Transit Effectiveness Project

Implementation Workbook

DRAFT
Last Updated March 24,2014

SFMTA
Municipal
Transportation
Agency

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About the SFMTA

Vision

San Francisco: great city, excellent transportation choices.

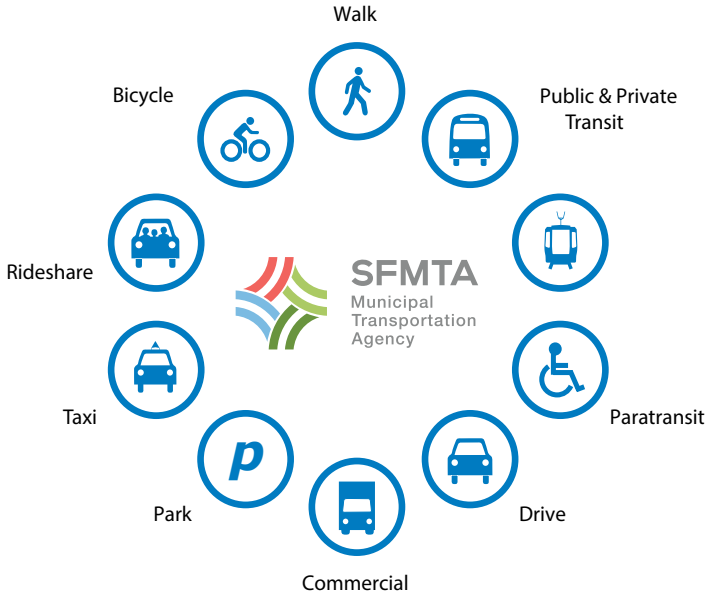
Mission Statement

We work together to plan, build, operate, regulate, and maintain the transportation network, with our partners, to connect communities.

Who We Are

The San Francisco Municipal Transportation Agency (SFMTA) is a unique organization. Created in 1999 through a voter initiative to combine the former Municipal Railway (Muni) and Department of Parking and Traffic (DPT), this resident-led change to the City Charter was designed to create an integrated transportation agency for the purpose of managing the City's streets more effectively and supporting the Transit First policy. The Agency has continued to evolve since then, merging with the Taxi Commission in March 2009, and establishing closer ties with the San Francisco Police Department's traffic enforcement detail. This evolution has created a comprehensive, multimodal agency that works to expand transportation choices for all people who live, work or play in San Francisco.

What We Do



The SFMTA plans, designs, builds, operates, regulates, and maintains one of the most diverse transportation networks in the world. Through our work, which spans the four major modes of transportation (transit, bicycle, pedestrian, automobile), we seek to balance the needs of all users, whether they are walking; bicycling; driving, riding or sharing a car; in a taxi; driving a commercial vehicle; or riding transit. SFMTA also oversees paratransit service, which serves individuals unable to use fixed-route transit service all or part of the time. The SFMTA also partners with regional transit operators who connect the city to the rest of the region using four additional transit modes (BART, commuter railroad, regional bus, and ferry). In addition to being an operator and regulator, the SFMTA has a robust planning, design, and construction function that includes reviewing all proposed land use developments with our partners; planning, designing, and building the transportation modal networks (transit and paratransit, streets, signals, bicycle, pedestrian, taxi, commercial delivery, and loading); and providing long-range forecast analyses of the fleets, facilities, and right-of-way infrastructure in the city and their relation to the region.

The SFMTA also oversees and manages on and off-street public parking in a manner that complements the policy objectives of this Transit First city. Last but not least, the Agency creates and enforces rules about the city's streets, transit system, and parking infrastructure. Combined, these efforts make an all-in-one transportation agency that directly impacts the daily life of everyone who moves about the city.

TEP Plan

San Francisco is more than just transit rich–it is transportation rich. It is a city where residents and visitors alike are empowered with the freedom to choose how they get around. Recent trends show more and more San Franciscans leaving their private cars behind, and weaving themselves into the public realm through overlapping networks of transit, taxi, bicycle, and pedestrian routes. This shift towards more sustainable transportation helps all San Franciscans–whether they live, work, or play here–by reducing greenhouse gas emissions, improving air quality, reducing congestion and noise pollution, and creating more active, more vibrant, more humane streets. These trends will move the city closer to its future vision of a more efficient, equitable, and environmentally sustainable transportation network, assuming of course that we can overcome near-term challenges that act as barriers to change. After all, it is difficult to imagine life without a personal vehicle and a two-car garage when Muni is notoriously slow and unreliable, taxis are hard to find, and many streets still prioritize fast-moving cars over the human-scale movement of people.

