
Draft SFMTA Bicycle Strategy

January 2013

SFMTA Municipal Transportation Agency

Image: Family walking with child at Sunday Streets event

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**Message from Ed Reiskin, Director of Transportation**

San Francisco is at a transportation crossroads. The SFMTA's new Strategic Plan makes key policy decisions about how the City will meet current and future demands on its transportation network. Over the next decade, the city will change in ways that redefine what it means to live, work and travel in our city and region. Business as usual will not take advantage of the new opportunities presented by these changes. Enacting our vision of a people-centered city that prioritizes walking, bicycling, transit and less driving will ensure our residents and visitors continue to meet their transportation needs by enhancing connections among neighborhoods, jobs and social activities.

The Bicycle Strategy is one of the key building blocks for the city to remain economically competitive and culturally unique in this globalized world. Building upon the Agency's Climate Action Strategy and Strategic Plan efforts, the Bicycle Strategy combines efficient asset management and cost-effective new investments to reach quality of life goals.

While this document sets the stage for success, the SFMTA cannot do it alone. We need the partnership of other members of the City family, businesses, neighbors and policy makers to achieve our vision. Now is the time to make our city a leader among global cities in excellent transportation choices. Now is the time to make bicycling a part of everyday life in San Francisco.

 Image: Ed Reiskin

**SFMTA's Strategic Plan Vision**

**San Francisco: great city, excellent transportation choices.**

The SFMTA 2013-2018 Strategic Plan is a work plan to meet the mid- and long-term goals of the city's transportation network. The SFMTA Bicycle Strategy is one of several Strategy documents that define mode-specific goals and objectives the Agency will accomplish by 2018 and beyond. The SFMTA Bicycle Strategy aligns the agency's vision for bicycling with the following 2013-2018 Strategic Plan goals and objectives.

| | |
|---|---|
| **Strategic Plan Goal 1:** Create a safer transportation experience for everyone | **Objective 1.3:** Improve the safety of the transportation system. |
| **Strategic Plan Goal 2:** Make transit, walking, bicycling, taxi, ridesharing, and car sharing the preferred means of travel. | **Objective 2.1:** Improve customer service and communications.<br>**Objective 2.2:** Increase use of all non-private auto modes. |
| **Strategic Plan Goal 3:** Improve the environment and quality of life in San Francisco | **Objective 3.2:** Increase the transportation system's positive impact to the economy.<br>**Objective 3.3:** Allocate capital resources effectively |

The SFMTA 2013-2018 Bicycle Strategy sets new directions and policy targets to make bicycling a part of everyday life in San Francisco. The key actions are designed to meet the SFMTA 2013-2018 Strategic Plan mode share goal: 50 percent of all trips made using sustainable modes (walking, bicycle, public transit, and vehicle sharing).

The SFMTA Strategic Plan requires an 11 percent mode share shift to meet this goal. The Bicycle Strategy estimates that half of this shift can be accommodated by the bicycle mode within this time frame, resulting in a citywide bicycle mode share of 8 to 10 percent by 2018 - 2020. This results in more than a doubling of today's bicycle mode share of 3.5 percent.

Text Box: The mode shares of transit, walking, and bicycling will grow substantially between now and 2018.Because the overall number of trips will increase, vehicle sharing (taxis, carsharing, and ridesharing) will grow in absolute numbers, but will likely maintain its one percent mode share of trips within the city.

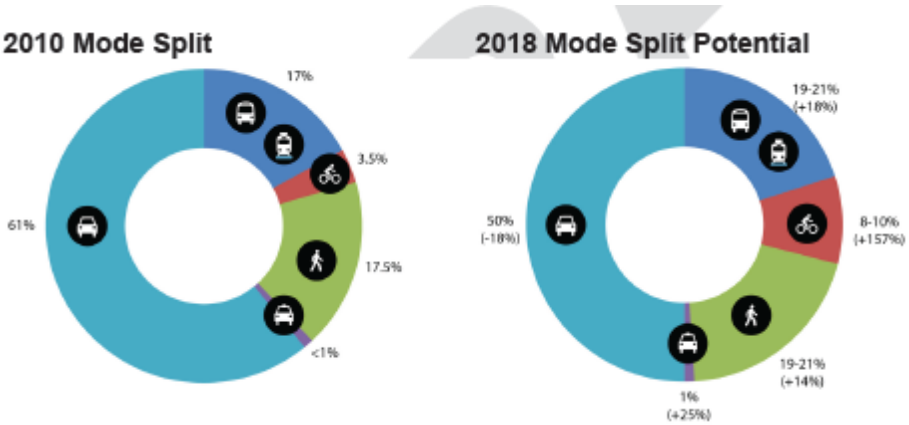



Image:

2010 Mode Split

- 61% automobile
- 17% public transit
- 3.5% bicycle
- 7.5% walking
- <1% taxi

2018 Mode Split Potential

- 50% automobile
- 19-21% public transit
- 8-10% bicycle
- 19-21% walking
- 1% taxi

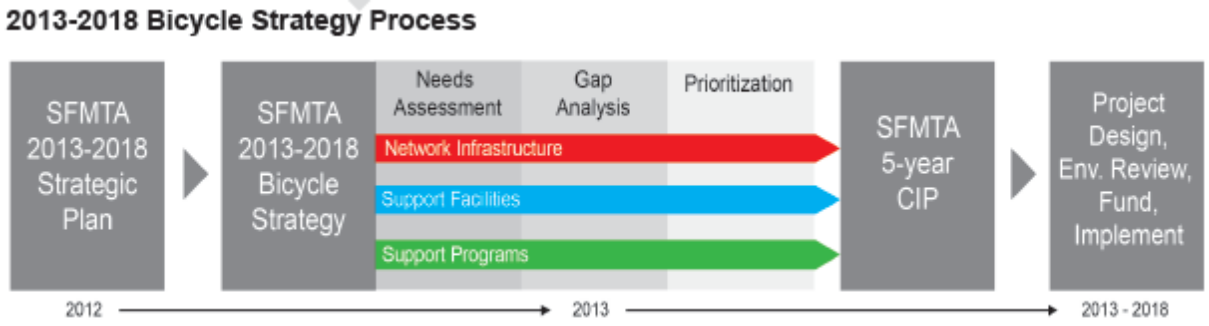



Image:

2013-2018 Bicycle Strategy Process

| Year | Task |
|---|---|
| 2012 | SFMTA Strategic Plan |
| 2013 | SFMTA 2013-2018 Bicycle Strategy<br>Needs Assessment<br>Gap Analysis |

| | |
|---|---|
| | Prioritization<br>Network Infrastructure<br>Support Facilities<br>Support Programs |
| 2013 | SFMTA 5-year CIP |
| 2013-2018 | Project design, environmental review, funding and implementation |

## Bicycling in San Francisco

10 YEARS OF CONTINUING PROGRESS

- San Francisco's mode share increased by two-thirds over the previous decade to 3.4 percent of all trips.
- San Francisco is one of ten "Gold Level Bicycle Friendly Communities" in the U.S., as designated by the League of American Bicyclists.
- In 2012, the Alliance for Biking & Walking ranks San Francisco
- Third highest in bicycling and walking levels (out of 51)
- Fourth highest in bicycle commute rate (out of 51)
- Sixth safest for riding bicycles (out of 51)
- Eighth lowest in walk / bicycle fatality rates (out of 51)

Since 2008, the SFMTA has

- Installed 1400 additional bicycle racks on sidewalks and in bicycle corrals, for a total of nearly 8800 racks citywide
- Installed 20 miles of bicycle lanes and designated 41 miles of shared use paths, for a citywide network of 215 total miles.
- Installed the John F. Kennedy Boulevard bikeway, in cooperation with the Recreation and Parks Department
- Expanded the Sunday Streets program to ten annual events
- Incorporated temporary bicycle treatments into special event traffic

BIG CHANGES NEEDED IN THE NEXT 10 YEARS

- Although seventeen percent of San Francisco residents take at least one trip per week by bicycle, two-thirds of San Franciscans (66 percent) never use a bicycle at all.
- Instances of bicycle crashes are rising, although the rise is proportional to the increase in bicycle activity across the city.
- Ten percent (20 miles) of the 215 mile bicycle network has buffered bicycle lanes, and cycle tracks that meet most people's level of comfort.
- The SFMTA has installed three bicycle signals, but is targeting another 200 signalized intersections for bicycle signals and bicycle boxes.
- The city provides secure bicycle parking at two transit hubs, Embarcadero BART and Caltrain at 4th / King. Half a dozen BART, Caltrain, and Muni Metro stations are without secure bicycle parking.
- Only 15 out of 150 public schools in the city receive bicycle safety education.
- The bicycle network is fragmented and not legible to all current and potential users.
- Bicycle activity needs to grow by 250 percent for the city to reach its goal of 50 percent non-auto trips by 2018.


Image: Map of 2011 bicycle counts and trip patterns.

Bicycle trips are 3.5 percent of all trips taken in the city. The average trip length is 2.5 miles, which is similar to auto trips in the city.

How does San Francisco compare?

San Francisco

- Pop: 805K, Density: 17K / sqmi
- Regional pop: 4.3M
- Bicycle mode share: 3.4% (2011)
- Bicycle network: 215 miles
- Bicycle sharing: No (planned 2013)
- Average gas price: $4 / gal
- Transit mode share: 17%

Amsterdam

- Pop: 820K, Density: 9K / sqmi
- Regional pop: 2.3M
- Bicycle mode share: 37% (2010)
- Bicycle network: 280 miles
- Bicycle sharing: No
- Average gas price: $9.50 / gal
- Auto parking: Limited in city center

Copenhagen

- Pop: 552K, Density: 16K / sqmi
- Regional pop: 1.9M
- Bicycle mode share: 37% (commute, 2010)
- Bicycle network: 255 miles
- Bicycle sharing: No (GOBIKE 2013)
- Average gas price: $9 / gal

Munich

- Pop: 1.4M, Density: 11.5K / sqmi
- Regional pop: 2.6M
- Bicycle mode share: 14% (2008)
- Bicycle network: 752 miles
- Bicycle sharing: No
- Average gas price: $7.75 / gal

Berlin

- Pop: 3.5M, Density: 10K / sqmi
- Regional pop: 6M
- Bicycle mode share: 13% (2008)
- Bicycle network: 876 miles
- Bicycle sharing: Yes (Call-a-Bike)
- Average gas price: $7.75 / gal
- Transit mode share: 26%

Portland

- Pop: 594K, Density: 1.7K / sqmi
- Regional pop: 2.3M
- Bicycle mode share: 6.4% (commute, 2008)
- Bicycle network: 256 miles
- Bicycle sharing: No (planned 2013)
- Average gas price: $4 / gal

Bogotá

- Pop: 7.4M, Density: 12K / sqmi
- Regional pop: 10.1M
- Bicycle mode share: 3.2% (2006)
- Bicycle network: 214 miles
- Bicycle sharing: No
- Average gas price: $6 / gal
- Car free zones, parking restricted

Melbourne

- Pop: 98K, Density: 16K / sqmi
- Regional pop: 4.2M
- Bicycle mode share: 1.7%
- Bicycle network: 166 miles
- Bicycle sharing: Yes
- Average gas price: $6 / gal
- Transit mode share 8%

Vancouver BC

- Pop: 603K, Density: 13.5K / sqmi
- Regional pop: 2.3M
- Bicycle mode share: 2%
- Bicycle network: 250 miles
- Bicycle sharing: No (planned 2013)
- Average gas price: $6 / gal
- Transit mode share 12.5%

Source: Journeys. Nov. 2011. Passenger Transport Modes in World Cities.


Image: World map showing location of Vancouver BC, Portland OR, San Francisco, Montreal, Bogota, Copenhagen, Amsterdam, Paris, Berlin, Munich, Beijing, Wuhan, Melbourne

## Starter, Climber, and Champion Cities

Moving from Starter to Climber by 2018

The EU's PRESTO (Promoting Cycling for Everyone as a Daily Transport Mode) project classifies cities as Starters, Climbers, and Champions based on their degree of bicycling development. San Francisco is a Starter city based on the two primary indicators: bicycling conditions and bicycle mode share.

However, San Francisco has many of right characteristics to become a Climber city in the next five to six years. The city has an urban density similar to Amsterdam, Copenhagen, and Munich. Both Amsterdam and Copenhagen's bicycle networks have the same order magnitude of mileage as San Francisco (~200+ miles). These cities also have other outside factors that affect bicycle activity, primarily higher automobile ownership fees, gasoline prices, and parking pricing.

