signs, transit stops can also be moved to the near side of the intersection (before the stop sign) to avoid “double stopping”.

### **Stop spacing changes on the 28 19th Avenue reduced travel time by 7–11%**

Muni changed stop spacing on the 28 19th Avenue on 19th Avenue between Judah Street and Eucalyptus Drive near Stonestown Galleria mall. The number of stops on this segment dropped from 24 to 17 and the median travel time fell by 7–11%—12 seconds per stop—while still providing a stop every two blocks. The community was generally supportive of the changes. However, we preserved a stop at Irving Street that was originally proposed for removal due to input from riders and transit operators.





## Toolkit: Curb and Traffic Management Make Transit More Reliable and Increase Safety



### RIGHT TURN POCKETS

Right turn pockets prevent buses from waiting behind right-turning cars by providing a separate lane for right turns.



### LEFT TURN RESTRICTIONS

Left turn restrictions reduce delay for all through traffic, including transit, and increase safety for pedestrians crossing the street. Left turns accounted for about 40% of fatal crashes involving people walking in 2019.

Source: [Left Turn Safety](#), SFMTA, 2019



### CURB MANAGEMENT

Curb management reduces double-parking by providing legal places for delivering goods, picking up and dropping off passengers and improving parking availability in general, so there's less double-parking that can delay transit.



## Toolkit: Pedestrian Safety Infrastructure Reduces Injury Collisions and Improves Access to Transit



### PEDESTRIAN BULBS AND PEDESTRIAN ISLANDS

Pedestrian bulbs and pedestrian islands shorten crossing distances and increase visibility of people walking. They also make it easier to get to and from transit stops.

Pedestrian bulbs are also known as “curb extensions” or simply “wider sidewalks at intersections.” Pedestrian islands are also known as “pedestrian refuges” or “pedestrian refuge islands.”



### HIGH-VISIBILITY CROSSWALKS

High-visibility (“continental”) crosswalks make designated crossing areas more visible for people walking, biking and driving.



### TRAFFIC CALMING

Traffic calming is a set of measures to reduce speeding and injury crashes. Removing a general traffic lane (sometimes called a “road diet”) is a common form of traffic calming that can benefit transit by widening the remaining lanes to better accommodate buses. Converting a general traffic lane to a transit lane can also be a form of traffic calming, by reducing speeding.



### FLASHING BEACONS

Push button-activated flashing beacons are lights that signal to drivers to yield to people walking. In tandem with traffic calming, this can serve as an alternative to all-way stop signs that delay transit.



## MUNI FORWARD SPOTLIGHT

### Making Streets Safer for Everyone

Muni Forward projects have reduced collisions and speeding and made streets safer for people walking, biking, taking transit and traveling in cars—in line with our Vision Zero goal to eliminate traffic fatalities.

We have built (or approved for construction) safety upgrades on over 48 miles of the 2017 and 2022 High Injury Networks. These are the 12% of city streets where 68% of severe injury crashes happen, identified by [Vision Zero SF](#). This is an important example of Muni Forward partnering with other SFMTA departments and external organizations to deliver shared results.



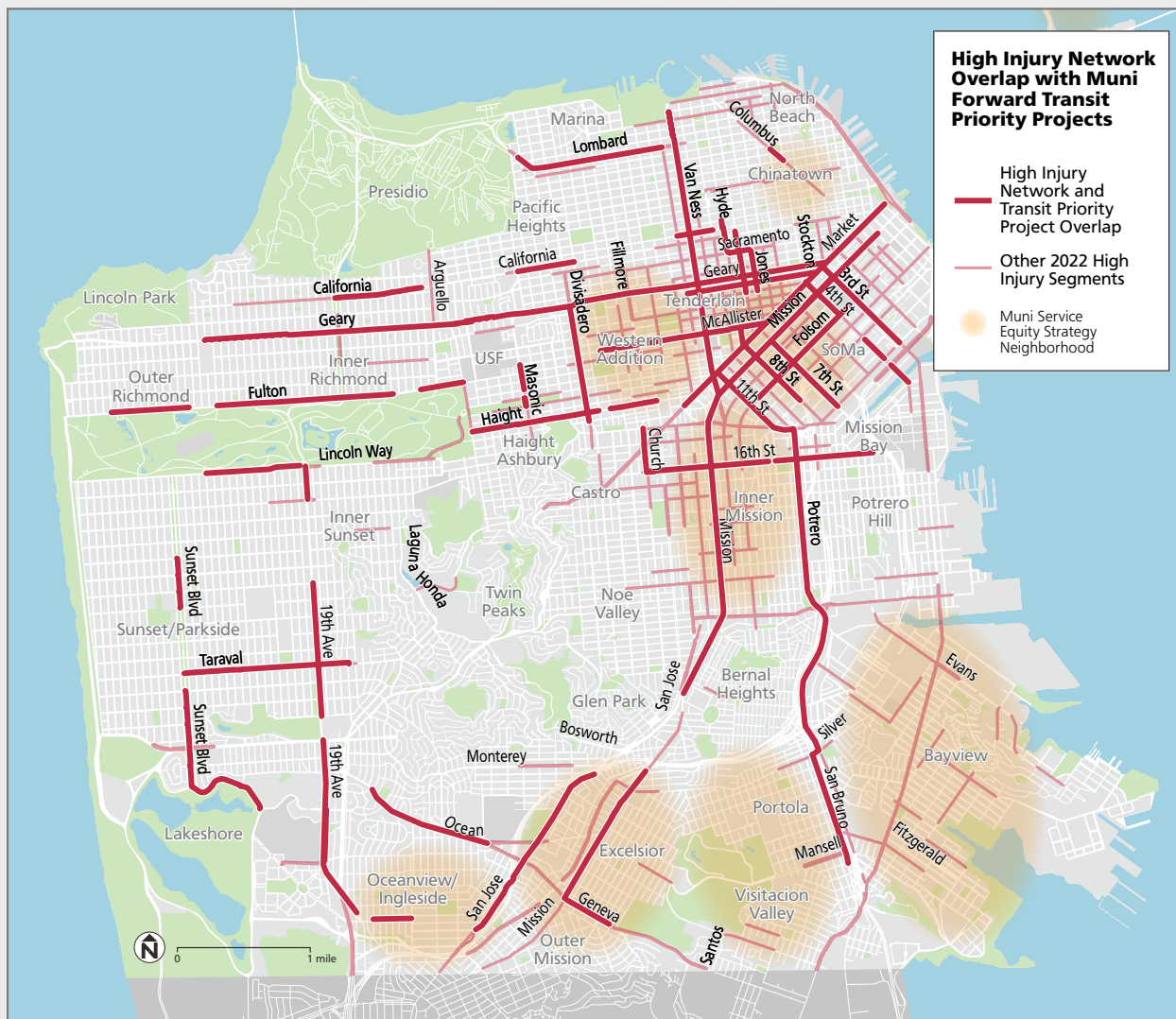


## MUNI FORWARD SAFETY RESULTS

Muni Forward projects prioritize safety in addition to transit reliability. Muni Forward safety measures have gotten results on many corridors. For example:

- Following Muni Forward investments, speeding on Geary Boulevard dropped by up to 81%.<sup>i</sup> The risk of pedestrian fatality increases dramatically when vehicle speeds exceed 30 miles per hour.<sup>ii</sup>
- Collisions involving people walking and biking dropped by 64% on Haight Street between Laguna and Stanyan streets after we implemented Muni Forward safety measures on the Haight Street.<sup>iii</sup>
- Safer boarding areas on L Taraval—as part of Muni Forward quick-build improvements in 2017 and 2018—eliminated the incidence of cars hitting riders getting on or off the train.<sup>iv</sup>

This is important because nearly all Muni Forward projects overlap with the 2017 and 2022 High Injury Networks identified by Vision Zero SF.



Sources: (i) [Geary Rapid Project Evaluation Report](#), SFMTA. (ii) [Impact Speed and a Pedestrian's Risk of Severe Injury or Death](#), AAA Foundation for Traffic Safety, 2011. (iii) [Haight Street Muni Forward Project Evaluation](#), SFMTA, 2023; includes Haight Street between Laguna and Stanyan streets, 2014–2023. (iv) SFMTA analysis of traffic collision data, 10 years prior to quick-build implementation in early 2017 compared to two years following implementation.



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# 3

## Corridor Profiles: Muni Forward's Transformative Accomplishments, Route by Route

This section includes profiles of each Muni Forward corridor, including project features and results.

### IN THIS SECTION:

- 5 Fulton/5R Fulton Rapid
- 9 San Bruno/9R San Bruno Rapid
- 14 Mission/14R Mission Rapid
- 38 Geary/38R Geary Rapid
- 1 California
- 7 Haight/Noriega
- 22 Fillmore
- 28 19th Avenue/28R 19th Avenue Rapid
- 30 Stockton
- Van Ness Bus Rapid Transit
- L Taraval
- N Judah





# 5 Fulton/5R Fulton Rapid

Muni Forward transit priority and safety improvements on the 5 Fulton and 5R Fulton Rapid benefit 14,000 daily riders and increase access to Golden Gate Park.<sup>i</sup>

The 5 Fulton and 5R Fulton Rapid make up one of the most complete Muni Forward corridors in the city. The routes now provide faster, safer access to multiple neighborhoods and beloved San Francisco destinations, with new bus lanes, improved stop locations and safety measures for people walking, such as wider sidewalks at intersections, enhanced crosswalks and traffic signal timing to reduce speeding.

This corridor is part of the Vision Zero High-Injury Network—San Francisco's streets where most severe collisions happen—and Muni Forward efforts have made safety improvements on Fulton and McAllister streets, while improving transit travel times by up to 12%.

## RESULTS<sup>i,ii,iii</sup>

Up to

**12%**

Time savings with implementation of Rapid service and transit priority in 2013

**60%**

Increase in total ridership on the 5 Fulton and 5R Fulton Rapid, 2009-2019

## KEY FEATURES

2



**Miles of new or upgraded transit lanes** to get you there faster and more reliably

24



**Intersections with transit signal priority** to keep transit moving

19



**Transit bulbs or islands** to make it easier to get on and off at your stop, with six more starting construction soon

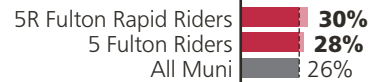
5



**Pedestrian bulbs or islands** to make it easier and safer to get to your stop

## RIDER PROFILE<sup>iv</sup>

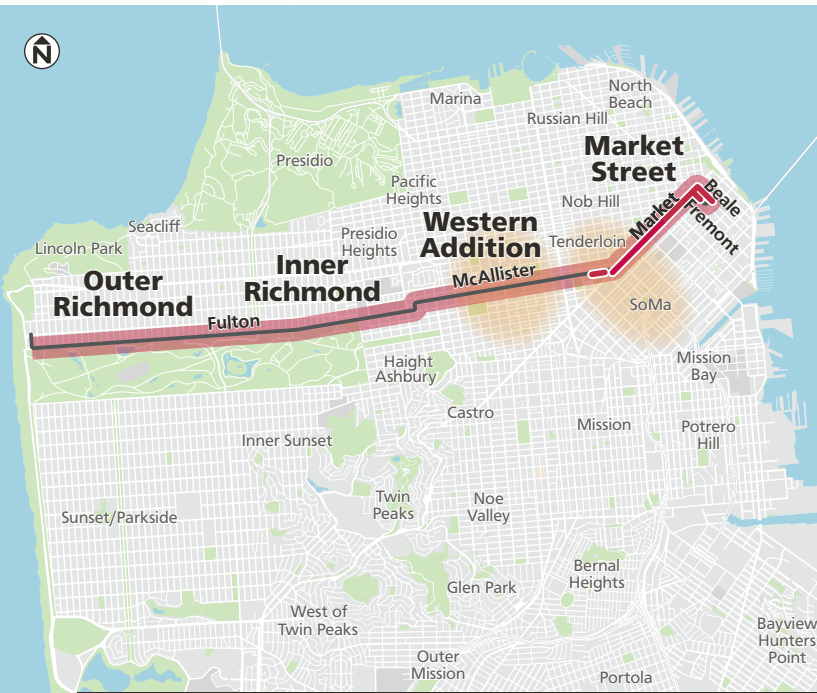
### Income below \$35,000:



### People of color:



Data Notes: (i) Ridership is from March/April 2024. (ii) Source: [5L Fulton Pilot Final Report](#), 2015, SFMTA. (iii) See page 104 for more information about calculating travel time savings and variability. (iv) Source: On-Board Rider Survey, SFMTA, 2017.



**5 FULTON/5R FULTON RAPID CORRIDOR MAP**

- Corridor
- Transit Lane
- Muni Forward Project Areas**
- Completed
- Muni Service Equity Strategy Neighborhoods Served**
- Tenderloin/SoMa
- Western Addition

## TIMELINE



## NEXT STEPS

- Permanent Richmond District Fulton Street Safety and Transit Project (2025)
- New traffic signals (2025)
- Civic Center McAllister Street improvements



**Temporary transit bulb on Fulton Street:** Quick-build transit bulbs made of wood were installed on Fulton Street at 6th and 8th avenues. These will soon be replaced by concrete bulbs.