The focus of the Transit Effectiveness Project (TEP) is Muni: at once, the transit backbone of a transportation-rich system that connects all modes and all people, but also–unfortunately–a system that has failed to keep pace wth a changing San Francisco. The TEP represents the first major evaluation of San Francisco's mass transit system in thirty years, and combines an extensive, data-supported planning process, engagement with the community at various levels, and critical lessons learned through the implementation of pilot projects, to develop solutions that improve the end-to-end customer experience–the walk, the wait, and the ride–for all Muni customers.

Project History

In 2006, the SFMTA and the Controller's Office undertook a detailed evaluation of the existing San Francisco Municipal Railway (Muni) system to identify ways to improve service, attract more passengers, and increase efficiency. During the initial planning phase, from October 2006 to November 2007, the SFMTA collected and analyzed extensive data, which included market research on customer preferences and priorities for Muni service, changing travel patterns within the City and through the region, and route-by-route Muni ridership data. Based on this detailed research, best practices from other cities, and input from key stakeholders, the SFMTA developed a set of preliminary recommendations to update the transit network and reflect changing travel patterns. In 2008, the SFMTA conducted public outreach on its preliminary recommendations to refine and develop draft TEP recommendations for the SFMTA Board of Directors (SFMTA Board). The SFMTA Board endorsed the draft recommendations for environmental review in October 2008.

In April 2009, the SFMTA Board declared a fiscal emergency. The 2008 draft TEP recommendation helped SFMTA make strategic, targetted cuts that would allow Muni to reduce its operating costs while still protecting the vast majority of its ridership. The SFMTA Board approved an amended 2009-2010 Operating Budget and related actions, which included some route eliminations and transit service changes to route alignment, vehicle type, frequency, and hours of service; some frequency increase and route additions were also added at that time. These emergency changes helped SFMTA successfully weather the fiscal emergency. Service has largely been restored to pre-2009 levels, although some route changes have been retained, especially those that help Muni operate leaner and more efficiently.

In fall of 2011, the SFMTA initiated the environmental review (California Environmental Quality Act, or CEQA) process for the TEP, with the filing of a Notice of Preparation (NOA) on November 9, 2011. The TEP proposals initially developed in 2008 during the planning phase of the TEP were re-evaluated and refined in order to capture more recent land use and ridership trends, as well as integrate service changes that were implemented in 2009 and 2010. The implementation plan was also developed, which builds upon past planning documents and strategies to present current priorities, funding needs, and schedule for improvements. The implementation plan is continually updated to reflect the most current needs and improvements.

The SFMTA published an initial environmental study in January 2013 and the Draft Environmental Impact Report (DEIR) in July 2013, and a Response to Comments (RTC) in March 2014. All potential near-term and long-term environmental impacts are analyzed and disclosed in these documents. The implementation of TEP proposals will only move forward upon full satisfaction of anticipated CEQA requirements, and with the concurrence of the SFMTA Board of Directors. The SFMTA Board is expected to make this decision at a hearing on March 28, 2014, at which time the Final EIR is also expected to be certified.

More information on these processes can be found at http://www.sfmta.com/tep.

Goals

The TEP proposals were developed with the following goals in mind:

1. Improve Muni travel speed, reliability and safety

To improve transit speed, reliability and safety—thereby increasing the system's cost effectiveness, productivity, and attractiveness for customers— by redesigning routes; reducing travel time along high ridership corridors by optimizing transit stop locations, implementing traffic engineering changes, and constructing capital infrastructure projects to reduce stop delays; and improving safety at intersections by introducing changes (i.e. pedestrian bulbs, transit bulbs etc.) that lead to safer transit operations.