If San Francisco moves in the same direction with our overall transportation policy and continues improving the bicycle network, it is reasonable to see San Francisco with an 8 to 10 percent bicycle mode share by 2018. Maintaining this trajectory for the next 15 to 20 years will allow San Francisco to eventually become a Champion city.

**Sequencing our efforts**

PRESTO provides guidance on how to sequence bicycle improvements and programs, based on outstanding need. Because San Francisco is a Starter city, PRESTO suggests focusing efforts on improving infrastructure, with an emphasis on creating and improving safe and direct routes.

As the city transitions into a Climber city, our bicycle efforts will likely transition towards additional promotion efforts, network aesthetics, and network coherency.

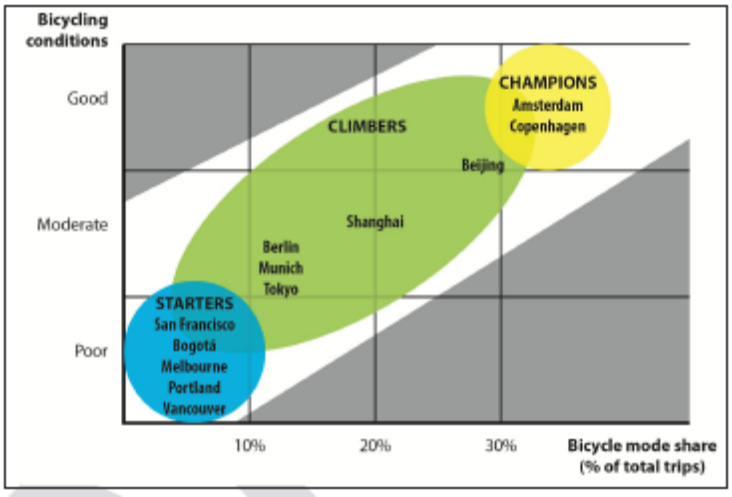



Image:

| Category | City | Bicycling Conditions | Bicycle Mode Share |
|---|---|---|---|
| Starter | San Francisco<br>Bogota<br>Melbourne<br>Portland<br>Vancouver | Poor | < 10% |
| Climber | Berlin | Moderate | 10 – 30% |

| | | | |
|---|---|---|---|
| | Munich<br>Tokyo<br>Shanghai<br>Beijing | | |
| Champion | Amsterdam<br>Copenhagen | Good | > 30% |

Derived from: Presto Cycling Policy Guide.

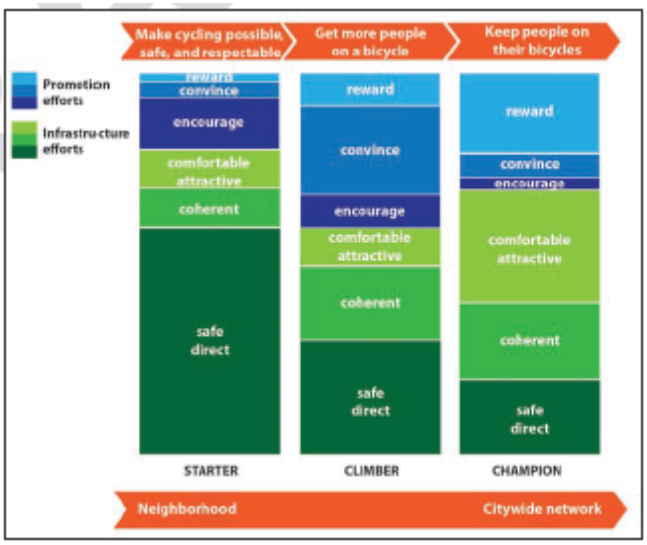
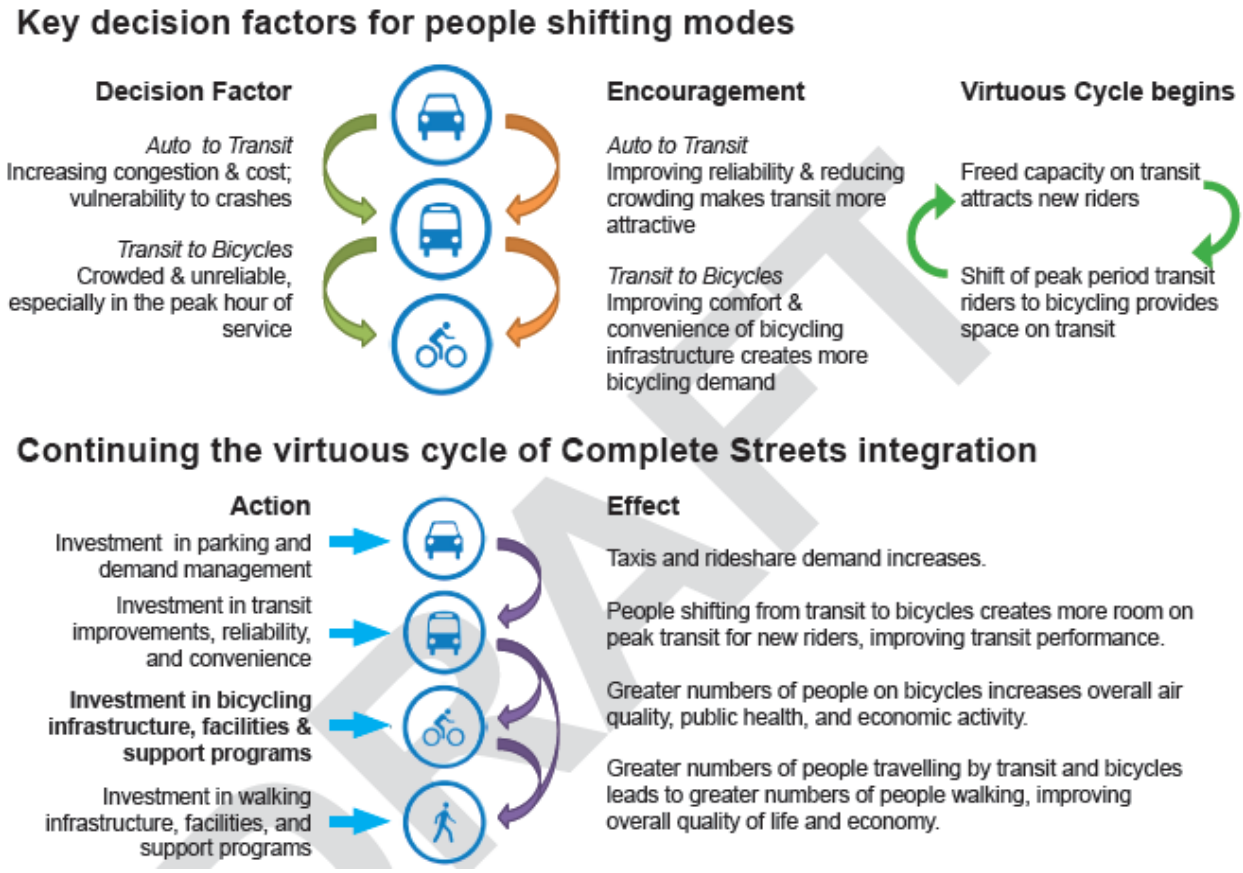



Image: Sequence of bicycle improvements and efforts

| Action | Starter City | Climber City | Champion City |
|---|---|---|---|
| Promotion effort – reward | 5% | 10% | 20% |
| Promotion effort – convince | 5% | 25% | 5% |
| Promotion effort – encourage | 10% | 10% | 5% |
| Infrastructure effort – comfortable & attractive | 10% | 10% | 30% |
| Infrastructure effort – coherent | 10% | 20% | 20% |
| Infrastructure effort – safe and direct | 60% | 25% | 20% |
| | | | |

## Encouraging Mode Shifts




Key decision factors for people shifting modes

| Decision Factor | Encouragement | Virtuous Cycle begins |
|---|---|---|
| Auto to Transit<br>Increasing congestion & cost; vulnerability to crashes | Auto to Transit<br>Improving reliability & reducing crowding makes transit more attractive | Freed capacity on transit attracts new riders |
| Transit to Bicycles<br>Crowded & unreliable, especially in the peak hour of service | Transit to Bicycles<br>Improving comfort & convenience of bicycling infrastructure creates more bicycling demand | Shift of peak period transit riders to bicycling provides space on transit |

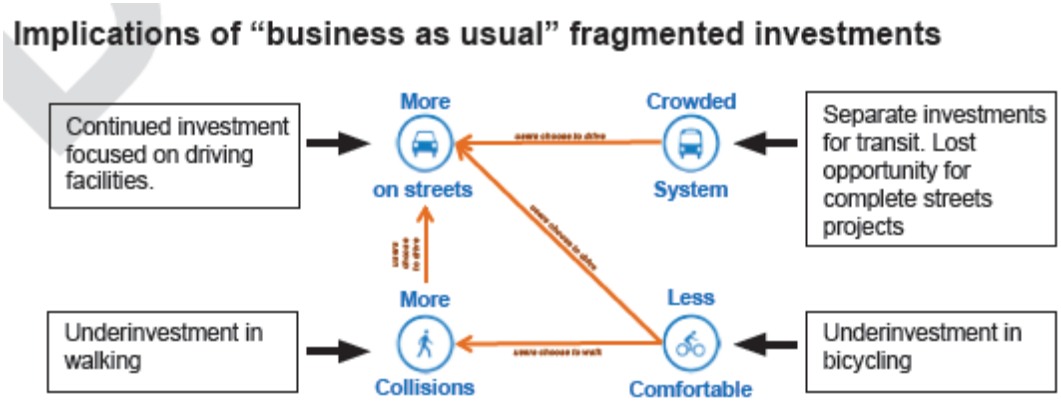
Continuing the virtuous cycle of Complete Streets integration

| Action | Effect |
|---|---|
| Investment in parking and demand management | Taxis and rideshare demand increases. |
| Investment in transit improvements, reliability, and convenience | People shifting from transit to bicycles create more room on peak transit for new riders, improving transit performance. |
| Investment in bicycling infrastructure, facilities & support programs | Greater numbers of people on bicycles increases overall air quality, public health, and economic |

| | |
|---|---|
| | activity. |
| Investment in walking infrastructure, facilities, and support programs | Greater numbers of people travelling by transit and bicycles leads to greater numbers of people walking, improving overall quality of life and economy. |
| | |

"Business as usual" or a "siloed" investment approach, is limiting our transportation system's potential to meet the city's needs.

If we integrate investments, the city will see reduced transit costs, traffic crashes, congestion and pedestrian and bicyclist injuries.




Implications of “business as usual” fragmented investments

Continued investment focused on driving facilities.

Underinvestment in walking

Separate investments for transit. Lost opportunity for complete streets projects

Underinvestment in bicycling

## Bicycling in context

Bicycling is the most cost and time effective catalyst for mode shifts when combined with complementary investments in sustainable modes. It is the most convenient, affordable, quickest, and healthiest way to make the average trip within the city (2 to 3 miles).

**1. Bicycling is an affordable and convenient transportation option for those who rely on sustainable modes.**

With low initial cost and negligible operating costs, bicycling is substantially cheaper than driving.

Bicycles improves the personal mobility of those without cars, particularly children, teenagers, seniors, and people with disabilities.

**2. More connected neighborhoods, safer street intersections and quieter neighborhood circulation.**

Bicycle traffic is quiet, results in less wear and tear on roads, and uses little road and parking space.

People on bicycles establish a personal presence, creating safer neighborhoods by adding eyes on the street.

**3. Transit and bicycling create multiple synergies that increase public transit's performance**

Bicycling extends the reach of transit by replacing a long walk trip with a short bicycle trip.

Transit operates better when short peak trips are diverted to the bicycle.

Transit complements bicycling for long trips outside the bicycle's comfortable range.