**Permanent concrete transit bulbs on Fulton and McAllister streets:** New transit bulbs—shown here at McAllister and Divisadero streets—help to improve travel time and safety.



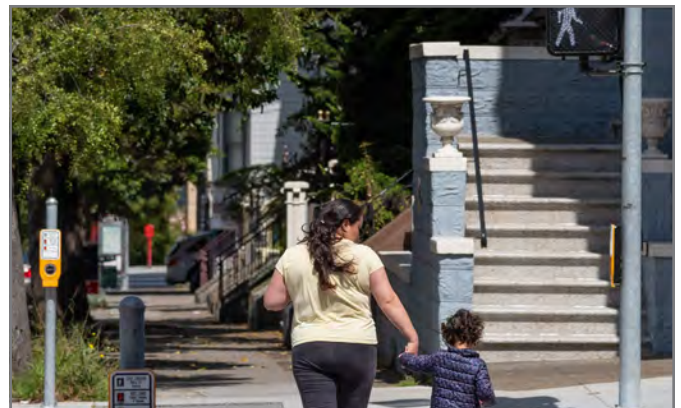
**New transit-friendly traffic circle:** A traffic circle replaced a four-way stop sign at McAllister and Lyon streets. Cross traffic must still stop and buses, traffic and bikes on McAllister have right-of-way.



**Upgraded crosswalk at Fulton and Buchanan streets:** An upgraded crosswalk with flashing beacons and pedestrian refuge islands improves safety while keeping transit moving.



**Contraflow transit lane on McAllister Street:** A contraflow transit lane enabled the removal of a time-consuming "jog" in the 5 Fulton route, saving about 3 minutes per trip.



**New traffic signal with transit signal priority and pedestrian signals at McAllister and Scott streets:** Using transit signal priority, the light can stay green longer for buses.

# 5 Fulton/5R Fulton Rapid

## MAKING THE 5/5R MORE DIRECT

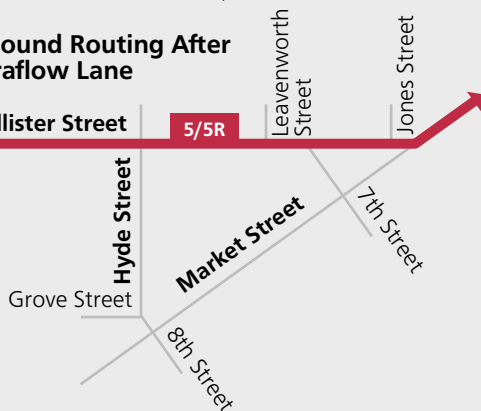
Prior to Muni Forward, 5 Fulton buses heading downtown had to turn right from McAllister Street onto Hyde Street and then left onto Market Street. This jog added delay to riders heading downtown.

Muni Forward implemented a two-block contraflow bus lane on McAllister Street—which goes in the other direction of the one-way street’s general traffic—from Hyde Street to Jones Street. This allows eastbound 5/5R Fulton buses (along with taxis, delivery vehicles and bikes) to follow the same direct route to Market Street as westbound buses. **The contraflow transit lane shaved roughly three minutes off the 5/5R Fulton's travel time.**

### Eastbound Routing Before Contraflow Lane



### Eastbound Routing After Contraflow Lane



## SAFER ACCESS TO GOLDEN GATE PARK

The iconic Golden Gate Park is an important destination, but speeding cars can make it feel dangerous to access—a concern echoed by nearby communities. Furthermore, parts of Fulton Street along Golden Gate Park are on San Francisco’s [High Injury Network identified by Vision Zero SF](#). To address this, Muni Forward's [Fulton Street Safety and Transit Project](#) made a series of safety improvements, such as:

- “Daylighting” 34 intersections and installing 13 “painted safety zones” to make people crossing the street more visible to drivers.
- Retiming signals in the Inner Richmond to reduce speeding and lowering the speed limit.
- Installing transit bulbs to improve boarding and safety for people crossing.



## AN EARLY MUNI FORWARD PILOT PROJECT

The 5R Fulton Rapid—originally called the 5L Fulton Limited—[launched as a pilot](#) in 2013. The Rapid service was one of the first Muni Forward pilot projects. It launched in conjunction with quick-build transit priority improvements, such as stop spacing changes, longer bus zones and a road diet to reduce the number of lanes while widening them so they work better for buses.



## TRAFFIC CALMING: LESS BUS DELAY, LESS SPEEDING, SAFER STREETS FOR EVERYONE

Muni Forward used traffic calming measures on Fulton and McAllister streets to reduce bus delay, discourage vehicle speeding and make it safer for people walking. The measures included safer pedestrian crossings, wider sidewalks at bus stops, bus-friendly traffic circles and a four-to-three traffic lane reduction.



### Safer Pedestrian Crossings

Muni Forward installed two pedestrian refuge islands and four pedestrian bulbs (wider sidewalks at crossings) along Fulton and McAllister streets. Improvements like these make it easier and safer for people to cross the street—including transit riders getting to and from stops.



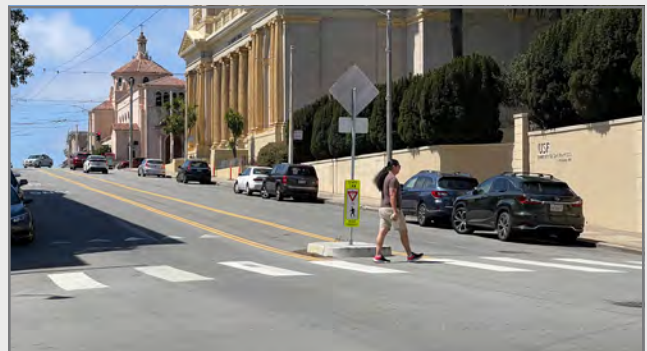
### Wider Sidewalks at Bus Stops

Muni Forward has installed wider sidewalks ("transit bulbs") at 19 bus stops, with six more on the way. This means more space for people walking and waiting to get on the bus. Bulbs also allow buses to serve the stop without leaving the traffic lane—reducing delay caused by merging back into traffic.



### Bus-Friendly Traffic Circle

Muni Forward implemented an innovative traffic circle at McAllister and Lyon streets designed to calm car traffic, maintain safety for people walking and accommodate bus movement.



### Lane Reduction on Fulton Street

The change from four to three traffic lanes (two on some blocks) on Fulton Street between Stanyan and Baker streets helped to calm traffic, reduce speeding and ensure lanes that are wide enough for buses.

# 9 San Bruno/9R San Bruno Rapid

Muni Forward improvements on the 9 San Bruno and 9R San Bruno Rapid are the result of community-driven efforts benefiting over 18,000 weekday riders.<sup>i</sup>

Transit priority projects since 2009 have spanned five different segments of this corridor: Market Street, 11th Street, Potrero Avenue, Bayshore Boulevard and San Bruno Avenue. Most of the corridor overlaps with the city’s bike network, so Muni Forward also built bike enhancements where possible, such as transit boarding islands next to protected bike lanes.

On San Bruno Avenue, our efforts were part of a multimodal improvement project initiated by community request, with multilingual outreach and coordination with neighborhood groups and merchants. On Potrero Avenue, we leveraged a streetscape enhancement project to establish a transit lane and enhanced stops, as well as bike and pedestrian safety features.

## RESULTS<sup>ii,iii</sup>

Up to **4 minutes**

**Time savings** for the slowest trips (90th percentile) on the 9R inbound to Market and 11th streets, 2015–2023

Up to **24%**

**Less variable travel times** on the 9R San Bruno Rapid inbound to Market and 11th streets, 2015–2023

## KEY FEATURES

**4.1**



**Miles of new or upgraded transit lanes** to get you there faster and more reliably

**22**



**Intersections with transit signal priority** to keep transit moving

**15**



**Transit bulbs or islands** to make it easier to get on and off at your stop

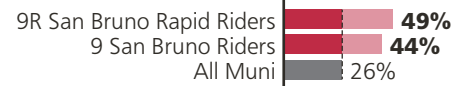
**18**



**Pedestrian bulbs** to make it easier and safer to get to your stop

## RIDER PROFILE<sup>iv</sup>

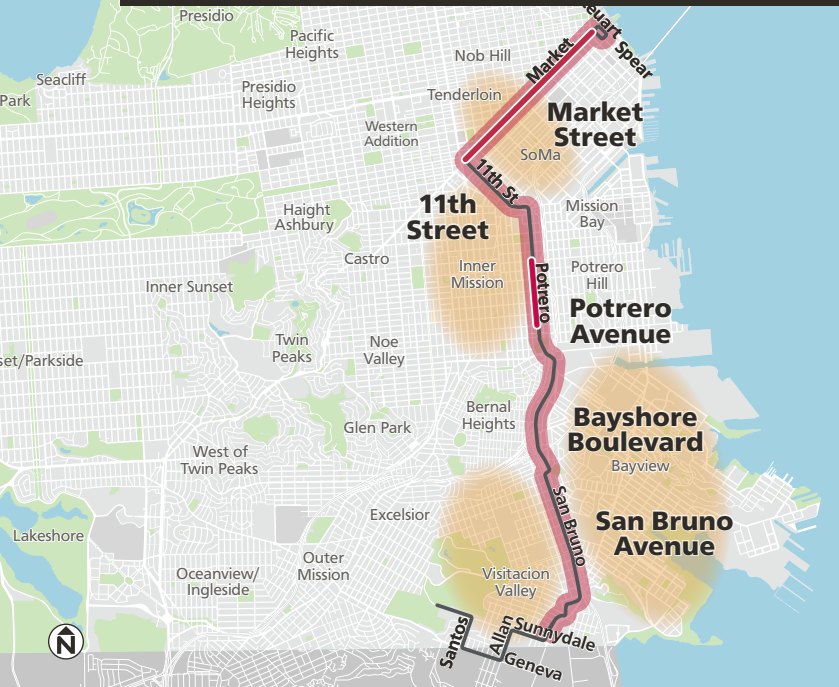
### Income below \$35,000:



### People of color:



**9 SAN BRUNO/9R SAN BRUNO RAPID CORRIDOR MAP**



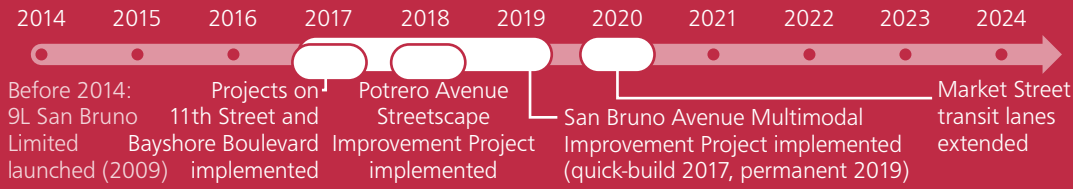
- Corridor
- Transit Lane

- Muni Forward Project Areas**
- Completed

- Muni Service Equity Strategy Neighborhoods Served
- Tenderloin/SoMa
  - Inner Mission
  - Bayview
  - Visitacion Valley

Data Notes: (i) Ridership is from March/April 2024. (ii) Source: Travel time analysis, 2023, SFMTA. (iii) See page 104 for more information about calculating travel time savings and variability. (iv) Source: On-Board Rider Survey, SFMTA, 2017.

**TIMELINE**



**NEXT STEPS**

- Additional improvements on Potrero Avenue and Bayshore Boulevard



**Red bus lane on Potrero Avenue:** New red transit lanes and an upgraded bike lane were installed as part of the Potrero Avenue Streetscape Improvement Project.



**Transit bulb on San Bruno Avenue at Felton Street:** New transit bulbs were installed as part of the San Bruno Avenue Multimodal Improvement Project.



**Transit island on Bayshore Boulevard at Flower Street:** New transit islands adjacent to bike lanes along the 9R San Bruno Rapid route safely separate bikes from loading buses.



**New traffic signal on San Bruno Avenue:** A new traffic signal with transit signal priority replaced a stop sign at San Bruno Avenue and Felton Street.



**Pedestrian bulb on San Bruno Avenue at Burrows Street:** New pedestrian bulbs and flashing beacons were installed as part of the San Bruno Avenue Multimodal Improvement Project.



**Red transit lane on Market Street:** The 9 San Bruno and 9R San Bruno Rapid use the extended transit lanes on Market Street in downtown.