2. Make Muni a more attractive transportation mode

To make Muni a more attractive transportation mode and increase transit ridership by offering new and different services to penetrate additional travel markets and to expand the SFMTA's market share among current riders. Specifically, the proposed project would seek to serve major Origin-Destination patterns such as regional transit connections and major employment sites; to provide direct and efficient service by reducing circuitous route segments; to reduce crowding by shifting resources that will improve customer comfort and decrease pass-ups; and to redesign routes to maximize ridership.

3. Improve cost-effectiveness of Muni operations

To improve the cost effectiveness of transit operations by improving network efficiency and to reduce system redundancy by implementing service modifications that include route restructuring, frequency improvements, vehicle type changes, and reducing hours of service and frequencies on low ridership routes while increasing frequencies on crowded routes.

4. Implement the City's Transit First Policy

To fully implement the City's Transit First Policy by prioritizing transit through concrete goals that both provide clear direction for managing transportation in San Francisco and are linked to the performance measures established by Proposition E. Specifically, the proposed project would seek to provide service to all residents within a quarter mile of 95 percent of the Muni service area, to prioritize transit operations in high ridership corridors over automobile delay in order to reduce transit travel time, and to prioritize transit operations in high ridership corridors over parked vehicles in order to reduce transit travel time variability.

Implementation Tools

The TEP proposes two primary sets of changes to the transit network: (1) service and route restructuring, and (2) transit priority capital projects. These changes support a new service policy framework that clearly articulates Muni's different roles in the communities it serves, and how different routes can be designed to serve different needs.

Service Policy Framework

SFMTA proposes a new framework that reorganizes Muni service into four transit categories:

RAPID: These heavily used bus and rail lines form the backbone of the Muni system. With vehicles arriving frequently and transit priority enhancements along the routes, the Rapid network delivers speed and reliability whether customers are heading across town, or simply traveling a few blocks.

GRID: Also known as "Local" routes, these long routes combine with the Rapid network to form an expansive core system that lets customers get to their destinations with no more than a short walk, or a seamless transfer.

CIRCULATORS: Also known as "Community Connectors", these lightly used bus routes predominantly circulate through San Francisco's hillside residential neighborhoods, filling in gaps in coverage and connecting customers to the core network.

SPECIALIZED: These routes augment existing service during specific times of day to serve a specific need, or serve travel demand related to special events. They include express service, owl service, and special event trips to serve sporting events, large festivals and other San Francisco activities.

Network Service Changes

The TEP includes service changes that are proposed to reduce crowding, improve system-wide neighborhood connectivity and access to regional transit, and redirect finite public resources to where they are needed most. Overall, the proposals represent a 12 percent increase in Muni service. The proposals, initially drafted by SFMTA, were presented to members of the community, and refined through an iterative process of public comment, additional data collection, and technical analysis. Specifically, these proposals include:

- Increasing frequency of transit service along heavily used corridors
- Creating new routes
- Changing existing route alignments
- Eliminating underutilized routes or route segments
- Introducing larger buses on crowded routes

- Changing the mix of local/limited/express service
- Expanding limited services

While many of these proposals can be delivered without capital changes, some of the service changes require capital investments, such as overhead wire and terminal expansions.