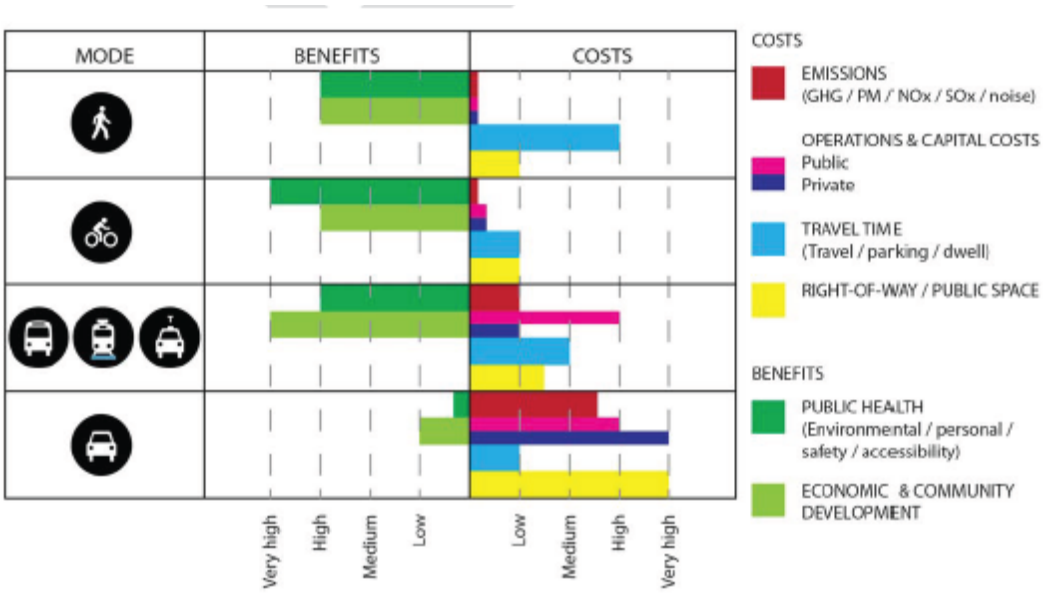
Bicycling allows for more spontaneous shopping in commercial neighborhood areas and the city center.

**4. Improved air quality and public health.**

Bicycling does not produce greenhouse gases or other pollutants. A recent life cycle cost analysis of average CO2 per passenger mile by mode shows that bicycling is the most energy efficient mode of transport available

Replacing automobile traffic with bicycling traffic improves neighborhood quality of life by reducing air pollution and ambient noise.

Even short periods of bicycling can improve personal fitness, resulting in better short and long-term health. As a fun way to travel, bicycling can reduce personal stress and improve mood.




Benefits

| Mode | Public Health (Environmental / personal / safety / accessibility) | Economic and community development |
|---|---|---|
| Pedestrian | High | High |
| Bicycling | Very High | High |
| Public transit and taxis | High | Very high |
| Automobiles | Very low | Low |

Costs

| Mode | Emissions | Operations and capital costs - public | Operations and capital costs – private | Travel time (travel, parking, dwell) | Right-of-way, public space |
|---|---|---|---|---|---|
| Pedestrian | Very low | Very low | Very low | High | Low |
| Bicycling | Very low | Very low | Very low | Low | Low |
| Public transit and taxis | Low | High | low | Medium | Low-medium |
| Automobiles | Medium-high | High | Very high | Low | Very high |

## Needs Assessment, Methodology

As presented in the previous sections, there is a compelling case for improving bicycle conditions throughout the city. The following sections present the Bicycle Strategy methodology for determining the path forward.

- The following Needs Assessment summarizes the following background data:
- Differences in bicycle activity across the city, as identified by commute mode share
- Citywide bicycle travel patterns based on trip origins and destinations, and topography
- Bicycle safety and crash hot spots
- Bicycle parking coverage for short-term trips, such as shopping and errands
- Bicycle parking coverage for long-term trips, primarily to and from regional transit hubs
- Bicycle culture and support program efforts in the city.

The Needs Assessment concludes by presenting a new methodology for assessing the bicycle comfort of individual facilities across the city, and the connectivity of the bicycle network based on comfort level.

The sections after the Needs Assessment include:

- A bicycle infrastructure and support program toolkit to fill gaps in the city bicycle system
- Improvement packages and cost estimates for a "Bicycle Plan Plus", Bicycle Strategy, and Build-out scenario
- A summary of existing funding sources and the funding gaps for each improvement package
- A methodology for project prioritization
- Strategic goals, objectives, and targets to guide the overall Bicycle Strategy
- Stakeholder workshops
- Next steps and schedule for implementation


Image:

Best practices review, peer city studies

City data inventory

Data analysis

Needs assessment, Network, support facilities, and support programs

Goals objectives and targets

Prioritization and funding

Design, environmental clearance, implementation

## Needs Assessment, Accommodating Bicycle Growth in the Core

Areas in the central-downtown corridors or "Core Bicycle Area" have a 7 percent bicycle mode share. The Western Addition and Mission neighborhoods have bicycle mode shares now approaching or exceeding 10 percent. Other neighborhoods like Haight Ashbury, Inner Richmond, Bayview, and Inner Sunset have experienced rapid uptake in bicycle mode share and will likely reach 10 percent in the next 6 years.

The high bicycle mode share in the Core Bicycle Area generally reflects its proximity to the city core. The rapid change bicycle rates is likely due to changing demographics and improvements to the bicycle network.

The area demographics, land use, and density are prime for further bicycle activity. The existing bicycle infrastructure and support facilities in these neighborhoods are already highly utilized.

Identified Need: Improving the quality and density of the system will be critical for fostering further bicycle activity in this “core” bicycle area, which could push the bicycle mode share in these key areas to 20 percent.

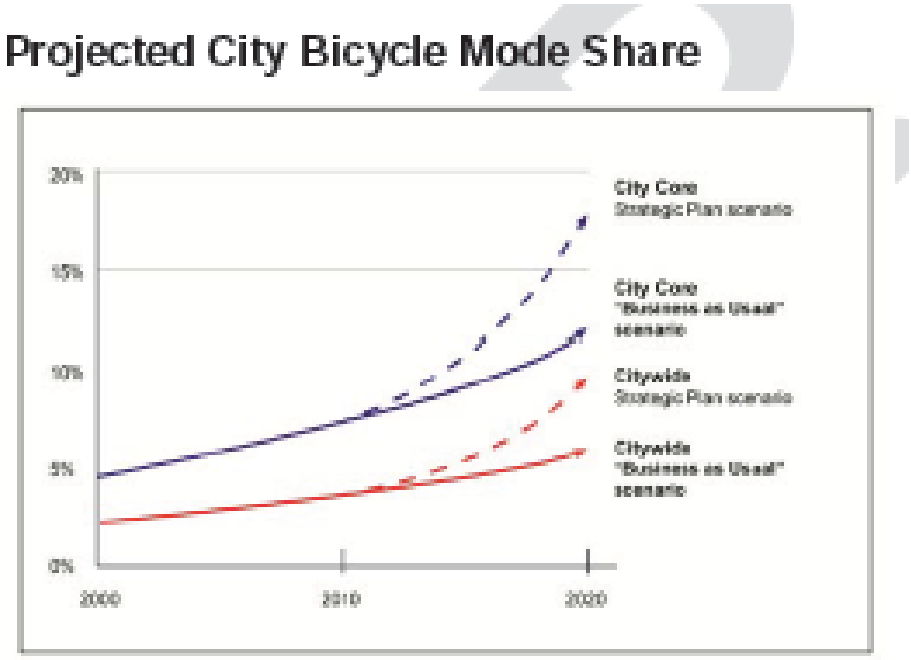



Image: Projected city bicycle mode share

| | City Core, Business as Usual scenario | City Core, Strategic Plan scenario | Citywide, Business as usual scenario | Citywide, Strategic Plan scenario |
|---|---|---|---|---|
| 2000 | 5% | 5% | 2% | 2% |
| 2010 | 6-7% | 6-7% | 3.5% | 3.5% |
| 2020 | 10-12% | 15-20% | 4-5% | 8-10% |

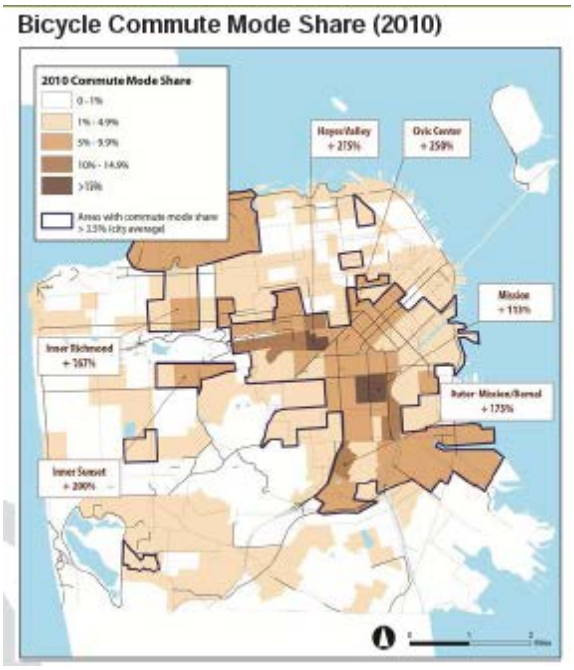



Image: Citywide bicycle mode share 2010, map showing higher percentage of bicycle commuters in the northeast quadrant of the city. Neighborhoods with higher than average bicycle mode share include the Inner Richmond and Inner Sunset, the Mission and Outer Mission / Bernal Heights, Noe Valley, and Civic Center.

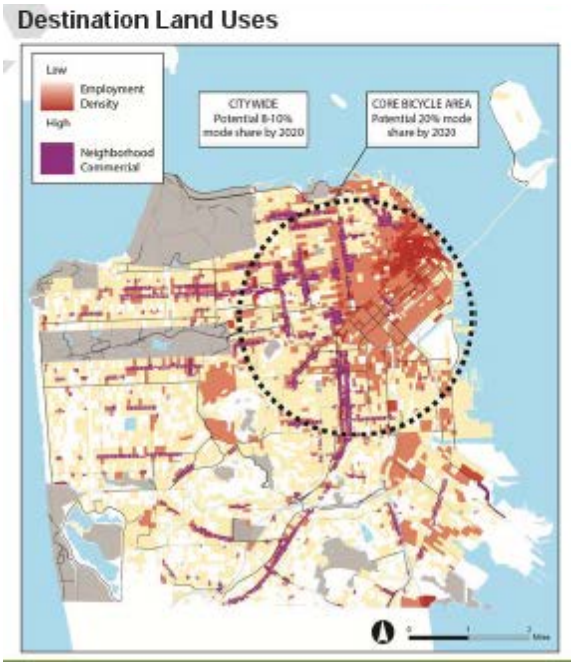



Image: Destination land uses, citywide map showing employment density and neighborhood commercial uses. The highest concentration of uses and density is near downtown. Circle on the map indicating the “Core bicycle area”. Citywide bicycle mode share is 8-10% by 2020. Core bicycle area bicycle mode share is 20% by 2020.

## Needs Assessment, Connecting to Neighborhoods Together

Bicycle travel patterns in neighborhoods outside the “core” bicycle area generally follow several patterns:

- Travel along the city periphery
- Travel to / from the city core
- Travel within the neighborhood

### Peripheral Connections

The availability of a bicycle facility determines the preferred path for trips around the city periphery. The Embarcadero / Waterfront corridor is well trafficked by tourists and recreational riders traveling to / from the Golden Gate Bridge, as well as commuters riding from Marin County.

***Identified need:*** Fragmented, uncomfortable, and poorly defined bicycle facilities along the waterfront and the coast.

### Crosstown Connections

Topography plays a large role in determining the preferred path for trips to / from the city core. East-west trips generally follow Golden Gate Park - the Panhandle - The Wiggle - Market Street. North-south trips to / from the city core follow Alemany Boulevard - San Jose Avenue - Valencia Street - Polk Street. These Crosstown Connections are generally well defined and highly traveled, but may have areas where the facilities are inadequate or unsafe.

***Identified need:*** Network gaps, areas with drops in rider comfort, and crash-prone intersections. High-quality facilities that emphasize an identity of a "core" route.

### Neighborhood Connections

The density and quality of bicycle facilities determines the preferred path for bicycle trips within and between neighborhoods. Network coverage varies across the city, with dense coverage in the city core and sparse coverage in the city periphery.

***Identified need:*** Facilities in the city core that emphasize separating bicycles from traffic. Facilities in peripheral neighborhoods that create and define a comfortable network for most users.