# 9 San Bruno/9R San Bruno Rapid

## RESPONDING TO COMMUNITY CONCERNS

The San Bruno Avenue Multimodal Improvement project was designed through a community-driven, multilingual outreach process. There was close partnership with neighborhood and business groups. **Requests from residents and merchants were instrumental in prioritizing San Bruno Avenue for improvements and their input shaped the project design, including adjustments after implementation.**



## POTRERO AVENUE STREETScape IMPROVEMENT PROJECT

The Potrero Avenue Streetscape Improvement Project **combined improvements to transit, pedestrian and bike infrastructure** as well as enhancing the streetscape in a complete rebuild of the street. This made it easier to reach the Mission and San Francisco General Hospital regardless of how you get there.



## MAKING SPACE FOR TRANSIT AND BIKES

Nearly all of the 9/9R San Bruno overlaps with bike network streets. Muni Forward efforts sought to accommodate both bus lanes and bike lanes wherever possible.



### Between Bus Stops

Between bus stops, integrating bike and bus infrastructure often meant a dedicated bike lane—against the curb or buffered from parked vehicles—next to a dedicated bus lane, where space allows.



### At Bus Stops

At bus stops, integrating bus and bike infrastructure meant installing transit islands next to bike lanes when possible. These islands reduce bus-bike conflicts and provide a safe place for people waiting for the bus.

## A RAPID PIONEER

Rapid service on this corridor was introduced in 2009— the first "Limited" (now renamed "Rapid") route to come out of the Transit Effectiveness Project, Muni Forward's precursor. Together with transit priority improvements, **this helped increase combined ridership on the 9/9R San Bruno corridor by 41% from 2009-2019.**



# 14 Mission/14R Mission Rapid

Muni Forward improvements have reduced delays and grown ridership on the 14 Mission and 14R Mission Rapid, which serve 46,000 riders every day—the highest of any Muni bus corridor.<sup>i</sup>

Transit priority upgrades on Mission, including dedicated bus lanes, improvements to stops and stop locations and context-specific redesigns of the roadway, have improved reliability.

Improvements on Mission are also designed to address traffic safety challenges. For example, safety features such as intersection "daylighting", a lane reduction, pedestrian head start signals and turn restrictions have reduced pedestrian collisions on Mission Street in the Mission by 59%.<sup>ii</sup>

More information on the corridor designs, which provide transit lanes on narrow streets while maintaining parking and loading for businesses, can be found on page 72.

## RESULTS<sup>iii,iv</sup>

Up to **31%**

Travel time savings in SoMa; 9% median travel time savings for the entire 14 Mission

Up to **25%**

Less variable travel times in the Mission following 2016 quick-build implementation

## KEY FEATURES

**6.4**



**Miles of new or upgraded transit lanes** to get you there faster and more reliably

**50**



**Intersections with transit signal priority** to keep transit moving

**7**



**Transit bulbs or islands** to make it easier to get on and off at your stop (five built, two under construction)

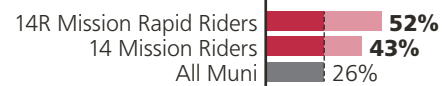
**29**



**Pedestrian bulbs or islands** to make it easier and safer to get to your stop (two built, 27 under construction)

## RIDER PROFILE<sup>v</sup>

### Income below \$35,000:



### People of color:



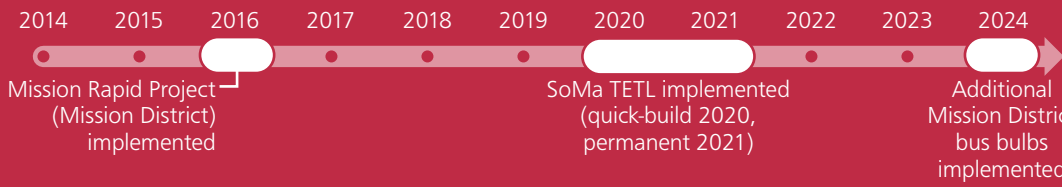
### 14 MISSION/14R MISSION RAPID CORRIDOR



- Corridor
- Transit Lane
- Muni Forward Project Areas**
- Completed
- Approved or Under Construction
- ⋮ Future – Not Yet Underway
- Muni Service Equity Strategy Neighborhoods Served
- Tenderloin/SoMa
- Inner Mission
- Excelsior/Outer Mission

Data Notes: (i) Ridership is from March/April 2024. (ii) Traffic safety data compared between 2011–2015 and 2017–2019. (iii) Sources: 14 Mission Rapid Evaluation Report; Temporary Emergency Transit Lanes Evaluation Summary; SFMTA analysis of entire route runtime. (iv) See page 104 for more information about calculating travel time savings and variability. (v) Source: On-Board Rider Survey, SFMTA, 2017.

## TIMELINE



## NEXT STEPS

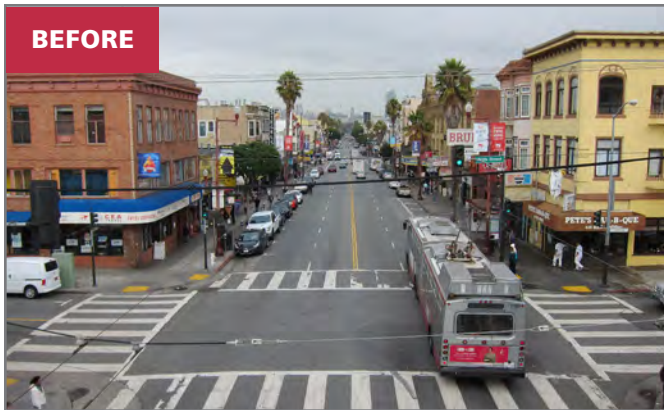
- Red colorized transit lanes in SoMa (under construction)
- Mission/Geneva Safety Project (under construction)
- Excelsior/Outer Mission improvements



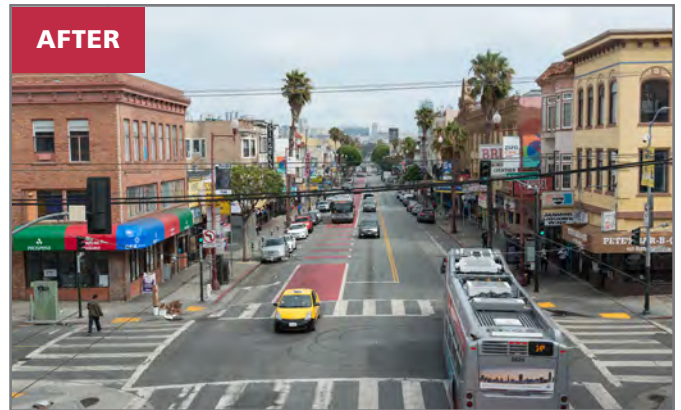
**Red transit lane on Mission Street:** A new red transit lane was installed in the Mission (shown at 24th Street) in 2016 to reduce delay, in tandem with other safety and reliability features.



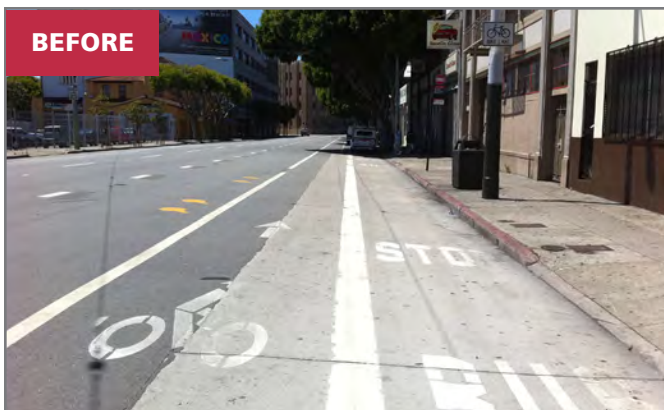
**Temporary Emergency Transit Lane in SoMa:** New 24/7 transit lanes were installed in SoMa in 2020, which were later approved to remain permanently and upgraded with red colorization.



**Mission Street at 20th Street (before):** In the Mission, two general purpose lanes in both directions encouraged vehicle speeding and the lanes were too narrow for buses.



**Mission Street at 20th Street (after):** Removing a northbound lane and requiring northbound cars to turn right every few blocks reduced transit delay, while preserving most parking for businesses and making room for a southbound transit lane.



**Otis Street at South Van Ness Avenue (before):** The 14 Mission bus stop was located to the right of the bike lane, increasing the chance of conflicts, with no dedicated lane for buses.



**Otis Street at South Van Ness Avenue (after):** There is now a boarding island between the bike and bus lanes to reduce conflicts and a transit lane to protect buses from congestion.

# 14 Mission/14R Mission Rapid

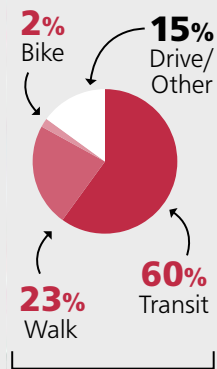
## MEETING THE NEIGHBORHOOD'S TRANSPORTATION NEEDS

Tens of thousands of people rely on Mission Street buses to eat, shop, get to services and visit friends and family.

**Notably, 85% of people who access Mission Street in the Mission District do so by transit, walking or biking.**

Transit lanes increase the number of people who can get to the Mission in less time.

Source: [14/14R Mission Intercept Survey](#), SFMTA, 2015



# 85%

Access Mission Street in the Mission by Transit, Walking, or Biking

## GATHERING COMMUNITY FEEDBACK

Project outreach in the Mission District included **open houses, door-to-door canvassing to every merchant along the corridor and meetings with over 30 neighborhood groups**. To broaden participation, we distributed multilingual surveys, 1,700 flyers and 1,500 rider cards and mailed more than 25,000 additional postcards. Combined, this attracted hundreds of attendees to meetings and over 500 survey responses. Community feedback helped shape the project, including post-implementation changes.

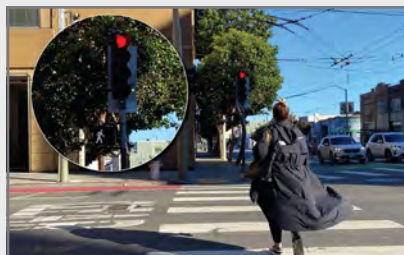


## MAKING MISSION STREET SAFER FOR PEDESTRIANS

The Inner Mission was the primary focus for safety improvements along the corridor. **Muni Forward efforts in the Mission reduced injury collisions by 59% between 13th and Cesar Chavez streets.**



Left turn restrictions minimize potential conflict zones between people walking and vehicles turning. Turn restrictions also improve the flow of traffic for all forms of transportation at intersections, including transit.



At many intersections, pedestrian signals begin before the green light to give people walking a head start and greater visibility before vehicular traffic gets a green light.



Wider sidewalks at intersections, also called "pedestrian bulbs," make pedestrians more visible, shorten the time it takes to cross the street and encourage cars to slow down before turning.



## TWO WAYS TO PRESERVE CURB SPACE FOR BUSINESSES

Curb space for loading and short-term parking is important for businesses. We used two different approaches—in SoMa and the Mission—to provide full-time transit lanes while also maintaining curb space for loading and parking within a limited roadway space.



**SoMa:** Before, Mission had part-time "no parking" zones on both sides of the street to make room for rush-hour bus lanes, added in the 1970s. In 2020, parking was restored all day on one side of the street and removed all day on the other, making room for 24/7 bus lanes and a traffic lane in both directions. This improved transit reliability and ensured businesses have nearby curb access all day. Over the course of a day, the project increased the total commercial loading space.



**Mission District:** Before, Mission had four very narrow traffic lanes, with parking on both sides. In 2016, we removed a northbound lane and added required right turns every few blocks, excepting Muni, taxis and deliveries. This keeps the northbound lane clear for Muni and local access, while preserving most parking. Later, based on community input and data analysis, we removed two of six required turns. Southbound, there's room for a transit lane, a traffic lane and parking.

## MORE SERVICE, MORE RIDERS ON THE 14R MISSION RAPID

We expanded service on the 14R Mission Rapid in 2015. This meant the bus comes more often for more of the day. The combined service and capital improvements have led to a large increase in ridership.

From 2015 to 2019, ridership grew by 19%. **As of May 2024, ridership had recovered to 95% of pre-pandemic levels on weekdays and had exceeded it on Saturdays (111%) and Sundays (114%), greatly outpacing the Muni system as a whole.**

## EXCEEDING RIDER EXPECTATIONS

Muni Forward improvements in the Mission saved 14 Mission riders about two minutes per direction during rush hour on a typical trip.

However, riders perceived reaching their destinations 10 minutes faster

**because of the increase in reliability.** Many riders have provided positive feedback about service improvements.

**"I ride Muni 3 mornings per week from Bernal to take my kids to school in the Mission, and I love (love!) how rapidly Muni is able to get me to our 24th Street stop now compared to before the red carpets began rolling out."**

**—14R Rider (2016)**

# 38 Geary/38R Geary Rapid

Muni Forward has built on a long history of improving transit reliability and safety on Geary, which carries over 41,000 riders daily on the 38 Geary and 38R Geary Rapid.<sup>i</sup>

Transit priority improvements on the 38 Geary date back decades, including some of the city's first bus lanes, installed in the 1970s. More recently, Muni Forward has greatly expanded transit lanes, bus stop enhancements, signal priority and other transit priority features on one of the city's most heavily used transit corridors, while also improving pedestrian safety. Now, nearly the entire 38 Geary corridor has dedicated bus lanes.