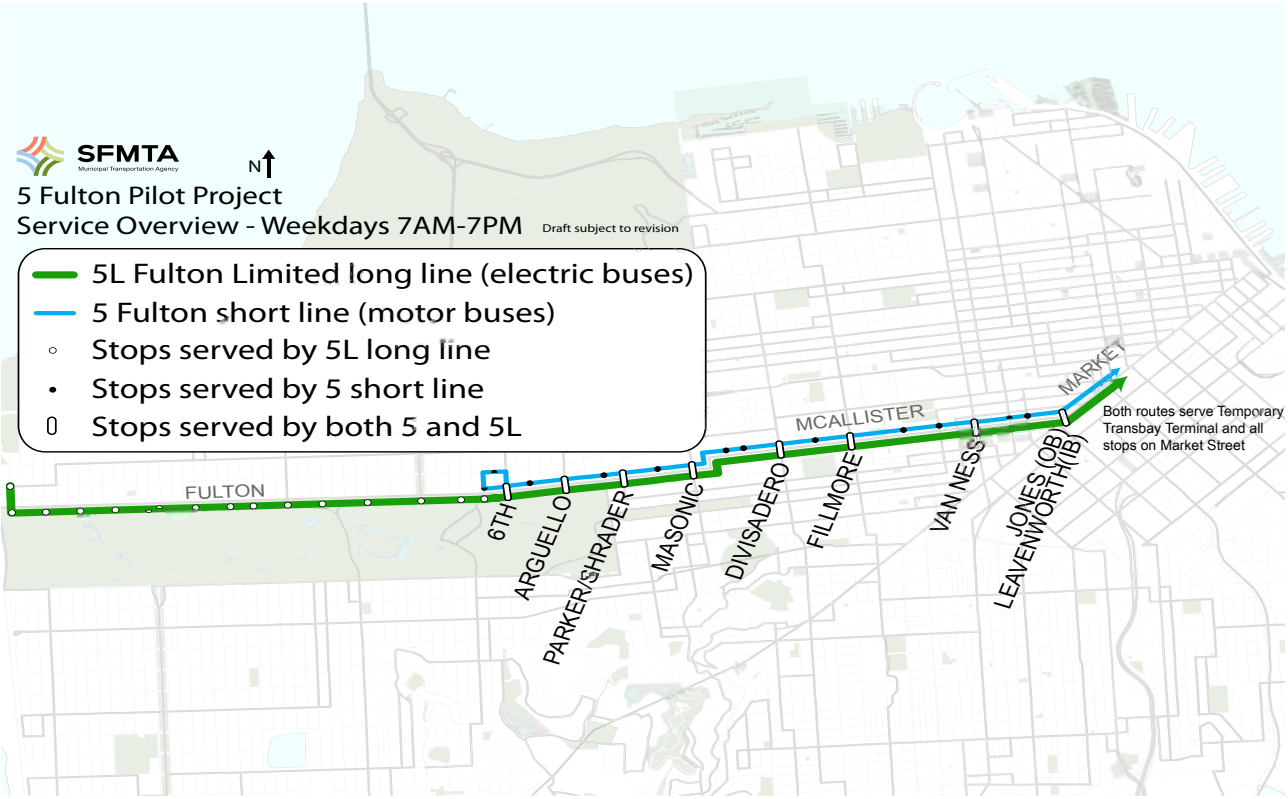
Transit Priority Investments

The TEP includes engineering improvements—also known as Travel Time Reduction Proposals (TTRPs)—designed to address transit delay, improve reliability, and increase the safety and comfort of customers along the most heavily used Rapid routes. The TTRPs include a variety of standard roadway and traffic engineering treatments that specifically address the root causes of delay and passenger frustration, including traffic congestion, transit stops that are spaced too close together, narrow travel lanes, and slow boarding times. These elements are referred to as the Transit Preferential Streets Toolkit (TPS Toolkit) in the Draft EIR and include lane modifications, traffic signal and stop sign changes, transit stop changes, parking and turn restrictions, and pedestrian improvements.

As part of the TEP, detailed proposals were developed for eleven corridors and conceptual proposals were developed for six corridors. As the TTRPs affect the allocation of scarce roadway space among different users by utilizing space for elements that prioritize transit, more than one alternative was typically proposed at the most contentious locations, each balancing different stakeholder needs and interests. The precise components of the TEP to be implemented will be decided by the SFMTA Board of Directors, who will consider the details of the project proposals as well as the results of the environmental impact analysis, following the next round of public outreach. Their work will be informed by additional community outreach occurring in spring and summer 2014.

Pilot Projects

Prior to full implementation of the TEP, three pilot projects were launched to gauge the potential costs and benefits of various TEP proposals, and refine our community outreach efforts. These pilots include: the 5L Flying Fulton pilot , the Church Street Transit-Only Lane, and the 76x Marin Headlands Express route.



5L Flying Fulton Pilot

The 5 Fulton serves nearly 20,000 customers each weekday. On October 2013, the SFMTA implemented a pilot project to improve service by converting a portion of the 5 Fulton route into limited stop service between 6th Avenue in the Richmond District and Market Street Downtown. The pilot added capacity along the more crowded portion of the route between 6th Avenue and the Transbay Terminal. In addition to restructuring the 5 Fulton service, the pilot included numerous bus stop changes and roadway geometry changes to improve safety, reliability and transit travel times. Phased implementation is targeted to begin in late 2013.