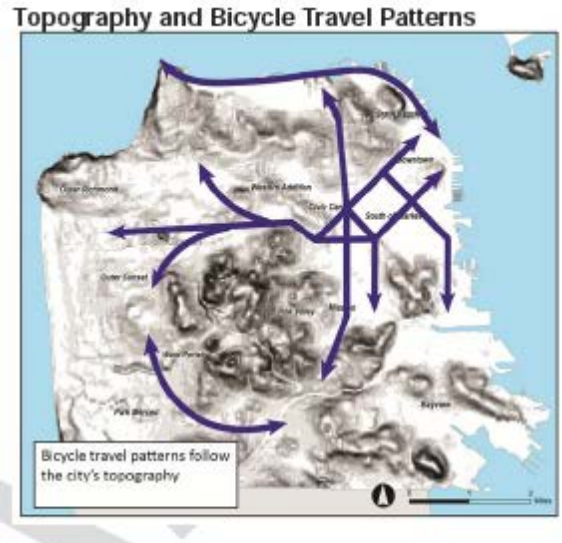



Image: Topography and bicycle travel patterns. City map showing hilly areas and bicycle travel avoiding large hills.


Image: Citywide bicycle network framework. City map showing conceptual network hierarchy. Peripheral connectors are located along the waterfront, through the Presidio, and along Ocean Beach. Crosstown connectors are east-west along Market Street and Golden Gate Park and north-south through the center of the city. Neighborhood connectors cross east-west and north-south throughout the city to form a network.

## Needs Assessment, Improving Bicycle Safety

The number of people bicycling has increased significantly during the last ten years, but the bicycle collision rate has remained constant. Collisions between people in automobiles and people bicycling represent the far majority of severe injuries and fatalities.

People who engage in unsafe bicycle riding behaviors, such as sidewalk bicycle riding and wrong-way bicycle riding, remain a minority of overall users (less than four percent). Anecdotally, many of these behaviors take place on roadways that typically lack bicycle facilities.

Among reported crashes, most occur in the Core Area, which has the highest amount of bicycle activity. However, there are also several "satellite" crash areas in the Outer Neighborhoods with a concentration of high-severity crashes.

**Core Area crashes**

Bicycle crashes in the Core Area tend to follow the distribution of bicycle activity. However, there are several locations with a higher-than-average occurrence of crashes.

***Identified need:*** Bicycle facilities that decrease people on bicycles' exposure to high-speed traffic. Intersection treatments at crash-prone areas that emphasize bicycle traffic. Traffic and bicycle enforcement and outreach at crash-prone areas.

**Outer Neighborhood crashes**

Bicycle crashes in the Outer Neighborhoods tend to occur at major intersections on high-speed, multi-lane arterial streets.

***Identified need:*** Safety measures at crash-prone intersections that calm traffic and emphasize bicycle priority. Traffic and bicycle enforcement and outreach at crash-prone areas.

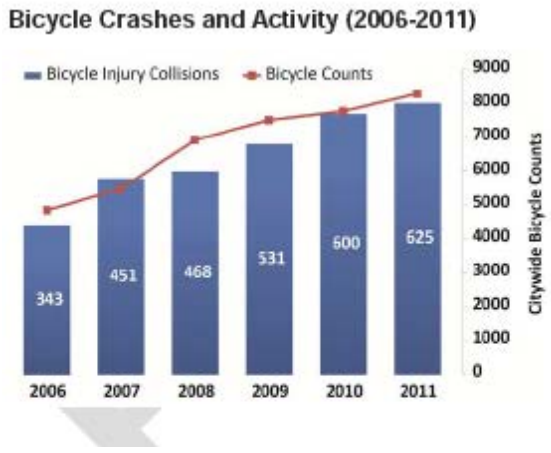



Image: Bicycle Crashes and Activity

| Year | Citywide bicycle counts | Bicycle crashes |
|---|---|---|
| 2006 | 5000 | 343 |
| 2007 | 5500 | 451 |
| 2008 | 7000 | 468 |
| 2009 | 7500 | 531 |

| | | |
|---|---|---|
| 2010 | 7700 | 600 |
| 2011 | 8100 | 625 |
| | | |

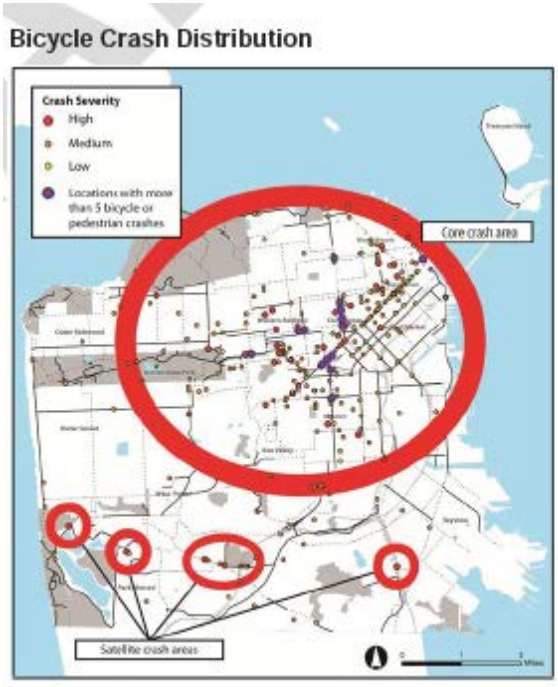



Image: Bicycle Crash Distribution. Citywide map showing bicycle crashes concentrated near the downtown core. There are also several locations in the city periphery (southwest quadrant) with a concentration of crashes.

## Needs Assessment, Providing Safe and Convenient Bicycle Parking

Much like automobiles, traveling by bicycle requires secure storage facilities at each trip end. Inadequate bicycle parking is a two-prong problem:

- Inadequate parking can create problems with theft, which discourages bicycling.
- Inadequate parking in areas with high bicycle activity can create sidewalk clutter.

**Core Area bicycle parking**

The city continues to install bicycle parking in the core areas of Downtown, SoMa, and the Mission. Even with the dense parking coverage, demand for bicycle parking continues to rise. The city is working to consolidate some bicycle parking into “bicycle corrals”, which replace a single auto parking space with five to eight bicycle racks.

***Identified need:*** Denser bicycle parking in the Core Area additional bicycle parking where demand is approaching or exceeding capacity. Innovative use of existing auto parking, including bicycle corrals in curbside spaces, and “bicycle cages” in city-owned parking garages and surface lots. Parking that can accommodate diverse bicycle designs (e.g. cargo bicycles, recumbent bicycles, and tricycles).

**Outer Neighborhood bicycle parking**

Bicycle parking in outer neighborhoods can vary between corridors. For instance, Ocean Avenue near Balboa Park has several bicycle racks per block. Conversely, bicycle racks occur on Mission Street south of Interstate 280 every two-to-three blocks.

At minimum, there should be one bicycle rack per block on commercial corridors. This is necessary to establish a reasonable expectation for bicycle parking at most trip destinations.

***Identified need:*** Minimum bicycle parking coverage of one rack per block on all corridors containing neighborhood commercial uses. Parking at high-demand bicycle destinations, such as hospitals, libraries, and schools.

**Core Area Bicycle Parking**

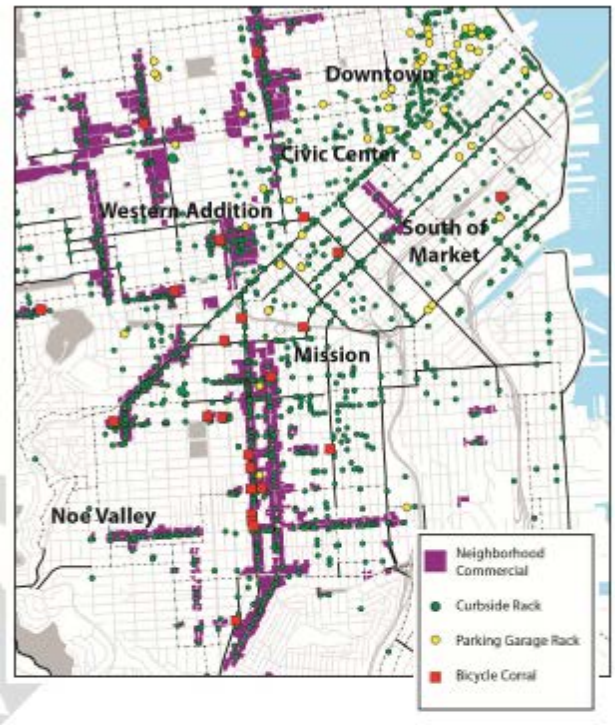



Image: Core area bicycle parking, map showing downtown and the Mission neighborhood's distribution of neighborhood commercial uses, curbside racks, parking garage racks, and bicycle corrals. Most bicycle parking is concentrated around commercial corridors.

**Outer Neighborhood Bicycle Parking**

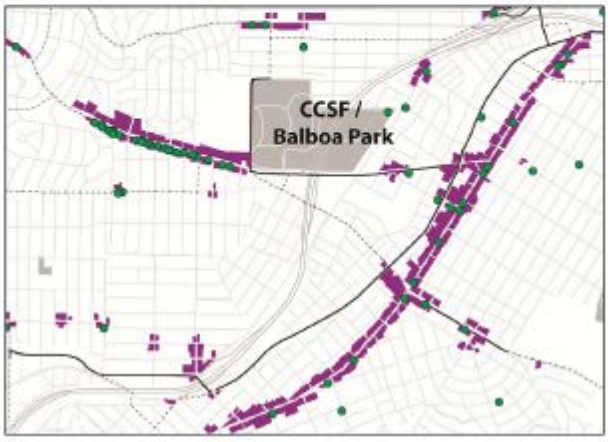



Image: Outer neighborhood bicycle parking, map showing CCSF / Balboa Park neighborhood commercial uses, curbside racks, parking garage racks, and bicycle corrals. This area has less bicycle parking compared to downtown, with some commercial corridors with less than one rack per block.

## Needs Assessment, Accommodating Transit and Walk Trips

San Francisco has an extensive public transit system that includes buses, streetcars, light rail, subway, commuter rail, and ferry. However, the public transit system regularly exceeds its capacity during peak periods. The bicycle is a low-cost and rapid way to overcome some of the demands on public transit for both regional and local transit trips.

- Providing secure bicycle parking at the transit hub
- Reduces the demand on connecting local transit
- Reduces the demand for people taking their bicycles onto transit
- Providing bicycle sharing
- Reduces the demand on local transit for short trips
- Provides traveler flexibility at peak demand and during system outages

**Regional transit trips: Secure bicycle parking**

People that park for extended periods need bicycle parking sheltered from the environments and from criminal elements. The city has attended bicycle parking at the 4th / King Caltrain station and at UCSF, and unattended parking at the Embarcadero BART station. However, there remain more than a dozen other regional stations without secure bicycle parking facilities.

***Identified need:*** Attended and unattended secure bicycle parking at regional transit hubs, including the Transbay Transit Center, BART stations, Caltrain stations, and major Muni Metro stations.

**Local transit trips: Bicycle sharing**

The city expects to deploy the 500 bicycle / 50 station bicycle sharing pilot in 2013. The pilot area encompasses 1.8 square miles in the city core.

Phase 2 of the bicycle sharing system will deploy 2750 bicycles across 275 stations. Time for implementation will depend on the success of the pilot project and funding.

***Identified need:*** Implement the bicycle sharing system and study opportunities for greater coverage in outlying areas and new development areas.

## Secure Bicycle Parking and Transit Hubs

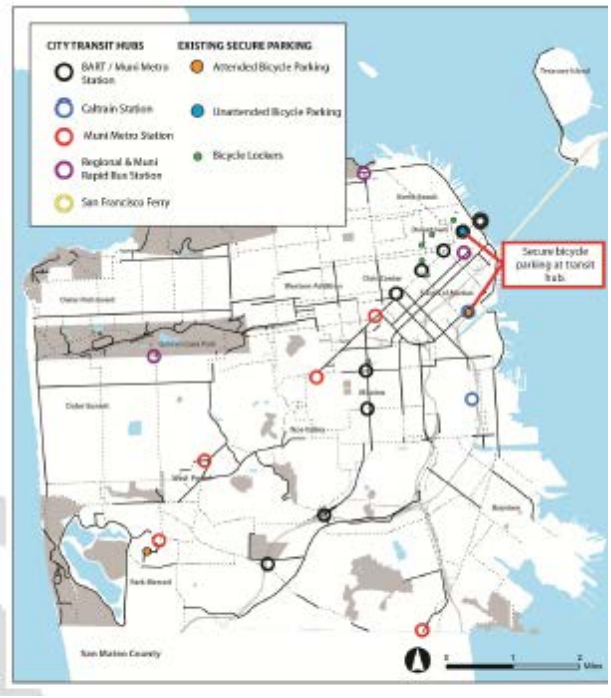



Image: Secure bicycle parking and transit hubs. City map showing distribution of city transit hubs (BART / Muni Metro stations, Caltrain stations, Muni Metro stations, regional and Muni Rapid bus stations, and SF Ferry). Map also shows existing secure bicycle parking in the form of attended bicycle parking, unattended bicycle parking and bicycle lockers.