Muni Forward efforts on the Geary corridor also helped to reconnect communities harmed by 1960s urban renewal and the Geary Expressway, including replacing a non-ADA compliant pedestrian bridge with a high-quality crosswalk to improve accessibility and safety.

## RESULTS<sup>ii,iii</sup>

Up to **18%**

**Time savings** for 38R from Van Ness Avenue to Park Presidio Boulevard, 2018–2022

Up to **37%**

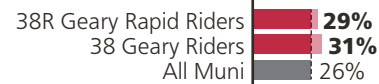
**Less variable travel times** for 38R from Van Ness Avenue to Park Presidio Boulevard, 2018–2022

## KEY FEATURES

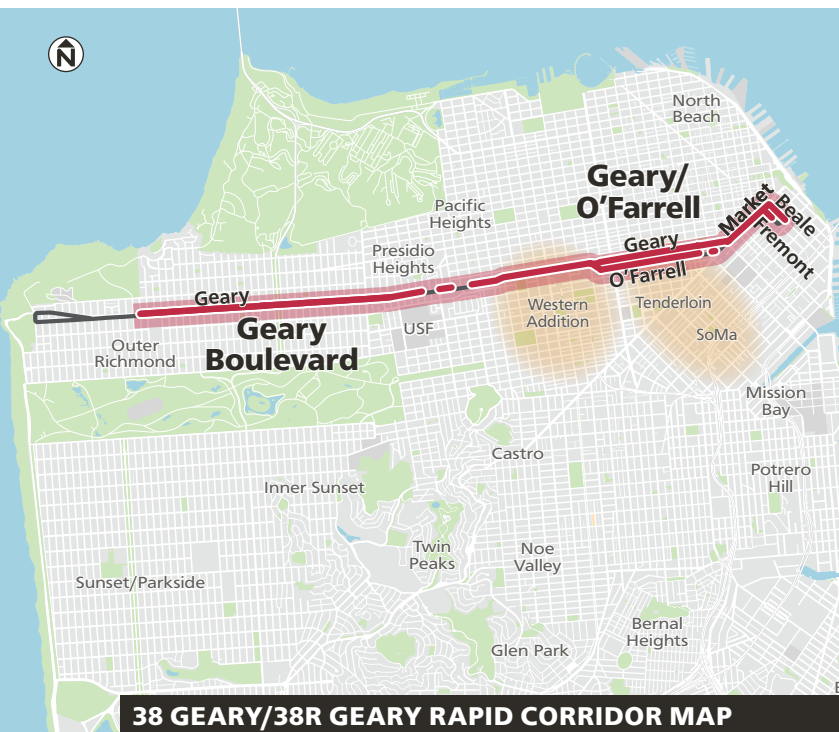
- 10** **Miles of new or upgraded transit lanes** to get you there faster and more reliably
- 67** **Intersections with transit signal priority** to keep transit moving
- 14** **Transit bulbs** (including expanding 3 bulbs) to make it easier to get on and off at your stop, with 9 more coming soon
- 38** **Pedestrian bulbs** to make it easier and safer to get to your stop (with 23 more coming soon)

## RIDER PROFILE<sup>iv</sup>

### Income below \$35,000:

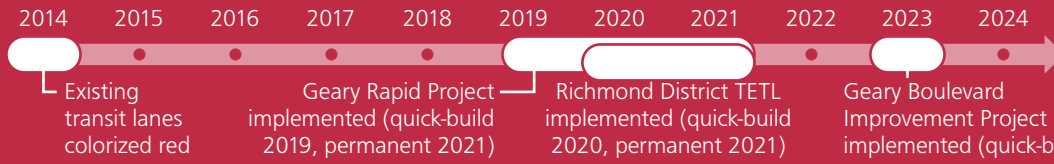


### People of color:



Data Notes: (i) Ridership is from March/April 2024. (ii) Source: [38 Geary Rapid Project Evaluation Report](#), 2022, SFMTA. (iii) See page 104 for more information about calculating travel time savings and variability. (iv) Source: On-Board Rider Survey, SFMTA, 2017.

## TIMELINE



## NEXT STEPS

- Permanent implementation of Geary Boulevard Improvement Project (2026–2027)



**Quick-build transit bulb at Geary Boulevard and 20th Avenue:** Riders use a quick-build transit bulb to board a bus in the Richmond. This will soon be replaced with a concrete bulb.



**Concrete transit bulb near Japantown:** Riders get off a 38R Geary Rapid bus at a stop with a new transit bulb and landscaping.



**Quick-build transit lane in the Richmond:** New transit lanes were installed as part of the Temporary Emergency Transit Lanes program and were later approved permanently.



**Red transit lane on Geary Boulevard:** Red transit lanes were installed in the Western Addition as part of the Geary Rapid Project.



**Pedestrian bridge at Steiner Street (before):** This pedestrian bridge, which was not compliant with the Americans with Disabilities Act, made it difficult to cross Geary Boulevard. Only one side of Geary Boulevard had a street-level crosswalk.



**A better at-grade crossing at Steiner Street (after):** The pedestrian bridge (left) was replaced with accessible, clearly marked at-grade crossings along both sides of Geary Boulevard, including pedestrian refuge islands.

# 38 Geary/38R Geary Rapid

## DELIVERING BENEFITS FASTER AT LESS COST

The Geary Boulevard Improvement Project had initially envisioned transit lanes in the center of the street between Arguello Boulevard and 28th Avenue. However, after evaluating the Geary Rapid Project and Temporary Emergency Transit Lanes, we instead pursued a side-running design. **The side-running design shortened the timeline and reduced costs with comparable travel time benefits**—all with less construction disruption.



## PARKING REMAINS AVAILABLE

Despite some parking removal on Geary due to the Geary Rapid Project, parking availability remains high.

According to post-project parking occupancy data (April–June 2022), average **parking occupancy was 52% on Geary Boulevard in the Laurel Heights area and 59% on Geary Boulevard and adjacent blocks in Japantown.** Maximum parking occupancy never exceeded 80% in Laurel Heights and 90% in Japantown.

This means people in cars can find a metered parking space relatively quickly, regardless of the time of day or day of the week.

## LESS SPEEDING, SAFER STREETS

**Muni Forward has improved safety** on Geary Boulevard in the Western Addition, as well as on Geary and O’Farrell streets in the Tenderloin.



- **Tenderloin:** All streets in the Tenderloin have high rates of traffic collisions and are part of the [High Injury Network identified by Vision Zero SF](#), the 12% of city streets where 68% of severe injury crashes occur. The neighborhood is also home to many historically marginalized groups. Muni Forward installed pedestrian safety measures—including wider sidewalks at intersections—on Geary and O’Farrell streets in the Tenderloin to reduce injury collisions.
- **Western Addition:** Muni Forward removed two traffic lanes on Geary Boulevard to calm traffic and provide space for a transit lane. As a result, the number of vehicles traveling over 40 miles per hour (more than 5 miles per hour above the speed limit) has decreased by up to 81%. This is welcome news, because the risk of pedestrian fatality increases dramatically at collision speeds above 30 miles per hour.

**RECONNECTING FILLMORE AND JAPANTOWN**

The Fillmore and Japantown neighborhoods, separated by Geary Boulevard, were devastated by urban renewal in the 1960s. Black and Japanese-American homes and businesses were demolished to make way for the widened eight-lane Geary Expressway.

The Geary Rapid Project created a new pedestrian crossing at Buchanan Street, including a pedestrian refuge island decorated with locally themed art. By reopening this long-closed crossing, **Muni Forward has helped to reconnect these neighborhoods.**



**RIDERS APPRECIATE MUNI FORWARD CHANGES ON ROUTES 38 AND 38R**

Riders on the 38 Geary and 38R Geary Rapid noticed an improvement in travel time after we implemented the quick-build project and many have provided positive feedback. In an on-board survey, **82% of respondents reported saving time after Muni Forward changes and 34% reported taking transit more often as a result.**

**"Better public transit makes a positive impact on my life. Our household does not own a car and it is frustrating to see parked cars on Geary prioritized over buses actively transporting thousands of residents everyday. Any improvements to the 38's speed and reliability are appreciated!"**

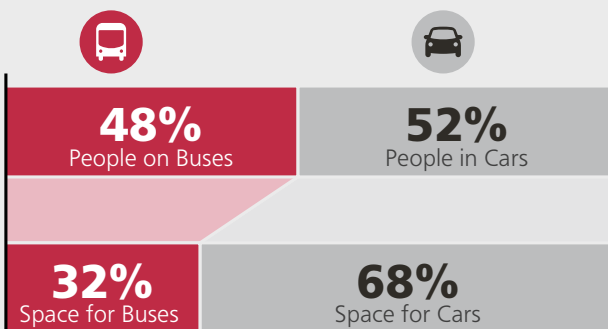
**—38/38R Geary Rider**

**MOVING MORE PEOPLE**

On Geary Boulevard at Laguna Street, **the transit lane occupies just 32% of the roadway width, but moves 48% of the people.** This is because transit lanes can move far more people than general purpose car lanes.

**Movement of People**  
Geary Boulevard at Laguna Street

**Road Space**  
Geary Boulevard between Laguna and Gough streets



# 1 California

Muni Forward made the 1 California faster for 17,000 people who take it each weekday and improved safety for all.<sup>i</sup>

Transit signal priority at 28 intersections and extended transit lanes helped buses run up to 11% faster—and more reliably—on California, Clay and Sacramento streets between the Richmond and downtown.

Muni Forward has also focused on making California Street safer for people walking, taking transit and driving, through a street redesign that reduced the number of vehicle lanes from four to three in the Inner Richmond. As a result, injury collisions decreased by 64%. In addition, transit bulbs were installed on California Street in Laurel Village in partnership with a streetscape enhancement project.

Future Muni Forward efforts will continue making enhancements across the entire 1 California route.

## RESULTS<sup>ii,iii</sup>

Up to **11%**

**Time savings** from temporary emergency transit lanes, 2021 relative to January and February 2020

Up to **64%**

**Fewer injury collisions** from Arguello Street to Park Presidio Boulevard, 2021 relative to 2017–2019 (inclusive)

## KEY FEATURES

**3**



**Miles of new or upgraded transit lanes** to get you there faster and more reliably

**28**



**Intersections with transit signal priority** to keep transit moving

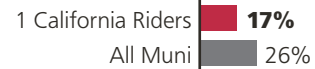
**4**



**Transit bulbs** to make it easier to get on and off at your stop

## RIDER PROFILE<sup>iv</sup>

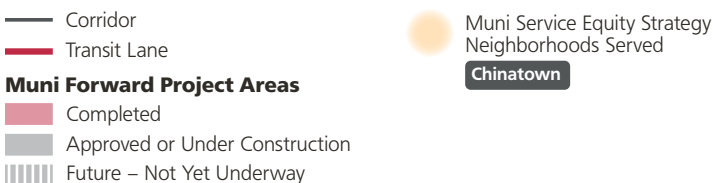
### Income below \$35,000:



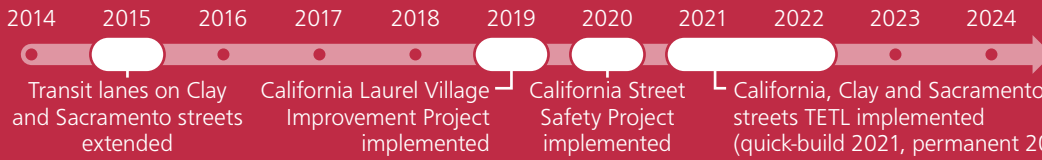
### People of color:



Data Notes: (i) Ridership is from March/April 2024. (ii) Sources: [Temporary Emergency Transit Lanes Evaluation Summary](#), 2022, SFMTA; [California Street Safety Project Evaluation Report](#), 2022, SFMTA. (iii) See page 104 for more information about calculating travel time savings. (iv) Source: On-Board Rider Survey, SFMTA, 2017.



## TIMELINE



## NEXT STEPS

- Full 1 California line Muni Forward project
- Additional Nob Hill transit lanes on Clay Street



**Transit bulb on California Street:** New transit bulbs in Laurel Village incorporated seating and landscaping in partnership with a streetscape enhancement project.



**California Street "road diet" in the Inner Richmond:** Muni Forward removed a general purpose lane to better accommodate transit vehicles and calm traffic on a high-injury corridor.



**Temporary Emergency Transit Lanes:** Temporary Emergency Transit Lanes on California, Sacramento and Clay streets helped reduce travel times. They have since been approved to remain permanently. These include new 24/7 and part-time transit lanes, as well as extended hours for some existing part-time transit lanes.