Pilot Projects

Church Street Transit-Only Lane

The Church Street Rapid Pilot was launched in March 2013, and establishes center-running, dedicated transit-and-taxi-only lanes along three blocks of Church Street, in both directions, between 16th Street and Duboce Avenue. To protect the integrity of these lanes, the pilot includes left turn restrictions, parking changes, and a red paint treatment that has proven effective at reducing transit lane violation rates in New York City and abroad. The primary goal of the pilot is to reduce congestion-related delay and improve service reliability along one of the slowest segments of the 22 Fillmor and J Church routes. The impact of the pilot on transit service, local circulation, and driver compliance rates are summarized below:

Transit Service

- The pilot has largely eliminated congestion-related delay on the J Church and 22 Fillmore through the corridor
- The pilot has been effective at improving the reliability of outbound trips through the corridor
- The pilot has been effective at reducing the frequency and magnitude of extreme delay

Local Circulation

- The pilot has not led to a significant increase in delay to personal vehicles along the Church St corridor, except at the northbound approach to Duboce Ave, where congestion was already an issue
- The pilot has not led to significant traffic diversion to parallel streets

Driver Compliance

- The red paint treatment has been very effective in reducing transit lane violations

76x Marin Headlands Express

Muni started service on the 76X Marin Headlands Express on November 17, 2012, as part of the Transit Effectiveness Project (TEP) to test:

- T**he effectiveness of service changes to address travel time and reliability concerns**: As part of the pilot, the route no longer travels south of Market Street to Caltrain, and a new terminal is located at Montgomery BART station. Additionally, remaining stops within the City of San Francisco are more widely spaced (although all connections to major Muni transfer points will remain). All of the discontinued stops are served by other high-frequency Muni lines.

- **Ridership demand for expanded service:** Route 76 previously ran on Sundays and holidays only, hourly, from 9:30 am to 6:30 pm. As part of the pilot, service has been expanded to Saturdays through a grant from the Golden Gate National Recreation Area (GGNRA).

Since the launch of the pilot project in November of 2012, the route has experienced the following highlighted improvements:

- On-time performance has improved from about 10% to 50%
- The overall one-way travel time on the route decreased roughly 18 minutes
- Between Montgomery Station and Fort Cronkhite, which is the portion of the route that remained in-effect after the pilot launch and where almost 20 stops were consolidated in each direction, the route has increased its speed at a rate of almost 40 seconds per consolidated stop

Furthermore, customers' perceptions of the 76 service have improved since the pilot launch, with riders indicating perceived improvements in route reliability, travel time, and overall transit experience.

Capital Projects

The TEP will be implemented based on funding and resources availability. As of July 2013, more than ten projects (40 miles of investment) are in the preliminary planning and engineering stages, and have funding strategies identified for construction. Since financing is complicated, the TEP work is being completed in segments. More detail can be found on the individual route pages in the "Proposals by Route" chapter.

The City and County of San Francisco 2014 Capital Plan and the San Francisco 2030 Transportation Task Force (T2030) have both recommended GO Bond funding for design and construction of the TEP. Recommended funding ranges from $150 million to $ 230 million for the Capital Plan and T2030 respecitvely and includes the following capital projects, encompassing both service-related capital improvement projects (SCI) and travel time reduction proposal projects (TTRP). Bicycle and pedestrian capital improvements will be built in coordination with the TEP to improve safe and easy access to transit.

Projects have been separated into three groups, with the first group split into two sub-groups. Specifically, some of the Group 1 projects are being fast tracked for implementation in early 2014 to coordinate with previously-scheduled paving projects. The other projects included in Group 1 will go through a public outreach process begining in summer 2014. Community input from this process will shape the projects as they move into detailed design. Once funding from Construction funding is available, detailed design will have been completed on Group 1 projects and construction can begin (see below for a visual timeline of the projects).