## Bicycle Sharing Coverage Area

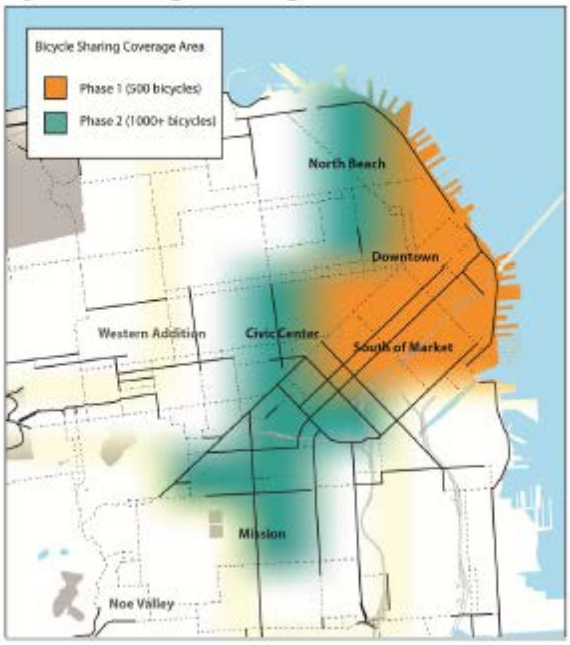


Image: Bicycle sharing coverage area. Map showing downtown core with Phase 1 of the bicycle sharing system in the downtown core: 500 bicycles, distributed along Market Street, the Embarcadero, and SoMa. Phase 2 is 1000+ bicycles extended to North Beach, Civic Center, and the Mission.

## Needs Assessment, Growing Our Bicycle Culture

Among people who do not bicycle surveyed as part of the 2012 State of Cycling study, 20 percent indicated that the barriers they have to bicycling could be overcome with social, educational and resource-based efforts, including:

- Finding people to bicycle with
- Finding affordable/ discounted bicycles
- Learning the rules of the road

**Schools: Youth bicycle education**

Bicycling is a low cost way increase youth mobility and improve personal health. Bicycle education is provided at 15 out of the more than 100 elementary / K-8, secondary, and high schools in the city.

***Identified need:*** Student bicycle education at city public and private schools.

**Neighborhoods: Bicycle and driver education for adults**

There are few avenues for adults to receive bicycle education, outreach, and basic maintenance. Overcoming these basic barriers to entry could greatly increase bicycling rates in areas of need.

***Identified need:*** Regular adult bicycle and bicycle-focused driver education across the city and as part of new facility openings. Target outreach to vulnerable users, including low-income communities, the disabled community, and seniors. Expanded Sunday Streets and other bicycle-friendly events. Business partnerships to educate employees about bicycling.

**Citywide programming: Marketing**

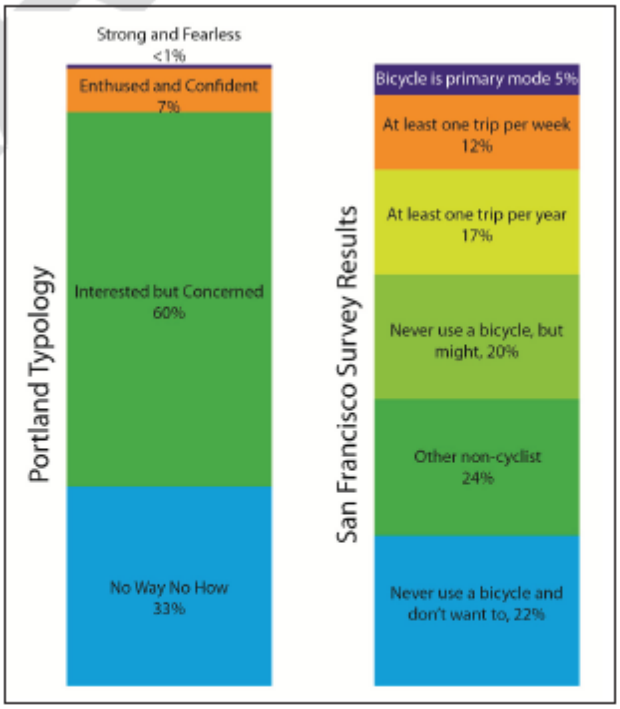
Bicycle education and outreach can improve perceptions of bicycling within the city by establishing a common understanding for considerate behavior. Fostering San Francisco's perception as a bicycle-friendly city can generate additional benefits from industry and tourism.

***Identified need:*** Partnerships with the Mayor's Office, SF Convention and Visitors Bureau, Chamber of Commerce, Business Improvement Districts, and individual businesses to market San Francisco as a bicycle-friendly city. Incentives for riding bicycles, including bike-to-work/school competitions and Thank You campaigns.

**Bike to Work Day**

Image: People on bicycles at a kiosk for Bike to Work Day.

**San Francisco's Bicycle Demographic**




*Nearly a third (29 percent) of San Franciscans already bicycle and could be encouraged to bicycle more frequently. Another two-thirds do not bicycle; support programs could convince them to start.*

Image: San Francisco's Bicycle Demographic.

Portland Typology

- Strong and Fearless <1%
- Enthused and confident 7%

- Interested but concerned 60%
- No way no how 33%

San Francisco survey results

- Bicycle primary mode 5%
- At least one trip per week 12%
- Never use a bicycle but might 20%
- Other non-cyclist 24%
- Never use a bicycle and don't want to 22%

## Needs Assessment, Comfort Analysis

**Not all bicycle facilities are created equal.**

The nuances of the city's bicycle network and diverse array of facility types surpasses transportation engineering's traditional hierarchy of Class I, II, and III bicycle facilities (paths, lanes, and routes). Within each category, the actual and perceived safety of any bicycle facility can vary widely based on various "stress factors". These include separation from adjacent traffic, traffic speed, facility width, and intersection conditions.

Recognizing the shortcomings of the Class I / II / III categories, the Mineta Transportation Institute (MTI) proposed a new methodology to classify road segments on a user-oriented basis. The "Level of Traffic Stress (LTS)" definition is illustrated below with conditions occurring within San Francisco.

Many of the city's future bicycle improvements will occur on roadways already designated as part of the 200 mile bicycle network.

***Identified need:*** A new "Comfort Assessment" methodology, similar to LTS that will determine the need for and type of upgrade. The methodology will further the city's ultimate goal to create a network that is comfortable for all users, particularly vulnerable user groups like youths, the disabled, seniors, and low-income communities.

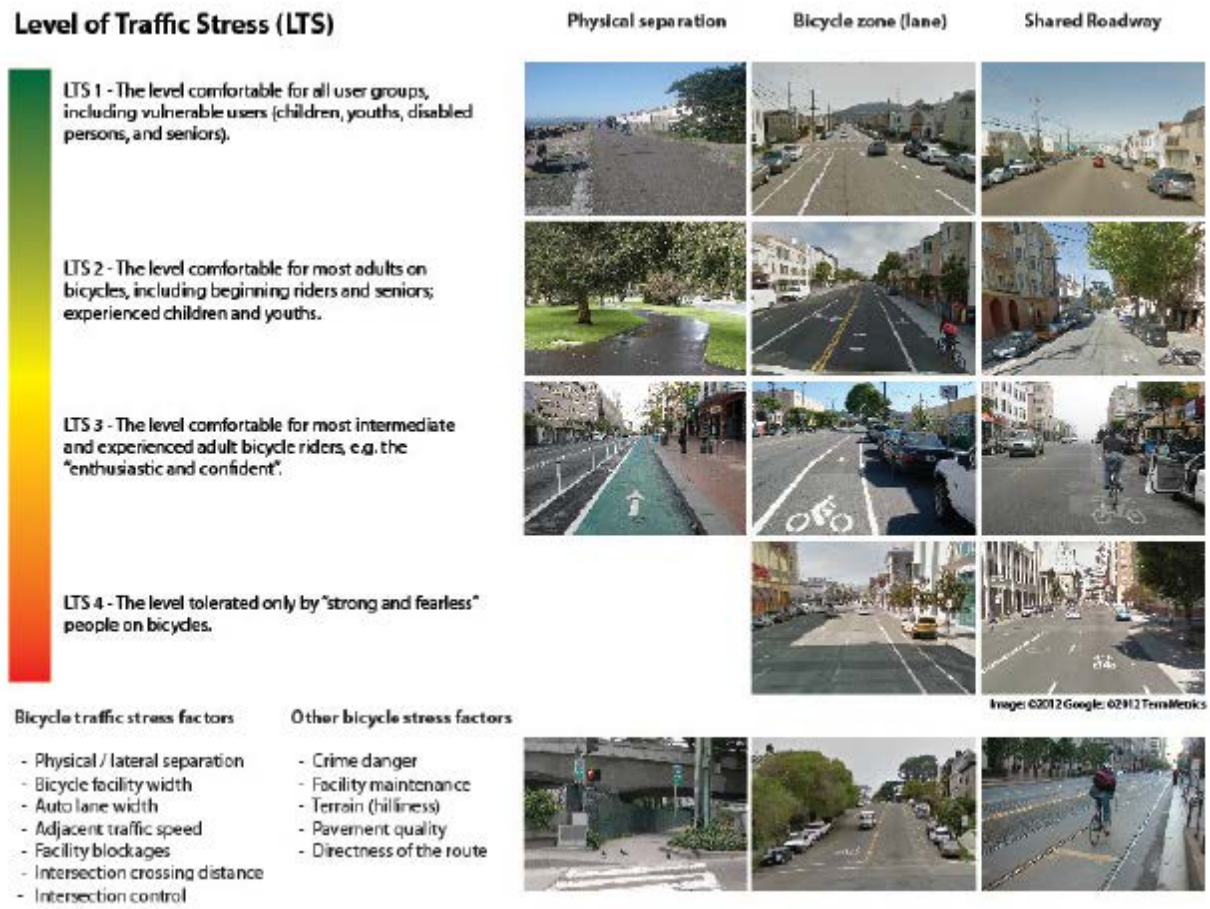


Image: Illustrated examples of varying levels of traffic street (LTS) based for facilities with physical separation, bicycle zone (lane), and shared roadway.

- LTS 1 – The level comfortable for all user groups, including vulnerable users (children, youths, disabled persons, and seniors
- LTS 2 – The level comfortable for most adults on bicycles, including beginning riders and seniors, experienced children, and youths
- LTS 3 – The level comfortable for most intermediate and experienced adult bicycle riders, e.g. the "enthusiastic and confident."
- LTS 4 - The level tolerated only the "strong and fearless" people on bicycles.

Images:

| Facility type | LTS1 | LTS2 | LTS3 | LTS4 |
|---|---|---|---|---|
| Physically separated facilities | Wide bicycle path, clear line of sight | Narrow bicycle path with trees and curves | Buffered on-street facility | NA |
| Bicycle zones (lanes) | Wide bicycle lanes on quiet and lightly trafficked street | Slightly narrower bicycle lanes on a busier street | Narrow bicycle lanes next to curbside parking and faster traffic on a moderately – size street | Narrow bicycle lanes next to curbside parking and fast traffic on a wide street |
| Shared roadways | Sharrow-markings on a wide and quiet local street | Sharrow markings on a narrower street with more on-street parking | Sharrow markings on a busier street with parking and loading activity | Sharrow markings on a wide and high-speed downtown street. |
| | | | | |

Bicycle traffic stress factors

- Physical / lateral separation
- Bicycle facility width
- Auto lane width
- Adjacent traffic speed
- Facility blockages
- Intersection crossing distance
- Intersection control

Other bicycle stress factors

- Crime danger
- Facility maintenance
- Terrain (hilliness)
- Pavement quality

- Directness of route

Image: Bicycle path along a fence. Bicycle facility going uphill. Bicycle facility between streetcar tracks.

## Needs Assessment, Connectivity Analysis

**Maintaining expectations of comfort and safety.**

Perhaps even more important than the comfort of any given facility is the consistency of that comfort through the network.

Significant drops in comfort along a corridor, even in a short segment or at a single intersection, can become a deterrent from riding bicycles.