**Clay Street red transit lane:** A red transit lane on Clay Street helps to reduce delays for the 1 California in the Financial District.

# 7 Haight/Noriega

Following Muni Forward investments, the 7 Haight/Noriega saw shorter travel times for its 11,000 weekday riders,<sup>i</sup> as well as fewer collisions.

Muni Forward improvements on the 7 Haight/Noriega include a bus lane between Laguna and Market streets to make the route more direct and avoid delay from congestion; wider sidewalks at bus stops; stop relocations; and transit signal priority to keep buses moving. The 7 Haight/Noriega also benefits from new or upgraded transit lanes on Market, Beale and Fremont streets. Travel times on Haight Street have dropped by up to 11%, which has helped ridership return to pre-pandemic levels.

The corridor is part of the [Vision Zero High-Injury Network](#), the 12% of city streets where 68% of severe collisions occur. To address this, it also includes safety improvements, built in partnership with a streetscape redesign effort to limit construction disruptions.

## RESULTS<sup>ii,iii</sup>

Up to

**11%**

**Time savings** on Haight Street between Laguna and Stanyan streets, 2015–2022

**64%**

**Fewer pedestrian and bike collisions** on Haight Street between Laguna and Stanyan streets, 2014–2022

## KEY FEATURES

**4.2**



**Miles of new or upgraded transit lanes** to get you there faster and more reliably

**14**



**Intersections with transit signal priority** to keep transit moving

**7**



**Transit bulbs** to make it easier to get on and off at your stop

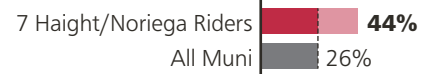
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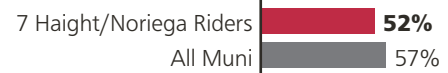
**Pedestrian bulbs** to make it easier and safer to get to your stop

## RIDER PROFILE<sup>iv</sup>

### Income below \$35,000:



### People of color:



### 7 HAIGHT/NORIEGA CORRIDOR MAP

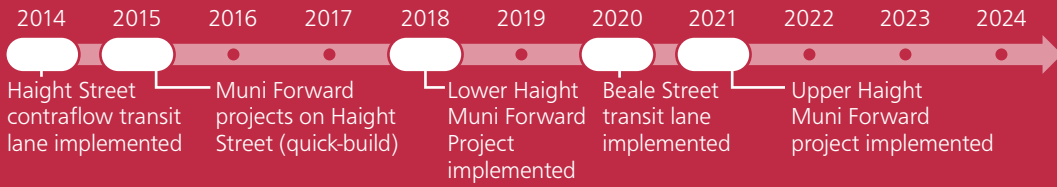


- Corridor
- Transit Lane
- Muni Forward Project Areas**
- █ Completed
- █ Approved or Under Construction
- █ Future – Not Yet Underway
- Muni Service Equity Strategy Neighborhoods Served
- █ Tenderloin/SoMa
- █ Western Addition

Data Notes: (i) Ridership is from March/April 2024. (ii) Source: Haight Street Muni Forward project evaluation, 2023, SFMTA. (iii) See page 104 for more information about calculating travel time savings and variability. (iv) Source: On-Board Rider Survey, SFMTA, 2017.



**TIMELINE**



**NEXT STEPS**

- Muni Forward improvements west of Stanyan Street



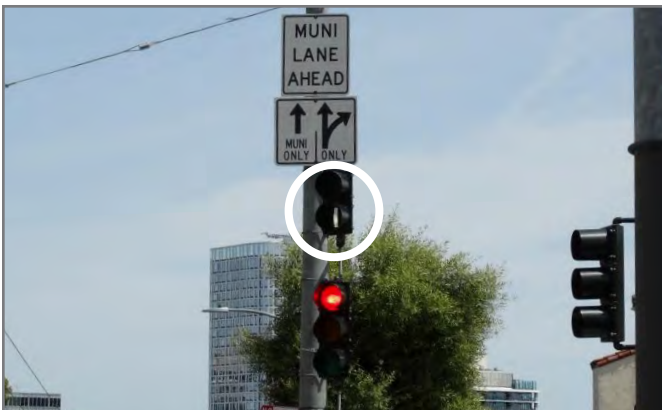
**Haight Street red contraflow lane:** A contraflow transit lane on Haight Street approaching Market Street makes bus trips more direct, avoiding a circuitous detour that added 2 minutes per trip.



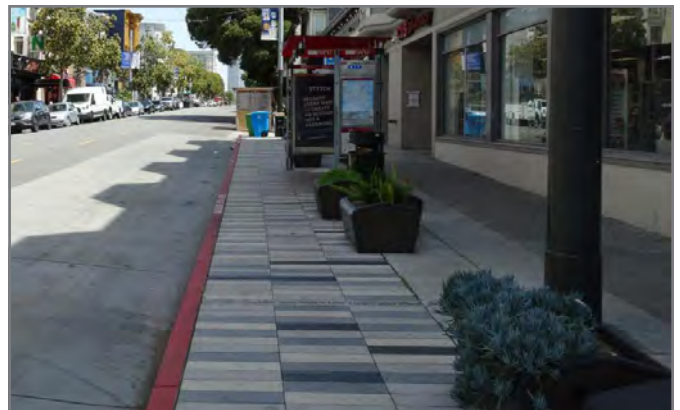
**Pedestrian bulbs along Haight Street:** Wider sidewalks at intersections have improved safety and transit access for riders, while providing space for streetscape improvements.



**Wide boarding platforms on Haight Street:** Transit bulbs on Haight Street, shown here at Stanyan Street, reduce boarding delays, improve safety and leave more space for stop amenities.



**Head start for buses on Haight Street at Buchanan Street:** This "queue jump" signal helps buses transition into a center bus lane from the curb. The vertical white bar (circled) is a special signal for buses, which get a head start to enter the intersection.



**Wide boarding platform with streetscape enhancements:** Transit bulbs in the Lower Haight, shown here at Fillmore Street, also incorporate streetscape enhancements, such as decorative paving and landscaping.

# 22 Fillmore

Muni Forward improvements have made the 22 Fillmore more reliable for the over 22,000 people who ride it each weekday,<sup>i</sup> while enhancing pedestrian safety and supporting affordable housing.

The 22 Fillmore is a key crosstown route between Potrero Hill, the Mission, the Western Addition, Japantown and the Marina, recently extended to Mission Bay. Muni Forward improvements have reduced congestion delay and improved safety. Transit lanes were installed on 16th and Church streets, while pedestrian bulbs on 16th Street reduced crossing distances and made the street safer. New street trees and lighting made 16th Street more pleasant for bus riders and the community overall.

In partnership with affordable housing developers, these upgrades helped the city win a state grant to fund affordable housing on Mission Street in tandem with transit improvements.

## RESULTS<sup>ii,iii</sup>

Up to **15%**

**Time savings** inbound (7-9 a.m.) from 16th and Potrero to Church and Market, 2017-2024

**119%**

**Ridership recovery**, May 2024 as a percent of May 2019

## KEY FEATURES

2



**Miles of new transit lanes**—with one more mile forthcoming on 16th Street—to get you there faster and more reliably

27



**Intersections with transit signal priority** to keep transit moving

8



**New transit bulbs or islands** to make it easier to get on and off at your stop

25



**Pedestrian bulbs** to make it easier and safer to get to your stop

## RIDER PROFILE<sup>iv</sup>

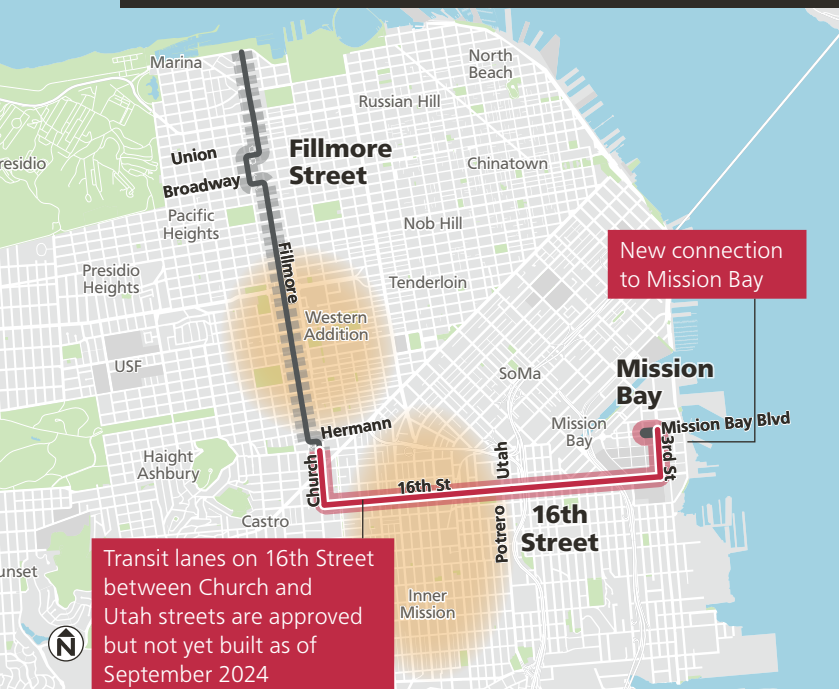
### Income below \$35,000:



### People of color:



### 22 FILLMORE CORRIDOR MAP



- Corridor
- Transit Lane
- Muni Forward Project Areas**
- Completed
- Approved or Under Construction
- ▨ Future – Not Yet Underway
- Muni Service Equity Strategy Neighborhoods Served
- Tenderloin/SoMa
- Western Addition

Data Notes: (i) Ridership is from March/April 2024. (ii) Source: SFMTA analysis of travel time data. (iii) See page 104 for more information about calculating travel time savings. (iv) Source: On-Board Rider Survey, SFMTA, 2017.

## TIMELINE



## NEXT STEPS

- Fillmore Street Muni Forward Project
- Red colorized transit lanes on 16th Street



**Church Street red transit lane:** Total travel time on Church Street dropped by up to 14% or one minute (median) and travel time variability dropped by up to 27%. (Source: [Church Street Pilot Transit Lanes](#), 2015, SFMTA)



**Extension to Mission Bay:** Muni Forward extended the 22 Fillmore to Mission Bay, including a transit lane that is now colorized red, providing direct access to UCSF and the Chase Center.



**Transit bulbs on 16th Street:** Wider boarding platforms on 16th Street provide a better waiting environment for riders and help to reduce delay.



**Transit boarding islands on 16th Street.** Boarding islands separate buses from delay caused by cars turning right and double-parked vehicles.



**Transit lanes on 16th Street:** New transit lanes were installed as part of Muni Forward for the 16th Street Improvement Project. The lanes improve reliability for riders.



**Pedestrian bulbs on 16th Street:** Wider sidewalks at intersections shorten crossing distances and improve visibility, making intersections safer.

# 28 19th Avenue/28R 19th Avenue Rapid

Muni Forward has improved travel times for the 15,000 weekday riders on the 28 19th Avenue and 28R 19th Avenue Rapid.<sup>i</sup>

The 28 19th Avenue provides crosstown service from Fisherman’s Wharf to Daly City, serving many schools and San Francisco State University, while running largely on state-owned roads. Muni Forward has partnered with Caltrans to deliver an innovative high-occupancy vehicle (HOV) lane pilot on Park Presidio Boulevard and Lombard Street; more efficient bus stop locations; and wider sidewalks at bus stops and intersections along 19th Avenue and Lombard Street to improve safety and boarding. We’ve also expanded Rapid service on the 28R 19th Avenue Rapid to an all-day service.

Transit priority efforts reduced travel times by up to 19% on Lombard Street and up to 8% on 19th Avenue.