Projects identified in Group 2 will recieve a targeted public outreach process begining in Fall 2014. These projects will be ready to move into the detailed design phase after additional funds become available. Projects placed in Group 3 are awaiting the development of intersection-specific proposals, project level CEQA review, and a funding strategy.

Transit Enhancement Projects - Fast-tracked

- 5 Fulton: Transit Enhancements (Segment 1) | Transit Bulbs on McAllister St
- 9 San Bruno: 11th St and Bayshore Blvd Transit Enhancements (Segment 1)
- 14 Mission: Transit Bulbs on Mission at Silver Coordinated with Paving
- 30 Stockton: Transit Bulbs on Columbus Street Coordinated with CS Paving
- 71 Haight-Noriega: Haight St. Transit and Streetscape Enhancements (Segment 1a)
- N Judah: Transit Bulbs on Irving Street Coordinated with Paving | 28th Ave / Judah St Accessible Boarding Island

Capital Projects

Transit Enhancement Projects - Group 1

- 5 Fulton: Transit Enhancements - Market St to 6th Ave (Segment 3)
- 8X Bayshore Express: Geneva Transit Enhancements
- 9 San Bruno: 11th St and Bayshore Blvd Transit Enhancements (Segment 2)
- 10 Sansome: Contraflow Signals
- 30 Stockton: 30 Eastern Transit Enhancements (Segment 2)
- 71 Haight-Noriega: Haight St. Transit and Streetscape Enhancements (Segment 1b)

Transit Enhancement Projects - Group 2

- J Church: J Transit Enhancements
- L Taraval: Transit and Streetscape Enhancements
- N Judah: Transit and Streetscape Enhancements
- 8X Bayshore Express: Mid-Route Transit Enhancements
- 14 Mission: Transit Enancements - Spear St to South Van Ness Ave (Segment 1)
- 14 Mission: Inner Mission Transit and Streetscape Enhancement (Sement 2)
- 14 Mission: Outer Mission Transit and Streetscape Enhancements (Sement 3)
- 22 Fillmore: 16th Street Transit and Streetscape Enhancements (Segment 1a)
- 22 Fillmore: 16th Street Transit and Streetscape Enhancements (Segment 1b)
- 28 19th Avenue: 19th Avenue Transit and Pedestrian Enhancements (Segment 1)