The figure below illustrates variations in comfort along the Golden Gate Park - Panhandle - Wiggle - Market Street corridor. The section from John F. Kennedy Drive to the Panhandle is between LTS 1 and 2, since much of that section is either on a physically separated path or adjacent to low volumes of low-speed traffic. The conditions become more stressful on Market Street as traffic volumes increase and separation from traffic decreases.

***Identified need:*** A system-wide "Connectivity Assessment" to identify network gaps and intersection “hot spots”, and to recommend measures that will raise corridors to a consistent comfort level for most users.


Image: map showing various “comfort levels” for the bicycle facility extending from Golden Gate Park, through the Wiggle, to Market Street, with comfort gradually decreasing in the direction toward downtown

Image: Level of Traffic Stress based on physical / lateral separation, auto lane width, bicycle facility width, adjacent traffic speed, facility blockages, intersection crossings, and terrain

Image: bicycle facility on JFK Drive, the Wiggle, Market Street at 8th (Mid-Market) and Market Street at 5th Street.

## Example Hotspot Treatment, Decreasing the Level of Traffic Stress (LTS)

**Market Street / Valencia Street - left turn improvements, November 2012**

**Before:** Bicyclists headed westbound on Market Street turning left onto Valencia Street had to merge left across two lanes of traffic and a set of streetcar tracks in advance of the intersection.

**After:** The SFMTA installed a bicycle signal and an innovative "bike bay" that allows people on bicycle to turn onto southbound Valencia Street via a protected crossing. This improvement closed a crucial gap in the bicycle network.

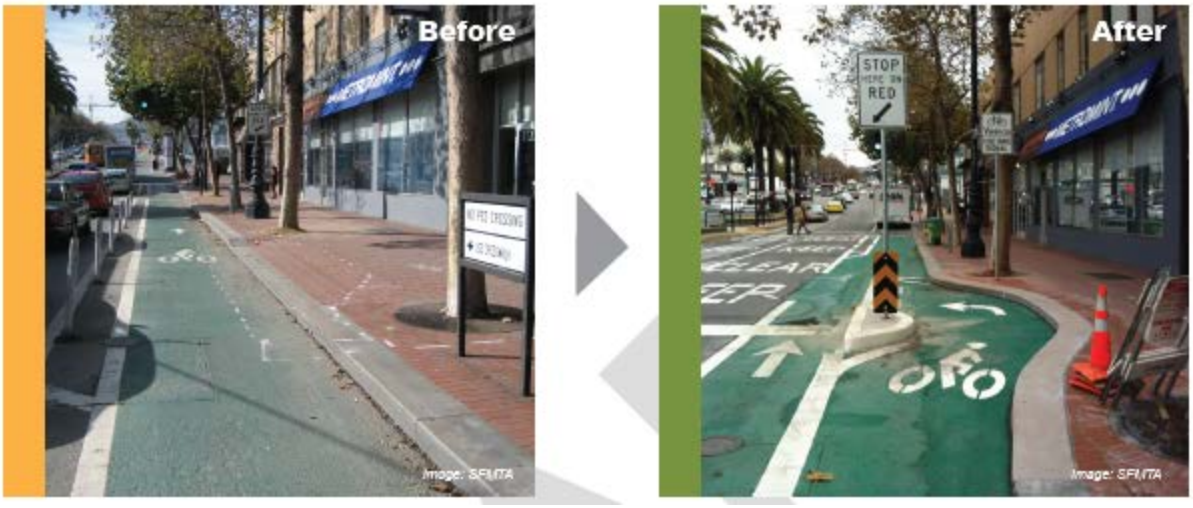



Image: Before, Green bicycle lane

Image: After, Green bicycle lane with cut-out pocket for left turning bicyclists

**Oak and Fell Street - bicycle lane upgrade to cycletrack, November 2012**

**Before:** The Fell Street bicycle lane between Scott and Baker had several stressful characteristics, including frequent lane blockages and proximity to high-volume, high-speed traffic.

**After:** The SFMTA constructed the first phase of the Oak and Fell Safety Project, using buffered bicycle lanes, green pavement, and bike boxes to make this critical east-west connection a more comfortable place for people on bicycles.


Image: Before, Car blocking painted bike lane

Image: After, people on bicycles riding in a bike lane with painted buffer

## Bicycle Infrastructure Toolkit

Growing bicycle mode share will require site-specific network treatments, support facilities (e.g. parking and bicycle sharing), and different programs to keep the momentum going. The following toolkit shows the different types of treatments to be used based on the key purpose and desired outcome. Costs and timelines vary depending on the tool used. This toolkit will help guide the conversation on needs assessment to determine the right tools for the specific need.

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**KEY PURPOSE/OUTCOME**

| Tools | SAFETY | CONNECTIVITY | CONVENIENCE | SECURITY | COST* per mile or intersection | TIME** to implement |
|---|---|---|---|---|---|---|
| **Network Treatments** | | | | | | |
| Wayfinding signage | ✓ | ✓ | | | $ | Very short |
| Traffic diverter | ✓ | ✓ | ✓ | | $ | Very short |
| Bicycle boxes | ✓ | ✓ | | | $ | Short |
| Bicycle signal, bicycle boxes, and counters | ✓✓ | ✓✓ | | | $ $ | Medium |
| Buffered bicycle lane | ✓✓ | ✓ | | | $x5 | Medium |
| Basic cycle track | ✓✓✓ | ✓ | | | $x6 | Long |
| Colored bicycle lane | ✓✓ | ✓ | | | $x7 | Long |
| Bicycle boulevard | ✓✓ | ✓ | | | $x8 | Very long |
| Deluxe cycle track | ✓✓✓ | ✓ | | | $x10 | Very long |
| **Support Facility Treatments** | | | | | | |
| Bicycle corrals | | | ✓✓ | | $ | Short |
| Bicycle lockers | | | ✓ | ✓ | $ | Short |
| Secure bicycle parking stations | | | ✓✓✓ | ✓✓✓ | $x7 | Medium |
| Bicycle sharing (per station) | | | ✓✓✓ | | $x5 | Medium |

*Cost estimate scale increases approximately logarithmically. $ = $5k, $$ = $10K, $$$ = $26K, $x4 = $50K, $x5 = $100K, $x8 = $250K, $x7 = $500K, $x8 = $1M, $x8 = $5M, $x10 = $10M.
** Estimates vary greatly depending on environmental clearance. Very short = ~1 year, Short = 1-2 years, Medium = 3-4 years, Long = 6-8 years, Very Long = 8+ years









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|---|---|---|---|---|---|---|
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| Separated cycle track | ✓✓✓ | ✓ | | | $x10 | Very long |
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| Bicycle corrals | | | ✓✓ | | $ | Short |
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***Cost estimate scale increases approximately logarithmically. $ = $5k, $$ = $10K, $$$ = $25K, $x4 = $50K, $x5 = $100K, $x6 = $250K, $x7 = $500K, $x8 = $1M, $x9 = $5M, $x10 = $10M.**
**** Estimates vary greatly depending on environmental clearance. Very short = ~1 year, Short = 1-2 years, Medium = 3-4 years, Long = 5-6 years, Very Long = 6+ years**

Image: Wayfinding signs, people riding bicycles next to a bicycle sign

Image: traffic diverters, traffic barrier allowing bicycles through an intersection

Image: Bicycle box, person on bicycle waiting in bicycle box at signalized intersection

Image: Bicycle signal

Image: Buffered bicycle lane

Image: Basic bicycle track with painted buffer and safe-hit posts

Image: Colored bicycle lane with green paint and painted buffer

Image: Bicycle boulevard, quiet local street with “BLVD” stencil

Image: Separated cycle track with raised barrier

## Support Program Toolkit

| | KEY PURPOSE/OUTCOME | | | | |
|---|---|---|---|---|---|
| **Tools** | **EDUCATION** | **ENCOURAGEMENT** | **INNOVATION** | **COST**** per year | **Partnership Opportunity** |
| **Existing Program (expanded)** | | | | | |
| Media campaigns | | ✓ | | $$ | ✓✓ |
| Dedicated bicycle customer service | ✓ | | | $$ | |
| Bicycle special events | | ✓ | | $$$ | ✓✓ |
| Free bicycle network maps | ✓ | | | $x4 | |
| Sunday Streets (10 events annually) | | ✓ | ✓ | $x7 | ✓ |
| Safe Routes to School (150 schools) | ✓ | | | $x7 | ✓ |
| **New Program** | | | | | |
| Targeted enforcement | ✓ | | | $$$ | |
| Summit / conference / convention | | ✓ | ✓ | $x4 | ✓✓ |
| Bike to Work / School Day / Week | | ✓ | | $x4 | ✓ |
| Bicycle Ambassadors (2-4 staff) | ✓ | ✓ | | $x5 | ✓ |
| Personalized trip planning outreach | ✓ | | | $x7 | ✓ |
| Neighborhood bicycle education and bicycle co-ops | ✓ | ✓ | ✓ | $$ | ✓✓✓ |
| Thank you / Rewards program | | ✓ | ✓ | $$ | ✓✓✓* |
| Visitor / hotel partnerships | | ✓ | ✓ | $$ | ✓✓✓* |
| School / business bicycle competitions / games* | | ✓ | ✓ | $$ | ✓✓✓* |

*Sponsorship opportunity

**Cost estimate scale increases approximately logarithmically. $ = $6k, $$ = $10K, $$$ = $25K, $x4 = $60K, $x6 = $100K, $x8 = $250K, $x7 = $600K, $x8 = $1M, $x9 = $6M, $x10 = $10M








| Tools | EDUCATION | ENCOURAGEMENT | INNOVATION | COST** per year | Partnership Opportunity |
|---|---|---|---|---|---|
| **Existing Program (expanded)** | | | | | |
| Media campaigns | | ✓ | | $$ | ✓✓ |
| Dedicated bicycle customer service | ✓ | | | $$ | |
| Bicycle special events | | ✓ | | $$$ | ✓✓ |
| Free bicycle network maps | ✓ | | | $x4 | |
| Sunday Streets (10 events annually) | | ✓ | ✓ | $x7 | ✓ |
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| Personalized trip planning outreach | ✓ | | | $x7 | ✓ |
| Neighborhood bicycle education and bicycle co-ops | ✓ | ✓ | ✓ | $$ | ✓✓✓ |
| Thank you / Rewards program | | ✓ | ✓ | $$ | ✓✓✓* |
| Visitor / hotel partnerships | | ✓ | ✓ | $$ | ✓✓✓* |
| School / business bicycle competitions / games* | | ✓ | ✓ | $$ | ✓✓✓* |

Image: Targeted rewards, woman passing out gifts to bicyclists

Image: Bicycle convention, flyer for SF Bike Expo

Image: Regular encouragement, people riding next to a bicycle barometer

Image: Sunday Streets image of people riding on the Embarcadero

Image: Bike to Work Day, picture of bicyclists on City Hall steps

Image: Film festivals, poster promoting Bicycle Film Festival

Image: Advertisements: poster advertising Old Nay encouraging bikers

Image: Special events, flyer advertising Winterfest bicycle festival

## Bicycle System Inclusiveness, Accessibility and Taxis

### Strategies to involve the accessibility community and seniors

In targeted stakeholder workshops, members of the accessibility and senior communities expressed their desire to participate in the city's bicycle growth. Recognizing these users' unique needs, here are methods the city will incorporate into its bicycle planning to increase the inclusiveness of the city bicycle system:

- Accommodations for diverse vehicle types like e-bikes and tricycles, specifically
- recreation paths that are wide and flat
- bicycle parking that can accommodate larger vehicles at community centers and health care facilities
- accessible bicycle fleet sharing
- Targeted education and group rides
- Education, outreach, and enforcement in pedestrian areas that service sensitive user groups

### Strategies to involve the taxi and shuttle community

Taxis, shuttles, and car sharing are important elements of the city transportation system and can help supplement bicycle travel. Here are methods to incorporate taxis and shuttles into the city bicycle system:

- Taxi / bicycle driver education
- Taxi passenger awareness campaigns, including posters and window decals
- Taxi access to curb zones when dropping off disabled passengers
- Bicycle racks on taxis

Image: Man on recumbent bicycle with dog.

Image: Men riding a wheelchair-compatible tricycle

Image: People riding different types of bicycles

Image: Women riding a pedal-assist tricycle



Image: Window placard “Caution! Look for bikes when exiting”

Image: Taxi with bicycle rack.