## RESULTS<sup>ii,iii</sup>

Up to **19%**

Time savings (median) on Lombard HOV lane, 2019–2024

Up to **51%**

Less variable travel times on HOV lane segments, 2019–2024

## KEY FEATURES

2.6



**Miles of new transit/HOV lanes** to get you there faster and more reliably

27



**Intersections with transit signal priority** to keep transit moving

28



**New transit bulbs** to make it easier to get on and off at your stop

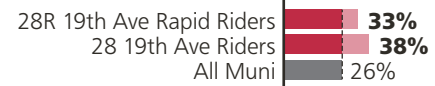
35



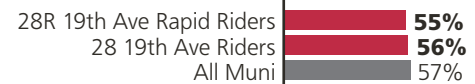
**Pedestrian bulbs** to make it easier and safer to get to your stop

## RIDER PROFILE<sup>iv</sup>

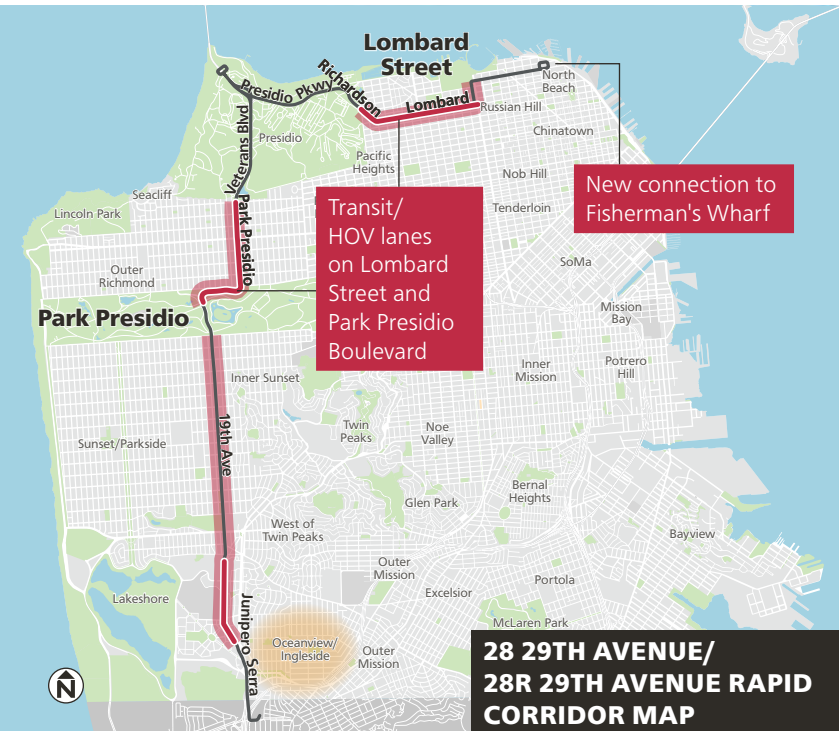
### Income below \$35,000:



### People of color:



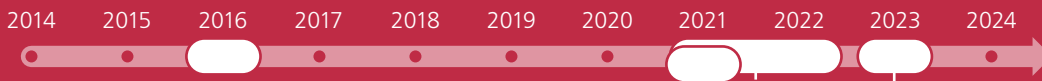
Data Notes: (i) Ridership is from March/April 2024. (ii) Source: Park Presidio Lombard Temporary HOV Lanes Pilot Final Evaluation Report (September 2024 draft), 2024, SFMTA. (iii) See page 104 for more information about calculating travel time savings and variability. (iv) Source: On-Board Rider Survey, SFMTA, 2017.



**28 29TH AVENUE/  
28R 29TH AVENUE RAPID  
CORRIDOR MAP**

- Corridor
- Transit Lane
- Muni Forward Project Areas**
- Completed
- Approved or Under Construction
- Future – Not Yet Underway
- Muni Service Equity Strategy Neighborhoods Served
- Oceanview/Ingleside

## TIMELINE



2016  
28R 19th Avenue Rapid expanded to all-day service on weekdays

2018  
Lombard Street Vision Zero Project implemented

2021  
HOV lanes pilot implemented on Park Presidio and Lombard

2023  
19th Avenue Muni Forward Project implemented

## NEXT STEPS

- Further study of HOV lanes pilot



**Bus bulbs on Lombard Street:** These wider boarding platforms improve the rider experience and reduce delays on the 28 19th Avenue and 28R 19th Avenue Rapid.



**Park Presidio Boulevard HOV lane:** The HOV lane pilot project on Park Presidio Boulevard provides benefits to both transit and people carpooling.



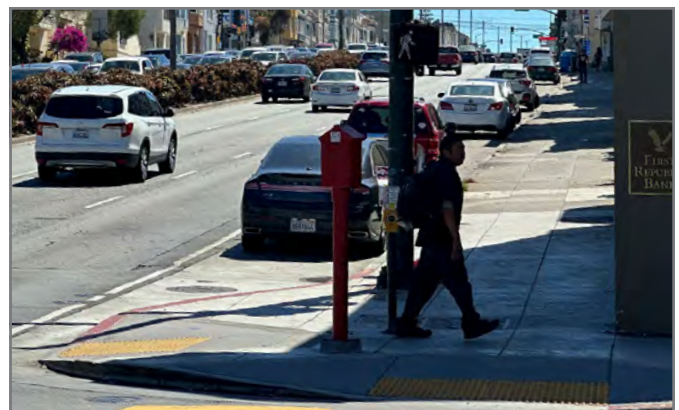
**Bus bulbs on 19th Avenue:** Bus bulbs on 19th Avenue provide a better waiting environment for riders and help to reduce transit delay.



**Lombard Street HOV lane:** The HOV lane is available to transit and carpools on Lombard Street, helping to protect transit from growing traffic congestion.



**Expansion of Rapid service and new connections:** Muni Forward expanded Rapid service on the 28R 19th Avenue Rapid from peak-only to all-day service and extended the 28 19th Avenue to Fisherman's Wharf.



**Pedestrian bulbs on 19th Avenue:** Muni Forward installed 35 pedestrian bulbs along 19th Avenue, improving pedestrian safety on a state highway that functions as city street.

# 30 Stockton

Muni Forward improvements have made the 30 Stockton faster, more reliable and safer for the over 16,000 riders who take it each weekday.<sup>i</sup>

This has included transit priority efforts over nine years spanning the entire route—such as upgrading existing transit lanes, adding new transit bulbs and implementing transit signal priority. Bus bulbs and islands have been installed on Chestnut Street (Marina), North Point Street (Fisherman's Wharf), Columbus Avenue (North Beach), Stockton Street (Chinatown and Union Square) and 3rd Street (SoMa). Service has also been extended to the Presidio.

In addition, we have invested in pedestrian safety, including measures to ensure safer street crossings, such as wider sidewalks at intersections. These align with Vision Zero goals to reduce fatal and injury collisions.



## RESULTS<sup>ii,iii</sup>

Up to **24%**

**Time savings** on 3rd Street during the morning rush hour (7–9 a.m.), 2019–2024

Up to **67%**

**Less variable travel times** on 3rd Street during the morning rush hour, 2019–2024

## KEY FEATURES

**1.4**



**Miles of new or upgraded transit lanes** to get you there faster and more reliably

**8**



**Intersections with transit signal priority** to keep transit moving

**15**



**Transit bulbs or islands** to make it easier to get on and off at your stop

**6**



**Pedestrian bulbs** to make it easier and safer to get to your stop

## RIDER PROFILE<sup>iv</sup>

### Income below \$35,000:

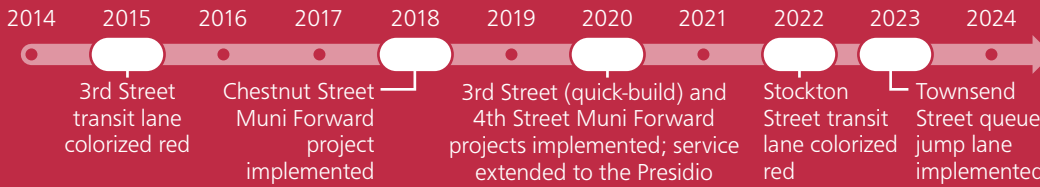


### People of color:



Data Notes: (i) Ridership is from March/April 2024. (ii) Source: SFMTA analysis of travel time data. (iii) See page 104 for more information about calculating travel time savings and variability. (iv) Source: On-Board Rider Survey, SFMTA, 2017.

## TIMELINE



## NEXT STEPS

- Transit lane on Van Ness Avenue (2025)
- Market to Van Ness Muni Forward improvements



**Red transit lane and islands on 3rd Street:** The existing transit lane on 3rd Street in SoMa was redesigned to separate buses from right turns, with new quick-build boarding platforms. The slowest trips (90th percentile) improved by up to 4 minutes (or 39%).



**4th Street red transit lane:** An existing transit lane was redesigned and extended on 4th Street in SoMa, improving its functionality and reducing impacts from congestion.



**Stockton Street red transit lane:** An existing transit lane on Stockton Street in Union Square was upgraded with red colorization to improve driver compliance in this busy corridor.



**Bus bulb in Marina District:** Bus bulbs were installed at stops on Chestnut Street to help riders get on and off the bus more quickly, easily and safely.



**Serving the Presidio:** Muni Forward extended the 30 Stockton to the Presidio using battery technology on new buses, without having to install new trolley wires.



**Queue jump at Townsend Street:** A "queue jump," or short transit lane, on Townsend Street approaching 3rd Street helps the bus bypass traffic congestion where delays are most challenging.

# Van Ness Bus Rapid Transit

The Van Ness Bus Rapid Transit (BRT) project has made buses 45% more reliable and attracted thousands of new riders to the 49 Van Ness/Mission route. In 2024, weekday ridership rose to 34,000—32% higher than pre-pandemic levels.<sup>i</sup>

Van Ness BRT features center-running bus lanes, signal priority and improved stops, reducing travel times by up to 9.5 minutes.<sup>ii</sup> Safety measures such as corner sidewalk extensions and left turn restrictions have reduced injury collisions for all modes by 36%.<sup>ii</sup> We partnered with Caltrans to rebuild aging infrastructure and transform Van Ness into a model of transit priority and safety.

Van Ness BRT is one of only four “Silver” rated BRT lines in the United States, as awarded by the Institute for Transportation and Development Policy.



## RESULTS<sup>iii,iv</sup>

Up to **36%**

**Time savings** on Van Ness Avenue between Lombard and Mission streets, 2016–2023

Up to **45%**

**Less variable travel times** on Van Ness Avenue between Lombard and Mission streets, 2016–2023

## KEY FEATURES<sup>v</sup>

**4.4**



**Miles of new transit lanes** on Van Ness Avenue to get you there faster and more reliably

**26**



**Intersections with transit signal priority** to keep transit moving

**18**



**Transit islands** to make it easier to get on and off at your stop

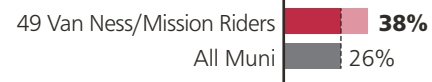
**57**



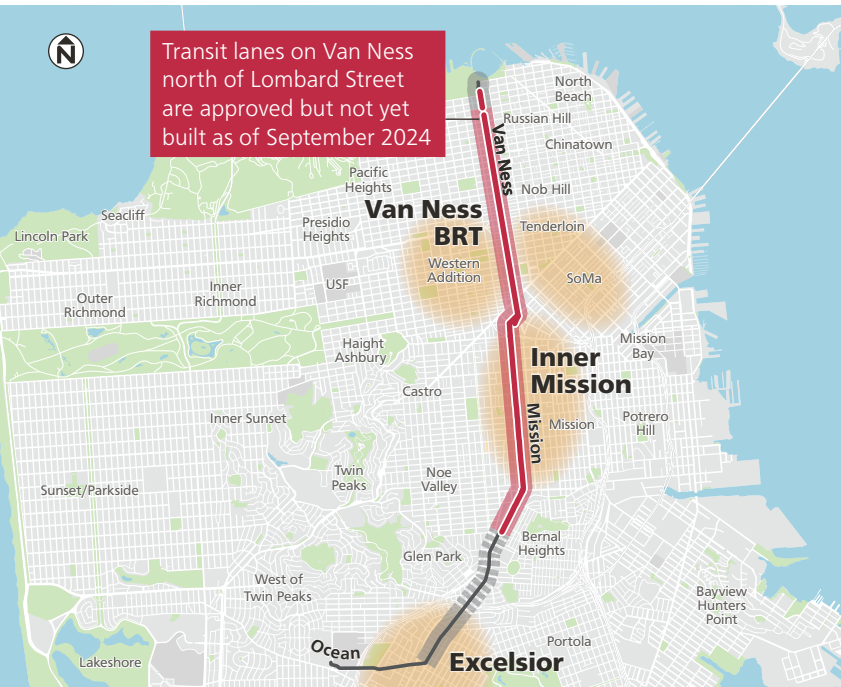
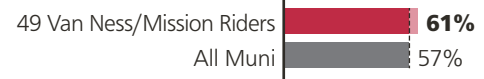
**Pedestrian bulbs and islands** to make it easier and safer to get to your stop

## RIDER PROFILE<sup>vi</sup>

### Income below \$35,000:



### People of color:



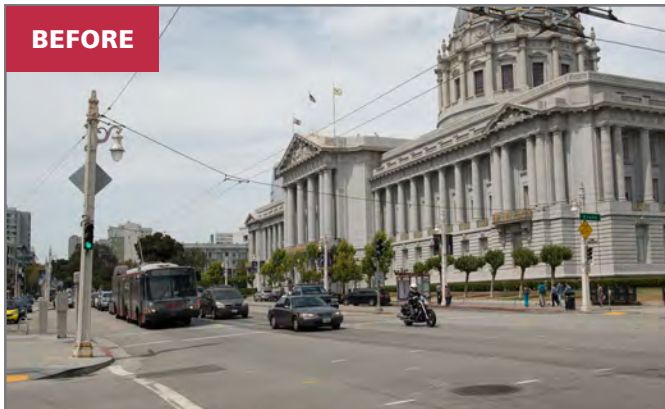
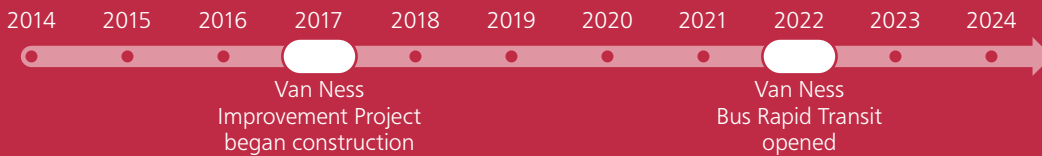
**49 VAN NESS/MISSION CORRIDOR MAP**

- Corridor
- Transit Lane
- Muni Forward Project Areas**
- Completed
- Approved or Under Construction
- Future – Not Yet Underway
- Muni Service Equity Strategy Neighborhoods Served
- Excelsior/Outer Mission
- Tenderloin/SoMa
- Inner Mission
- Excelsior/Outer Mission

Data Notes: (i) Ridership is from March/April 2024. The 47 Van Ness also ran on Van Ness Avenue prior to the pandemic but is no longer in service. The ridership recovery rate is 100% when including the entire 49-line and boardings on the 47-line that occurred on Van Ness before the pandemic. (ii) Based on collision data five years before project construction and two years after completion. Looking at only one year both before and after the project, collisions were reduced by 53%.