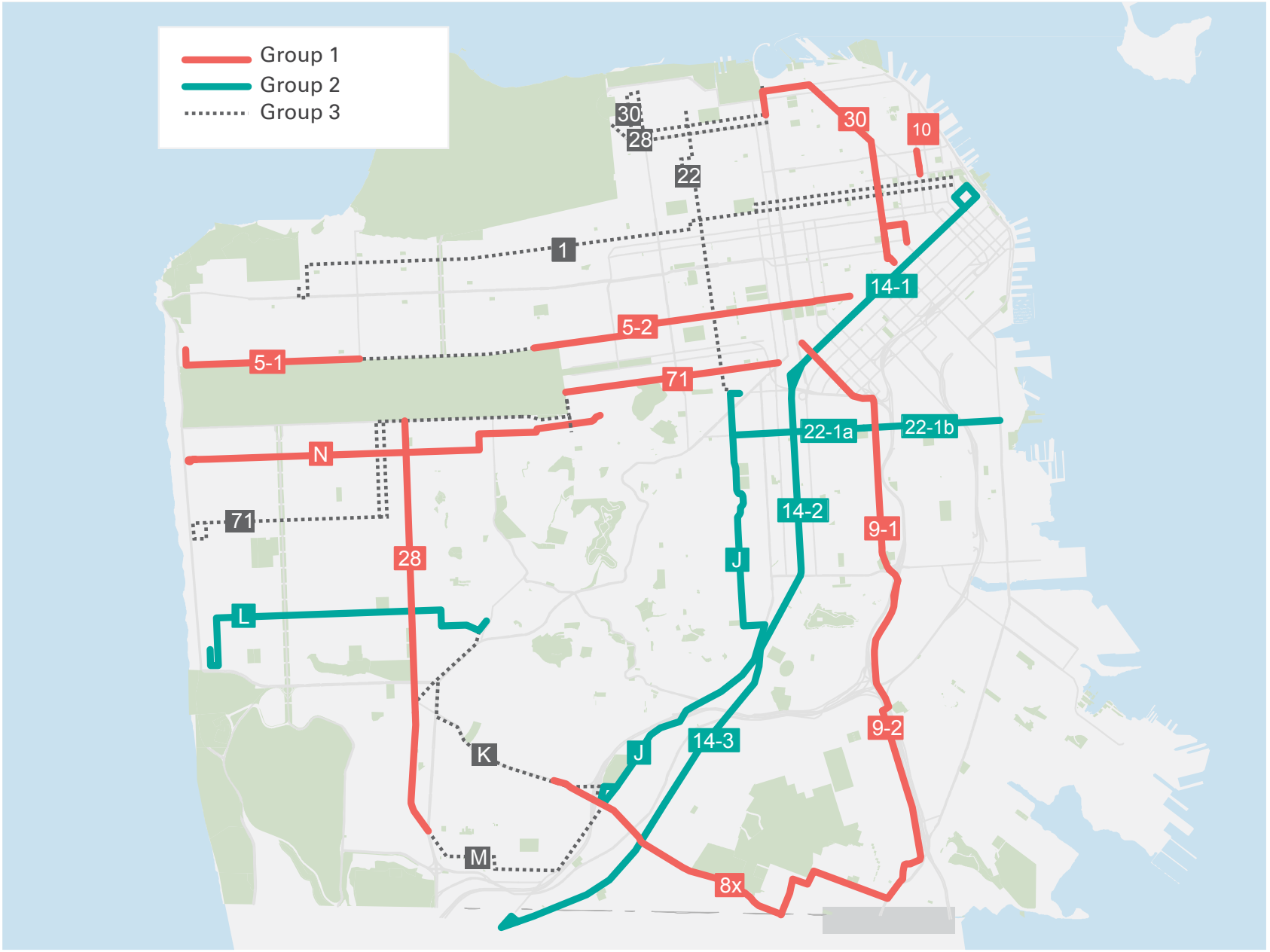
Transit Enhancement Projects - Group 3

- K-T Ingleside-Third: Transit Enhancements - West Portal to Balboa Park terminus
- M Ocean View: Transit Enhancements- West Portal to 19th Ave (Segment 1)
- M Ocean View: Transit Enhancements -19th Ave to Balboa Park terminus (Segment 2)
- 1 California: TTRP (entire route)
- 5 Fulton: Transit Enhancements - 6th Ave to 25th Ave (Segment 2)
- 6 Parnassus: Overhead Wire Extension to West Portal
- 22 Fillmore: 16th Street Transit and Streetscape Enhancements (Segment 2)