## Strategic Approach

Moving from a Starter to Climber city, and from a Climber to Champion city will require investment, supporting policies, and time. The city's current trajectory over the next six years, or the "Bicycle Plan Plus" scenario, is completing the current Bicycle Plan, constructing a modest amount of additional improvements, and maintaining existing support program levels.

The System Build-out scenario consists of improving and expanding the 215 mile bicycle network, constructing an extensive system support facilities, and increasing support program funding eight-fold. The intensity and extent of these improvements would bring San Francisco to the same level as Amsterdam and Copenhagen. Assuming a reasonable amount of supportive transportation policy (taxes, fees, and incentives), San Francisco could see a 15 to 20 percent bicycle mode share over the next 15 to 20 years.

The Strategic Plan scenario is a one where the city implements roughly 25 percent of the Build-out scenario, thereby achieving roughly a quarter to a third of the ultimate bicycle mode share. This rise would be more than a doubling of current bicycle activity.

“Bicycle Plan Plus” scenario

- Complete the bicycle plan (10 miles)
- Upgrade 10 miles of the existing bicycle network to premium bicycle facilities
- Upgrade 10 intersections to accommodate bicycles
- Install 4000 bicycle parking spaces
- Deploy and maintain a 500 bicycle / 50 station bicycle sharing system
- Provide the existing level of support programs ($1.2m / yr)
- Total cost: $60m through 2018 (6 year total)

Strategic Plan scenario

- Complete the bicycle plan (10 miles)
- Upgrade 50 miles of the existing bicycle network to premium bicycle facilities
- Construct 12 miles of new bicycle facilities
- Upgrade 50 intersections to accommodate bicycles
- Install 21000 bicycle parking spaces
- Deploy and maintain a 2750 bicycle / 275 station bicycle sharing system. Support electric bicycles.
- Double the existing level of support programs ($2.5m / yr)
- **Total cost:** $190m through 2018 (6 year total)

System Build-out scenario (Amsterdam / Copenhagen-system)

- Complete the bicycle plan (10 miles)
- Upgrade 200 miles of the existing bicycle network to premium bicycle facilities
- Construct 35 miles of new bicycle facilities
- Upgrade 200 intersections to accommodate bicycles
- Install 50,000 bicycle parking spaces
- Deploy and maintain a 3000+ bicycle / 300+ station bicycle sharing system. Support electric bicycles.
- Provide a build-out level of support programs ($10m / yr)

- Total cost: $500m for infrastructure, plus $4m / yr for bicycle sharing and $10m / yr for support programs.
- Outcome contingent on complementary auto pricing fees and policies

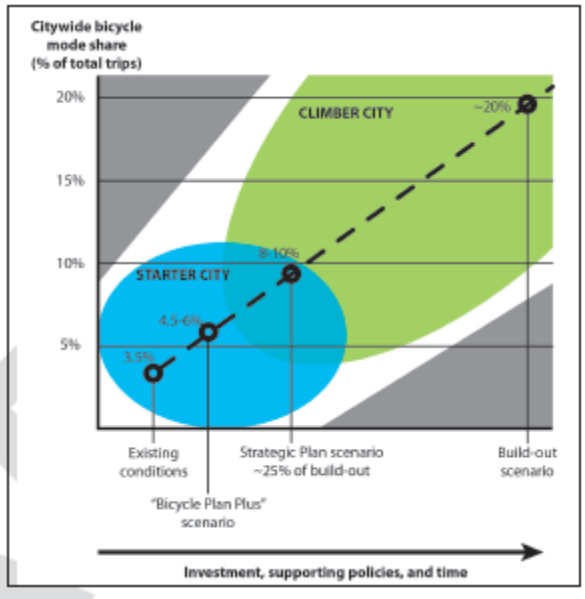



Image:

| | | | |
|---|---|---|---|
| Existing conditions | Starter City | 3.5% citywide bicycle mode share | Little investment, supporting policies and time |
| Bicycle Plan Plus scenario | Starter City | 4.5-6% citywide bicycle mode share | Little investment, supporting policies and time |
| Strategic Plan scenario, ~25% of build out | Starter / Climber City | 8-10% citywide bicycle mode share | Moderate investment, supporting policies and time |
| Build-out scenario | Climber City | ~20% citywide bicycle mode share | Extensive investment, supporting policies and time |

## Funding Gap and Investment Scenarios

***The city needs $170 million in additional funding to meet the Strategic Plan funding scenario.***

**(per the SFMTA 2012-2017 CIP)**

- State (Caltrans BTA / STIPTE) - $1m
- Regional (BAAQMD, MTC TDA) - $1.9m
- City / County (Prop B, OBAG, Prop AA, Prop K, TFCA) - $23.2m
- SFMTA (Bond A) - $4.1m
- **Total - $30.3m**
- **Funding gap**
- "Bicycle Plan Plus" scenario - $30m ($5m / yr)
- Strategic Plan scenario - $160m ($21.5m / yr)
- System Build-out - $470m capital

**Potential new funding sources**

- Other State and Regional discretionary programs (HSIP, OTS, Regional Bikeway Network Program, Safe Routes to Transit, TLC)
- Federal funds (CMAQ, SRTS, STP, TEA)
- Public - private partnerships and development impact fees
- New transportation fees (Vehicle Licensing Fee, sale tax, property tax, user fees, parking fees, congestion pricing).

**Potential Investment Scenarios.**

Given a budget of $6 million per year, these are various strategies the SFMTA can use to prioritize projects.

**Close network gaps**

- 50 traffic diverters
- 50 signals and bicycle boxes
- 3 miles buffered lanes
- 3 miles basic cycle track
- Budget breakdown 65% intersections, 35% network

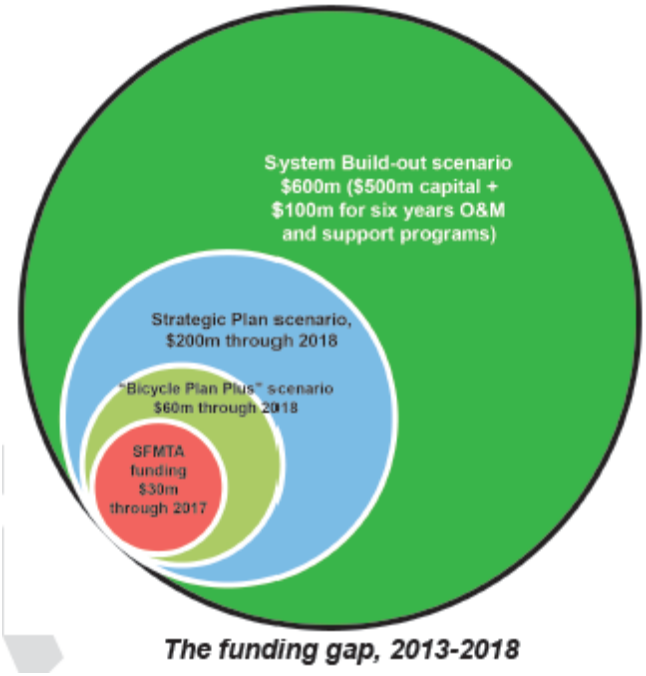
**Increase basic network comfort**

- 25 traffic diverters
- 15 signals and bicycle boxes
- 5 miles buffered lanes
- 5 miles basic cycle track
- 1 mile bicycle boulevard
- Budget breakdown 20% intersections, 80% network

**Focus improvements on a few key corridors**

- 5 traffic diverters
- 15 signals and bicycle boxes

- 0.25 miles basic cycle track
- 1.5 miles bicycle boulevard
- 0.25 miles separated cycle track
- Budget breakdown 15% intersections, 85% network




The funding gap, 2013-2018

SFMTA funding $30m through 2017

“Bicycle Plan Plus” scenario $60m through 2018

Strategic Plan scenario $200m through 2018

System Build-out Scenario $600m ($500m capital + $100m for six years O&M and support programs)

## Proposed Project Prioritization

### A clear and concise Decision Making Process

This Bicycle Strategy will use a quicker and more transparent project evaluation and prioritization methodology to determine which projects to fund and implement.

Project evaluation will use the following framework:

Categorize projects as network, support facility, or support program. Outside funding sources and agencies may dictate whether particular funds can be allocated for a particular type of project.

Assess projects based on their need, effectiveness, and readiness. Aspects within need can include existing bicycle activity and crash rates. Effectiveness assesses the expected change in bicycle behavior due to the project, based on best practice studies or similar experience in the city. Readiness accounts for environmental clearance, community support, and funding.

Project stakeholders will weigh the evaluation criteria based on their individual and collective priority. Projects that score above a particular threshold will enter the process for funding and implementation.

**Prioritization Framework**

**Establish project criteria**

**Establish evaluation criteria**

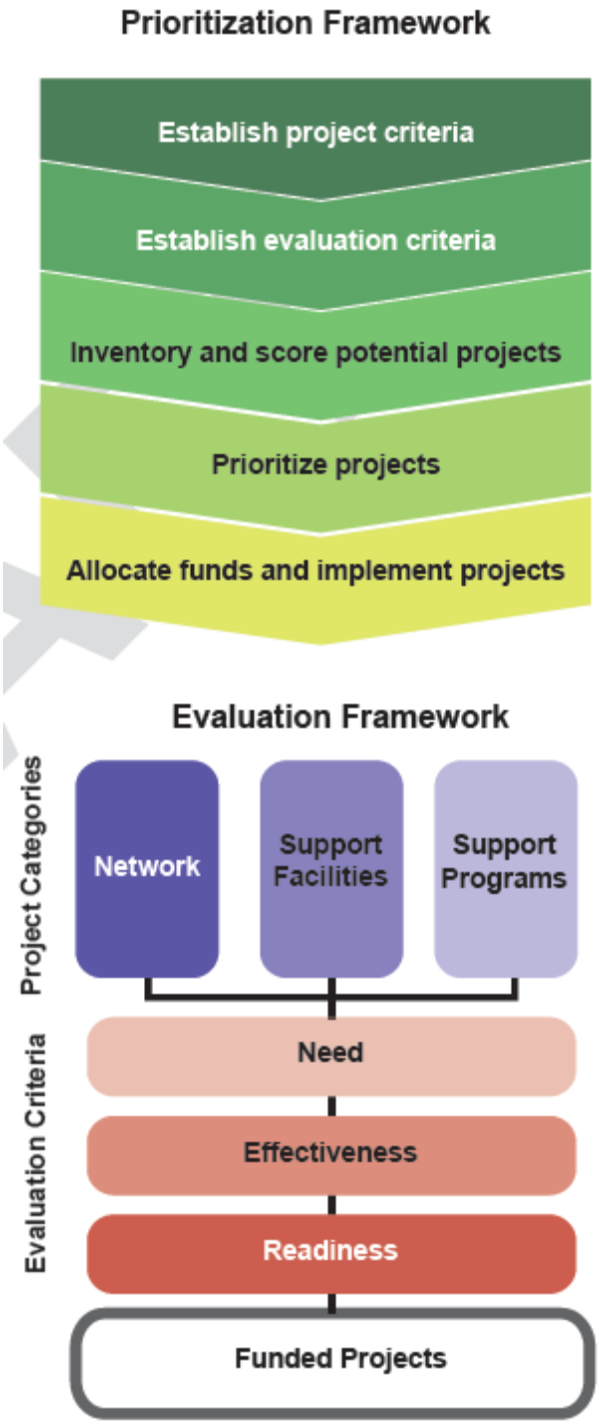
**Inventory and score potential projects**

**Prioritize projects**

**Allocate funds and implement projects**

**Evaluation Framework**

| | | | |
|---|---|---|---|
| Project Categories | Network | Support Facilities | Support Programs |
| Evaluation Criteria | Need | Effectiveness | Readiness |
| Funded Projects | | | |


Prioritization Framework
Establish project criteria
Establish evaluation criteria
Inventory and score potential projects
Prioritize projects
Allocate funds and implement projects
Evaluation Framework
Project Categories
Network
Support Facilities
Support Programs
Evaluation Criteria
Need
Effectiveness
Readiness
Funded Projects

## Strategic Goals

SFMTA Bicycle Strategy Vision

> Bicycling is part of everyday life in San Francisco.

As an outcome from the SFMTA 2013-2018 Strategic Plan, this 2013-2018 Bicycle Strategy will focus on four overarching goals to achieve the SFMTA Bicycle Strategy Vision.