## TIMELINE



**Van Ness Avenue at Grove Street facing San Francisco City Hall before Van Ness BRT (2015):** Buses operated in mixed traffic on this heavily congested state highway corridor.



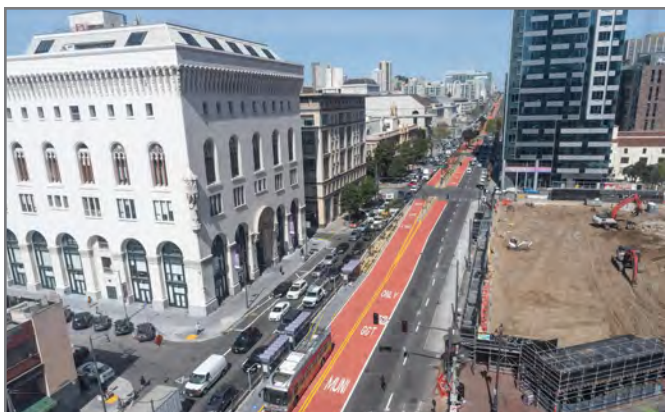
**Van Ness Avenue at Grove Street facing San Francisco City Hall after Van Ness BRT opening (2022):** Buses now operate in a dedicated center-running transit lane with boarding platforms.



**Van Ness Avenue at McAllister Street before Van Ness BRT (2015):** Pedestrians faced challenging conditions on this six-lane roadway before the project was implemented.



**Van Ness Avenue at McAllister Street after Van Ness BRT opening (2022):** The project features extensive safety features, including wider sidewalks at intersections and left turn restrictions.



**Van Ness BRT corridor, looking north from Market Street:** The 49 Van Ness/Mission runs in center-running transit lanes for the length of Van Ness Avenue, eliminating most potential delays.



**Center boarding island platforms:** Passengers get on and off the bus by walking to a transit island. These boarding islands enable the bus to operate in center-running transit lanes.

(iii) Source: Van Ness BRT Evaluation Report, 2024, SFMTA. (iv) See page 104 for more information about calculating travel time savings and variability. (v) Key features shown for BRT segment only (between Lombard and Mission streets). (vi) Source: On-Board Rider Survey, SFMTA, 2017.

# L Taraval

Muni Forward has helped transform the L Taraval from a legacy streetcar line to a modern light rail line that prioritizes safety.

Improvements on the L Taraval include new boarding platforms at all stops on Taraval Street, dramatically improving safety for riders. Quick-build upgrades have since been replaced with permanent infrastructure, built in partnership with trackway and underground utility replacement efforts. Improvements also include transit lanes, wider sidewalks at intersections, transit priority signals, wheelchair ramps at more train stops and streetscape enhancements. As part of the project, we also worked with merchants to address impacts to parking.

Prior to this effort, there were no platforms at most stops and riders would step off the train into a lane of traffic, with 24 riders hit by vehicles in five years. Quick-build improvements in 2017 ended this collision pattern.

## RESULTS<sup>i</sup>

Up to **5%**

**Time savings** (median) after quick-build, for outbound trips between West Portal and SF Zoo terminal, 2016-2018

Up to **60%**

**Fewer pedestrian collisions** on Taraval Street between 15th and 46th avenues after quick-build in 2017.

## KEY FEATURES

**3.6** **Miles of new transit lanes** to get you there faster and more reliably

**7** **Intersections with transit signal priority** to keep transit moving

**20** **New or upgraded transit bulbs or islands** to make it easier to get on and off at your stop

**10** **Pedestrian bulbs** to make it easier and safer to get to your stop

## RIDER PROFILE<sup>ii</sup>

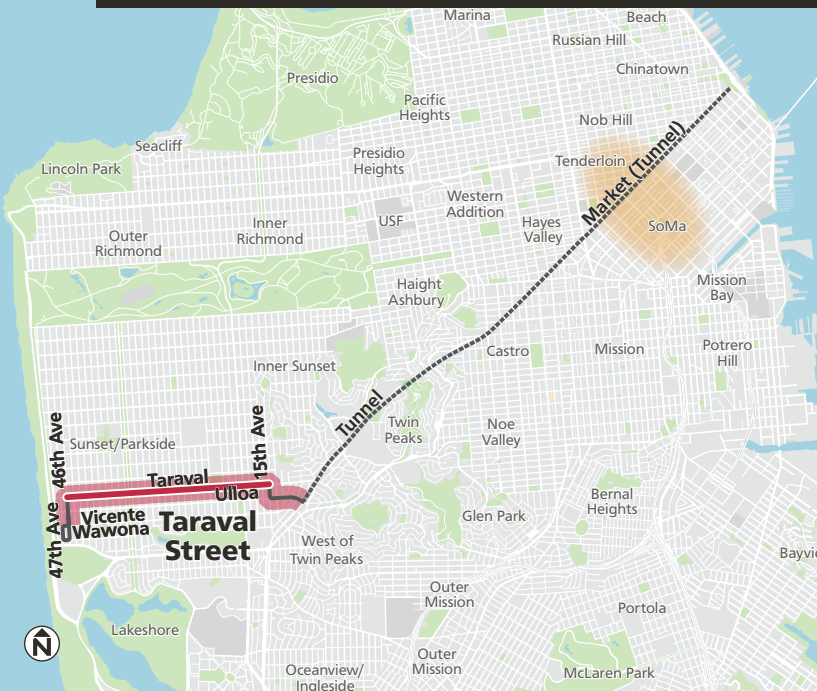
### Income below \$35,000:



### People of color:



### L TARAVAL CORRIDOR MAP



- Corridor
- Transit Lane
- Muni Forward Project Areas**
- Completed
- Muni Service Equity Strategy Neighborhoods Served
- Tenderloin/SoMa

Data Notes: (i) Source: SFMTA analysis of travel time and collision data. For collisions, the "before" period is the 10 years prior to quick-build implementation in 2016; the "after" period is 2017-2019. (ii) Source: On-Board Rider Survey, SFMTA, 2017.

## TIMELINE

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

L Taraval Rapid Project  
implemented  
(quick-build)

Permanent L Taraval  
Improvement Project  
implemented



**Boarding into a lane of traffic, before improvements:** Before the project, passengers at most stops got on and off the train into an active traffic lane, leading to 24 injury collisions in five years.



**New wheelchair accessible boarding platforms and transit lanes on Taraval:** These features have improved safety, accessibility and transit reliability on the L Taraval.



**Quick-build safety improvements at stops:** Quick-build painted safety zones were installed at stops in 2017, in the footprint of future boarding platforms, greatly improving safety.



**Decorative high-visibility crosswalk:** Upgraded crosswalks on Taraval Street both improve safety and contribute to the unique streetscape, complementing Taraval's oceanside location.



**Permanent transit boarding islands on Taraval:** Quick-build safety zones have been replaced with new permanent boarding islands made of concrete at all stops on Taraval Street.



**Mosaics and greenery:** The project incorporated numerous features to enhance the streetscape and reflect the local character, including thematic mosaic tiles on wheelchair ramps, landscaping on boarding islands and new street trees.

# N Judah

Muni Forward is transforming travel on the N Judah, SFMTA's highest ridership light rail line—and more improvements are in the works.

With 27,000<sup>i</sup> average weekday riders, the N Judah is Muni's busiest rail corridor, connecting downtown to the Sunset District and Ocean Beach.

Muni Forward projects in the corridor include enhanced boarding platforms at stops on Irving, Carl and Judah streets; transit signal priority to reduce delays at intersections; new wheelchair accessible platforms; and other transit priority and pedestrian safety measures. Much of this work occurred in partnership with the Irving Streetscape Improvement Project.

Future Muni Forward work will aim to bring additional improvements to the entire line.

## FUTURE IMPROVEMENTS

- A future project will seek to address delay, reliability, crowding, customer amenities and safety along the entire N Judah route.
- Planning and public outreach for this effort will start in late 2024 and will build on past improvements.

## KEY FEATURES

- 0.2** **Miles of upgraded transit lanes** to get you there faster and more reliably
- 8** **Intersections with transit signal priority** to keep transit moving
- 9** **Transit bulbs or islands** including four new wheelchair-accessible ramps
- 6** **Pedestrian bulbs** to make it easier and safer to get to your stop

## RIDER PROFILE<sup>ii</sup>

### Income below \$35,000:

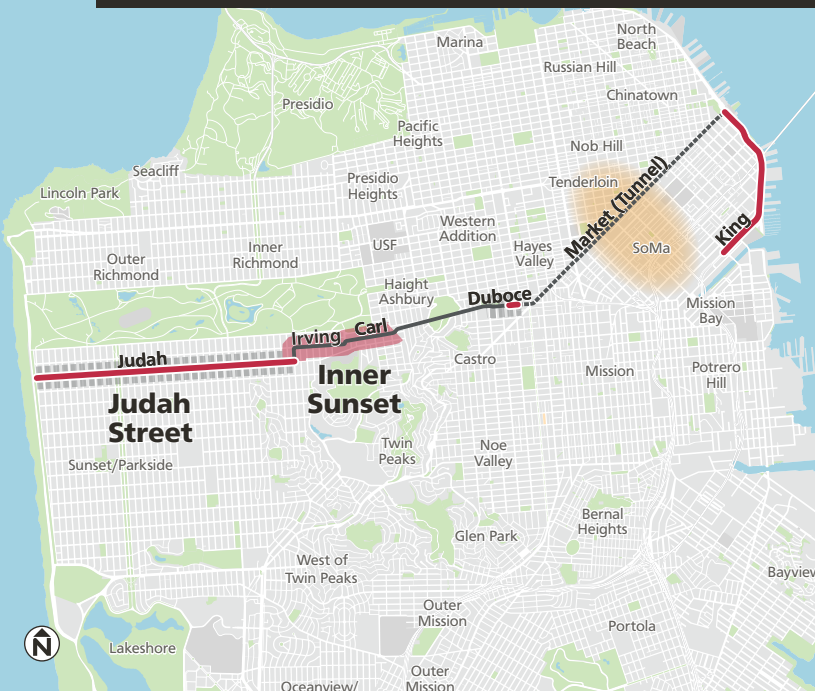


### People of color:



Data Notes: (i) Ridership is from March/April 2024. (ii) Source: On-Board Rider Survey, SFMTA, 2017.

### N JUDAH CORRIDOR MAP



- Corridor
- Transit Lane
- Muni Forward Project Areas**
- Completed
- Approved or Under Construction
- ▨ Future – Not Yet Underway
- Muni Service Equity Strategy Neighborhoods Served
- Tenderloin/SoMa

**TIMELINE**



Muni Forward projects implemented (transit priority signals 2015, boarding islands 2015, two blocks of red colorized transit lanes (2016)

Inner Sunset Streetscape Improvement Project implemented

N Judah Terminal Safety Improvements Project implemented

**NEXT STEPS**

- Full N Judah line transit priority projects



**Transit bulb with landscaping (example 1 of 2):** This transit bulb on 9th Avenue in the Inner Sunset is an example of transit priority and safety measures that also enhance the streetscape.



**Transit bulb with landscaping (example 2 of 2):** This transit bulb on Irving Street at 8th Avenue is another example of transit priority infrastructure that also enhances the look and feel of the street.



**Wheelchair-accessible boarding platform (example 1 of 2):** The wheelchair-accessible boarding island platform on Judah Street at 28th Avenue provides access to high-floor trains.



**Wheelchair-accessible boarding platform (example 2 of 2):** The boarding island platform on Irving Street at 6th Avenue prioritizes accessibility and the rider experience.



**Red transit lane on Judah Street:** Existing transit lanes on Judah Street were colorized red at some locations to increase driver compliance and reduce delay for riders.