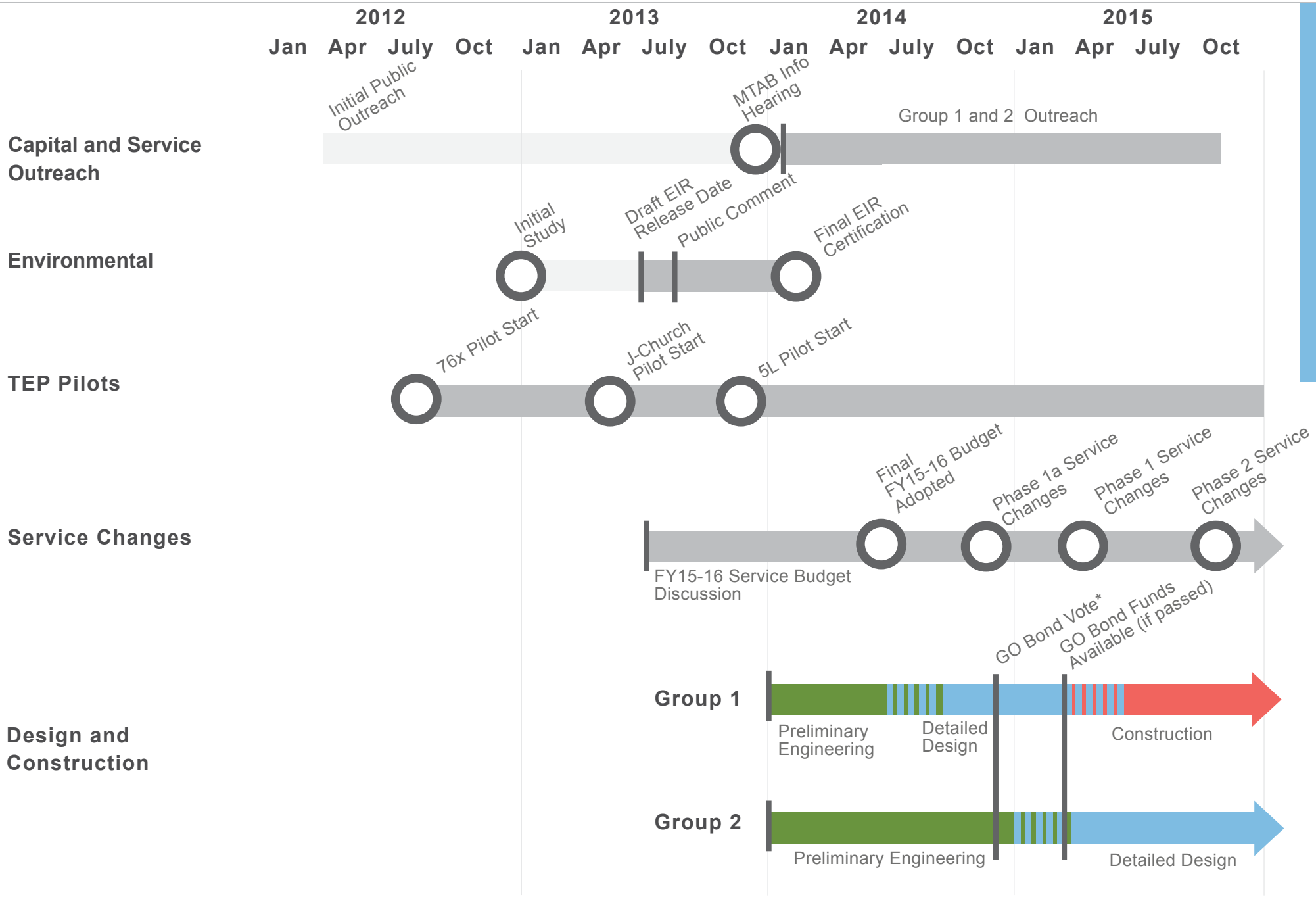
Capital Projects

- 28 19th Avenue: 19th Avenue Transit and Pedestrian Enhancements (Segment 2)
- 30 Stockton: 30 Eastern Transit Enhancements (Segment 1)
- 71 Haight-Noriega: Haight St. Transit and Streetscape Enhancements (Segment 2)

Map of Capital Projects



TEP Planning & Implementation Timeline



TEP Supportive Projects

The TEP is a specific set of projects that aim to achieve broad outcomes for the City's transit system. The SFMTA is also pursuing other projects and programs that would support transit system improvements. These include major capital initiatives such as the construction of the Central Subway; state of good repair investments; operational improvements such as systemwide all-door boarding policies, enforcement of transit-only lanes, and service management; and traffic signal priority network enhancements for transit. These projects are not part of the TEP and therefore have not been analyzed as part of the environmental review for the TEP. Rather they are ongoing SFMTA initiatives with independent utility from TEP that are underway to improve Muni service, and would be in place to complement implementation of the TEP.

The SFMTA is continuing to enhance the existing transit network to make transit more readily identifiable and easy to use. These enhancements include colorizing existing transit-only lanes, adding and upgrading bus shelters, installing real-time arrival signage, and fare pre-payment on Muni corridors. Transit Signal Priority (TSP) is an ongoing Muni program to reduce transit travel time and improve transit reliability. TSP requires coordination between bus equipment, traffic signal hardware and the Muni radio operations to turn or hold the traffic signal green as a transit vehicle approaches an intersection. The SFMTA currently has transit signal priority at 150 intersections and is working to expand transit signal priority to 600 intersections in the next three years. This signal priority expansion will rely on a combination of fiber and wireless communications between an on-board radio and a computer in the traffic signal. This program is integral to the implementation of a number of programs, such as SFgo and the Radio Communications Systems and Computer Aided Dispatch Replacement project.