**Transit bulb on Carl Street:** Transit bulbs on Carl Street make it easier and safer for riders to board.



# 4

## Lessons Learned and Next Steps: The Future of Muni Forward

This section includes a summary of lessons learned and outlines next steps for Muni Forward, as well as related longer-term improvements to transit in the city.

### **IN THIS SECTION:**

- Lessons Learned Through 10 Years of Muni Forward
- The Future of Muni Forward
- Transforming Muni Metro

# Lessons Learned Through 10 Years of Muni Forward

Over the past 10 years, Muni Forward has learned important lessons about building transit priority infrastructure in partnership with local communities.



## SYSTEMWIDE APPROACH

At the outset of the program, develop a systemwide plan and make a case to constituents and policymakers for why it's important for the system as well as the city. Focus on a citywide program of small- and medium-scale projects that can deliver tangible benefits quickly, at a relatively low cost.



## THE 3 P'S APPROACH

Community members, stakeholders and decision-makers consistently want faster benefits, shorter construction times and lower costs. As a result, Muni Forward uses the 3 P's process: **partner** with existing city construction projects and engagement efforts; **pilot** using temporary, low-cost actions; and **persist** by continuously learning and iterating (page 11).



## COMMUNITY SUPPORT

Building community support is critical. San Francisco has a strong transit advocacy community, but we also brought strong data and analysis to the table that helped make the case for transit improvements.

Photo Credit: SF Youth Commission



## VISION ZERO

Pair transit reliability with pedestrian safety improvements to maximize benefits, improve access and build support for improvements. Most heavily used transit corridors are also high-injury corridors for pedestrians (page 56).



## LISTEN FIRST

Focus the first rounds of outreach on a listening tour approach. This allows the community to help navigate potential trade-offs before a proposal is developed. This builds better support and trust and ensures the final proposal reflects community priorities.



# The Future of Muni Forward

In the coming years, Muni Forward will continue delivering results for transit in San Francisco. This section provides an overview.

## Projects Nearing Completion or Implementing Soon



Construction is now substantially complete on projects to reduce travel times and improve safety on the **22 Fillmore (16th Street Improvement Project)** and the **L Taraval (L Taraval Improvement Project)**.



Following quick-build improvements, detailed design is underway for the construction of permanent (concrete) improvements for approved projects on the **29 Sunset** (future transit bulb location pictured above), **38 Geary**, **J Church**, **K Ingleside** and **M Ocean View**.



Quick-build improvements are underway and will soon be completed on the J Church (pictured above with new transit lanes on San Jose Avenue), K Ingleside and M Ocean View lines, where Muni Forward improvements were recently approved. See page 101 for more information about this work.



Construction will begin in the coming months on permanent (concrete) transit bulbs on the 5 Fulton in the Inner Richmond.

## Upcoming Muni Forward Planning Efforts

In 2024 and 2025, we are starting planning and outreach on a new round of Muni Forward corridors. This work will support the vision of the Five-Minute Network (see page at opposite) and the Muni Service Equity Strategy and will deliver a new round of Transit Delay Hot Spot improvements:

- T Third reliability improvements
- J Church: Noe Valley Muni Forward
- 29 Sunset (Phase 2) Muni Forward
- N Judah Muni Forward
- 1 California Muni Forward
- 22 Fillmore: Fillmore Street Muni Forward
- Top 10 Transit Delay Hot Spots

Future Muni Forward projects are planned on other corridors, including the 43 Masonic and 44 O'Shaughnessy, as well as remaining segments of the 8 Bayshore, 7 Haight/Noriega and 14 Mission. We'll also revisit existing corridors with a focus on further time savings to improve service quality and cost effectiveness.

## Ongoing Priorities



### CONTINUE PRIORITIZING EQUITY

Muni Forward will continue to prioritize corridors serving Muni Service Equity Strategy neighborhoods, in addition to high-ridership routes.



### COST SAVINGS TO PRESERVE SERVICE

Future efforts will focus not only on time savings, but also on reducing operating costs. This will allow us to maintain service with fewer buses and ultimately provide more service as funding allows.



### NEXT GENERATION TRANSIT SIGNAL PRIORITY AND AUTOMATED TRANSIT LANE ENFORCEMENT

We are aiming to use more sophisticated transit signal priority and automated camera lane enforcement technology to deliver more time and cost savings. This could include cloud-based transit signal priority, transit lane enforcement cameras that can automatically detect violations and other international best practices.



### RAPID NETWORK EXPANSION AND THE FIVE-MINUTE NETWORK

The Five-Minute Network is the SFMTA's vision for a set of high-ridership transit corridors with service every five minutes or better throughout the day. No need to worry about schedules for these routes—just hop on and ride. As funding allows, we plan to expand this network and focus our most intensive transit priority treatments on these corridors.

## MUNI FORWARD SPOTLIGHT

# The Five-Minute Network

The Five-Minute Network is the longer-term vision for a set of bus and rail corridors with service running every five minutes or better, all day. The purpose is to provide fast, frequent, reliable Muni service throughout San Francisco. Transit priority capital improvements help to make reliable five-minute service possible, even in busy areas. The vision of the Five-Minute Network is that high-frequency routes only stop at stops, with no unnecessary delay from congestion or other factors.

The Five-Minute Network would benefit the entire city, including eight neighborhoods that are part of the Muni Service Equity Strategy. This concept was vetted through community engagement as part of the [ConnectSF](#) planning process and reaffirmed by the 2023 SFMTA Community Survey, which highlighted that fast, frequent, reliable service is the top priority identified by riders.

The Five-Minute Network will guide the next generation of Muni Forward capital projects. Investments in the Five-Minute Network will focus on:

- Busy corridors that can support transit coming every five minutes or less, all day.
- Routes that provide important connections to the Five-Minute Network, generally operating at 10-minute or better frequencies.

This capital program will be coupled with more frequent transit service as funding allows.



Source: [ConnectSF Transit Strategy](#), SFMTA, 2021

## Rapid Network Expansion

Expanding the number of Rapid bus lines is an important step in moving toward the Five-Minute Network vision. To this end, Muni is planning to expand the Rapid Network to high-ridership areas where Rapid service is not yet available, as funding allows.

# Transforming Muni Metro

The SFMTA is working towards a vision of a much faster, more reliable and more convenient rail network, making it the efficient, modern system that San Francisco needs and deserves.









**This vision means light rail service that functions more like a subway (even on the street), longer trains to reduce crowding and better amenities at stops.** We're working towards this vision with Muni Forward improvements, as well as future investments in our Train Control Upgrade Program (TCUP) and other operational enhancements.

**The goal is to modernize and enhance Muni rail lines, so they meet their full potential to serve as a backbone of our transit network.** The first 10 years of Muni Forward focused heavily on bus lines, which carry the great majority of Muni trips (almost 80% as of 2024) and operate entirely on city streets without grade separation. More recently, however, we've turned our attention to the rail network as well, completing improvements on the L Taraval and N Judah and gaining approval for projects to improve the J Church, K Ingleside and M Ocean View. In many places, our rail lines still lack safe, accessible boarding facilities and dedicated right-of-way on the street; our current and future projects will address both of these challenges across our rail network.

## Improvements Coming Soon to Muni Metro

Projects on the J Church, K Ingleside and M Ocean View were approved in 2023 and 2024, with quick-build implementation underway now. These include concrete boarding islands, transit lanes on San Jose and Ocean avenues, and safety improvements such as wider sidewalks and flashing beacons at pedestrian crossings. The boarding islands are the first instances of city crews from the Department of Public Works constructing concrete boarding islands on rail lines, which delivers critical safety, access and capacity improvements faster than a traditional construction process where work is bid out to a private contractor. Detailed design work is underway for permanent improvements on these projects as well, which will begin construction in the coming years.

| LINE                       | BEFORE   | AFTER (COMING SOON)   |
|----------------------------|--|---|
| <p><b>K Ingleside</b></p>  |  <p>Ocean Avenue boarding islands are too short for two-car trains and even some rear doors on the first car.</p>   |  <p>New quick-build transit boarding islands are long enough for all doors of two-car trains. This makes it easier to get on and off the K Ingleside and reduces delays at West Portal. Transit lanes will be installed soon as well.</p> |
| <p><b>M Ocean View</b></p> |  <p>On San Jose Avenue at Niagara Avenue, riders had to disembark from the train into a vehicle traffic lane.</p>   |  <p>City crews have recently installed a quick-build boarding island to provide a safe area for riders to get on and off the M Ocean View.</p>  |
| <p><b>J Church</b></p>     |  <p>The Muni Forward quick-build transit plaza at Church and Market streets includes a new wheelchair-accessible ramp—already a considerable improvement over prior conditions.</p> |  <p>The approved permanent transit plaza at Church and Market streets (conceptual rendering above) will make this key transfer point safer and more accessible and improve the experience for riders.</p>                               |

## Comprehensive Upgrades on the N Judah and T Third

We're launching projects in the coming year aimed at greatly enhancing the N Judah and T Third, focusing on reliability, safety, crowding and the overall customer experience. These projects will build on past improvements, such as the Inner Sunset section of the N Judah and the TETL improvements on the T Third.



N Judah transit stop on Judah Street at 23rd Avenue, where a short boarding island does not reach all doors of the train.

### N JUDAH

Muni Forward will be developing a longer-term vision for the N Judah corridor in collaboration with community members and stakeholders. The N Judah is the highest ridership Muni light rail corridor and was last fully updated in the 1970s. The intent of this effort is to enhance the rider experience by improving safety and accessibility, and reducing travel time and crowding. This will build on past improvements to the line.



The T Third operating in a new transit lane on 4th Street. This transit lane was established as part of the Temporary Emergency Transit Lanes program and was later approved to remain permanently.

### T THIRD

In the near future, the SFMTA will undertake a corridor-wide review of delay on the T Third in close collaboration with the communities along the route. Delays continue to be a challenge on many parts of the line. Future updates to the T Third will build on quick-build efforts already implemented. Solutions could include Muni Forward transit priority upgrades as well as operational improvements and next-generation signal priority enhancements.

## Longer-Term Efforts to Transform Muni Metro

In addition to Muni Forward, San Francisco is pursuing a range of additional projects that will enhance and expand the rail network in the longer term.

### MUNI METRO MODERNIZATION

[Muni Metro Modernization](#) is a comprehensive program to prepare San Francisco's light rail system—much of which is more than a century old—for the remainder of the 21st Century. It includes state-of-good-repair maintenance in **subway tunnels**, capital investments to improve reliability and capacity on **surface rail**, improvements to maintenance of the **light rail vehicle fleet**, and **facility upgrades**.

It also includes the [Train Control Upgrade Project](#), or TCUP, which will modernize Muni Metro's decades-old train control system over the next few years. The current Automatic Train Control System, or ATCS, is based on 1980s technology and still uses floppy disks. Replacing the system with state-of-the-art Communications-Based Train Control will increase capacity in our subways, extend automatic train control to surface segments of rail lines and improve service reliability.

Finally, Muni Metro Modernization includes the [Muni Metro Capacity Study](#), which will identify improvements to ensure sufficient capacity for current and future ridership. The Muni Metro Core Capacity Study is currently identifying **further improvements for the entire M Ocean View light rail corridor**, which may include additional transit priority measures and longer trains to increase the number of people the line can serve.

### CONNECTSF TRANSIT STRATEGY

While the SFMTA's rail-related efforts are largely focused on improvements to the current system, expansions of the city's rail network are also being planned. Based on recommendations from the city's [ConnectSF Transit Strategy](#), the following are being studied: extension of the Central Subway to Fisherman's Wharf; the Portal, an extension of the Caltrain and future California High-Speed Rail corridor to Salesforce Transit Center; a new Caltrain station in the Bayview; and a Geary/19th Avenue subway that could potentially connect to a new transbay rail crossing under study by the [LINK21 program](#).



# Travel Time Data Analysis Methodology Notes

## TRAVEL TIME SAVINGS

Travel time savings figures are median (50th percentile) time savings except where noted. Where time savings are referred to as being "up to" a given percentage, this indicates that is the greatest time savings observed across different times of day and directions of the route. This typically refers to a specific segment of the route where improvements were implemented, which is generally noted in the report.

## RELIABILITY (VARIABILITY)

Reliability metrics provided in this report generally refer to the change in how variable travel times are after project implementation. Travel time variability is a primary cause of "bunching" and "gapping," key indicators of reliability issues. For most projects, variability is measured as the difference between the 90th and 50th percentile travel times. For instance, if the variability between the 90th and 50th percentile travel times is reduced from 4 minutes to 2 minutes, this would represent a 50% decrease (improvement) in variability or reliability. For some older project evaluations, variability may use another metric, such as the difference between the 75th and 50th percentile; this has been indicated where it is the case.





# Learn More

Stay up to date with Muni Forward  
at [SFMTA.com/MuniForward](https://www.sfmta.com/MuniForward)