Goal 1: Improve safety and connectivity for people traveling by bicycle

Goal 2: Increase convenience for trips made by bicycle

Goal 3: Normalize riding bicycles through media, marketing, education, and outreach

Goal 4: Plan and deliver complete streets projects


Image: Person on bicycle riding in a green lane marking.

Image: Woman parking bicycle

Image: People riding bicycles on the Embarcadero

Image: People riding on Valencia Street.

## Goal 1: Improve safety and connectivity for people traveling by bicycle

Consistent with the overall SFMTA Strategic Plan, the safety of the bicycle system is paramount. A safe and comfortable bicycle experience requires closing system gaps, providing accurate information to users, and regular evaluation of our progress.

**Objective 1.1:** Improve the comfort and connectivity of the bicycle network for all users, especially vulnerable user groups, e.g. youths, the disabled, and seniors.

**Objective 1.2:** Improve the safety of the bicycle network for all users.

**Objective 1.3:** Ease navigation through the bicycle network.

**Objective 1.4:** Collect data to evaluate bicycle network activity and safety.

The performance indicators listed below are the key measures that will indicate how the SFMTA is performing with respect to bicycle safety and connectivity.

| PROPOSED KEY PERFORMANCE INDICATORS | PROPOSED TARGETS | | |
|---|---|---|---|
| | FY 2014 | FY 2016 | FY 2018 |
| **OBJECTIVE 1.1:** Percent of the bicycle network that is moderately comfortable for an average person on a bicycle. | Establish a bicycle network comfort index. Increase network comfort to Level of Traffic Stress (LTS) 2 / 3 by 10 miles and 10 intersections each year.<br><br>Decrease the bicycle crash rate by 10 percent each year. | | |
| **OBJECTIVE 1.2:** Number of crash hotspots improved. | Study and pilot safety countermeasures at three crash hotspots per year.<br><br>Decrease the bicycle crash rate by 10% from the 2012 baseline each year. | | |
| **OBJECTIVE 1.3:** Miles of networked bicycle routes with wayfinding signs indicating destinations and distance. | Develop a bicycle wayfinding sign plan. | Install the citywide bicycle wayfinding system (100% network coverage). | |
| **OBJECTIVE 1.4:** Bicycle counts and | 25% network coverage with | 50% network coverage with | 100% network coverage with |

| | | | |
|---|---|---|---|
| evaluation. | automatic bicycle counters.<br><br>Install the first "bicycle barometer". | automatic bicycle counters.<br><br>Install a second and third "bicycle barometer". | automatic bicycle counters.<br><br>Install the fourth and fifth "bicycle barometer". |
| | Collect and analyze bicycle sharing data.<br><br>Collect, analyze and report changes to city bicycle activity via the annual SFMTA Mobility Report. | | |

## Goal 2: Increase convenience for trips made by bicycle

The small footprint of a bicycle makes it a convenient and flexible way to travel. Good parking facilities are vital for reducing bicycle theft. Bicycle sharing encourages spontaneous bicycle trips. Both bicycle parking and bicycle sharing extend public transit's reach and improve its performance.

**Objective 2.1:** Increase the supply of short-term bicycle parking.

**Objective 2.2:** Increase the supply of adequate long-term bicycle parking

**Objective 2.3:** Expand bicycle sharing in core bicycle areas.

The performance indicators listed below are the key measures that will indicate how the SFMTA is performing with respect to increasing bicycle convenience.

| PROPOSED KEY PERFORMANCE INDICATORS | PROPOSED TARGETS | | |
|---|---|---|---|
| | FY 2014 | FY 2016 | FY 2018 |
| **OBJECTIVE 2.1:** Short-term bicycle parking spaces and coverage | Establish short-term bicycle parking baseline of 1 rack on each neighborhood commercial block. | Provide additional short-term bicycle parking in areas identified via user survey or online crowd sourcing. | |
| **OBJECTIVE 2.2:** Long-term bicycle parking space and coverage | Establish one new attended and one new unattended secure bicycle parking station.<br><br>Replace 100% of existing SFMTA bicycle lockers with e-lockers | Establish a second new attended and second new unattended secure bicycle parking station.<br><br>Incorporate e-lockers into secure bicycle parking facilities. | Establish a third new attended and third new unattended secure bicycle parking station.<br><br>Incorporate e-lockers into secure bicycle parking facilities. |
| | Install four residential collective bicycle lockers | Install four additional residential collective bicycle lockers | Install four additional residential collective bicycle lockers |

| | | | |
|---|---|---|---|
| **OBJECTIVE 2.3:** Bicycle sharing system coverage. | Implement Phases I and II of the bicycle sharing system. (1000 bikes)<br><br>Explore opportunities to incorporate diverse vehicle types, including e-bicycles and pedalecs. | Implement Phase III of the bicycle sharing system (2,750 bikes, 25% of City) | Expand the bicycle sharing system to include key satellite service areas. |

## Goal 3: Normalize riding bicycles through media, marketing, education, and outreach

Fostering a positive image of bicycles is important for increasing bicycle participation, especially among underserved populations. A positive bicycle image helps market the city's quality of life to visitors, tourists, and investors.

**Objective 3.1:** Normalize riding bicycles among city residents, employees, and students.

**Objective 3.2:** Increase awareness of San Francisco as a bicycle city regionally, nationally, and internationally.

**Objective 3.3:** Increase bicycle education opportunities.

**Objective 3.4:** Reinforce positive multimodal behavior.

The performance indicators listed below are the key measures that will indicate how the SFMTA is performing with respect to fostering bicycle culture and identity.

| PROPOSED KEY PERFORMANCE INDICATORS | PROPOSED TARGETS | | |
|---|---|---|---|
| | FY 2014 | FY 2016 | FY 2018 |
| **OBJECTIVE 3.1:** Local bicycle awareness | Increase awareness of city residents, employees, businesses, and schools of bicycling and multimodal trip opportunities by 10% each budget cycle through marketing, social media, conventions and trade shows. Measure via online survey methods and social media metrics, e.g. "tweets" and "likes".<br><br>Establish a city Bicycle Ambassador program with up to eight full-time staff responsible for community bicycle education and outreach. | | |
| **OBJECTIVE 3.2:**Vistor bicycle awareness | Increase bicycle awareness of city visitors by 10% over baseline each budget cycle through marketing partnerships with visitor organizations, hotel and destination partnerships. Measure via online survey methods and social media metrics, e.g. "tweets" and "likes". | | |

| | | | |
|---|---|---|---|
| **OBJECTIVE 3.3:** Bicycle education | Annual bicycle education at 25% of SFUSD schools.<br><br>One annual bicycle education course in each SF Supervisor District through the Bicycle Ambassador program. | Annual bicycle education at 50% of SFUSD schools.<br><br>Two annual bicycle education courses in each SF Supervisor District through the Bicycle Ambassador program. | Annual bicycle education to 100% of SFUSD schools.<br><br>Quarterly bicycle education courses in each SF Supervisor District through the Bicycle Ambassador program. |
| | Offer bicycle education to private schools, seniors, the disabled community, and other vulnerable users. | | |
| **OBJECTIVE 3.4:** Traffic enforcement | Quarterly multimodal enforcement and encouragement at crash hotspots through the Bicycle Ambassador program. | Monthly multimodal enforcement and encouragement at crash hotspots through the Bicycle Ambassador program. | Weekly multimodal enforcement and encouragement at crash hotspots through the Bicycle Ambassador program. |
| | Create a traffic violation diversion program. | | |

## Goal 4: Plan and deliver complete streets projects

Making non-private auto modes, including bicycles, the preferred means of travel in the city requires implementing projects that address the city's greatest needs in a streamlined manner. Accelerated project delivery includes securing funding for bicycle projects, and supporting projects and policies that complement mode shifts from automobiles.

**Objective 4.1:** Prioritize shovel-ready projects

**Objective 4.2:** Seek new funding for the future and close the strategic funding gap.

**Objective 4.3:** Support policies and projects complementary to bicycling.

**Objective 4.4:** Integrate projects to accommodate bicycle-transit trips.

The performance indicators listed below are the key measures that will indicate how the SFMTA is performing with respect to bicycle project delivery.

<table>
<tr><th rowspan="2">PROPOSED KEY PERFORMANCE INDICATORS</th><th colspan="3">PROPOSED TARGETS</th></tr>
<tr><th>FY 2014</th><th>FY 2016</th><th>FY 2018</th></tr>
<tr><td>OBJECTIVE 4.1: Project delivery and agency management</td><td colspan="3">Update the SFMTA Capital Improvement Program to prioritize projects that rate highest in terms of need, effectiveness, and readiness.<br><br>Adopt an agency project management system and track funding to the bicycle program.</td></tr>
<tr><td rowspan="2">OBJECTIVE 4.2: Bicycle program funding</td><td colspan="3">Secure funding for bicycle projects from new funding sources. Identify dedicated revenue sources by 2014.</td></tr>
<tr><td>Close strategic funding gap by 25%.</td><td>Close strategic funding gap by 50%</td><td>Close strategic funding gap by 100%</td></tr>
<tr><td>OBJECTIVE 4.3:Supportive projects and policies</td><td colspan="3">Support SFpark, SFgo, Muni Transit Effectiveness Project, congestion pricing, and other Travel Demand Management (TDM) projects; integrate bicycle projects into the Complete Streets process.</td></tr>
<tr><td>OBJECTIVE 4.4: Bicycle-transit projects.</td><td colspan="3">Identify 3% of formula transit funds for bicycle-transit integration projects.<br><br>Deliver transit projects with a complete streets component.</td></tr>
</table>

Image: San Francisco politicians painting a green bike lane at an opening ceremony

Image: Street worker painting a bicycle lane.

## Stakeholder Workshops

Developing the Bicycle Strategy is a citywide team effort. In late 2012 and early 2013, SFMTA staff worked across departments to host three workshops for gathering feedback. The first workshop was attended by staff members from city, county, and regional agencies, as well as members of the bicycle community. The second workshop hosted members of the accessibility community to specifically ask about the needs of seniors and people with disabilities, and the third hosted members of the San Francisco taxi community.

### General Stakeholder Workshop

**Attendees:** 17 representatives from SF Planning, SF Travel, San Francisco Bicycle Coalition (SFBC), BART, SF County Transportation Authority (SFCTA), SF Environment, SFMTA, and other key stakeholders.

**Key Takeaways:**

(1) Improve way finding signage & cross-town connectivity

(2) Upgrade to separated, wider bicycle facilities

(3) Provide more secure bicycle parking & roll out bike sharing

(4) Design for bicycle-transit integration

(5) Provide weekly Sunday Streets, bicycle branding campaigns, education & individualized marketing programs

(6) Project need and effectiveness are most important for prioritizing projects

(7) Leverage public-private partnerships, e.g. "Sponsor a Mile" program

### Accessibility Stakeholder Workshop

**Attendees:** 19 representatives from Mayor's Office on Disability, Independent Living Resource Center, SFMTA Board, Departments of Public Works, Aging and Adult Services, Lighthouse for the Blind, SF Paratransit and other key stakeholders.

**Key Takeaways:**

(1) Design complete streets with clear separation between modes & maintain curb access for paratransit

(2) Bicycle sharing / fleets should include accessible & children's bicycles, e-bikes

(3) Provide bicycle fleets at senior centers, schools

(4) Design parking for non-traditional bicycles

(5) Use bicycle and driver education to foster mutual respect between street users

(6) Provide subsidies for bicycles, helmets, locks & lights

(7) Enforce prohibitions against sidewalk riding & consider bicycle license program

Image: Person holding up a poster at a workshop meeting

Image: Meeting attendees sitting around a table.

## Stakeholder Workshops

### Taxi Stakeholder Workshop

**Attendees:** 15 participants, including representatives from Desoto Cab, Luxor Cab, Yellow Cab, Green Cab, Arrow Checker, SFBC, SFMTA, Muni Accessibility Advisory Committee (MAAC) and other key stakeholders.

**Key Takeaways:**

(1) Educate taxi drivers and people on bicycles on rules regarding taxi loading next to and within bicycle facilities.

(2) Design bicycle facilities that accommodate passenger drop off.

(3) Install flashing lights on taxis to indicate passenger boarding and alighting, and to reduce instances of dooring.

(4) Provide bicycle friendly cabs with trunk or roof racks.

(5) Outreach and marketing to drivers, passengers, and bicycle riders that taxis and bicycles are part of the multimodal transportation system.

(6) Open dialogue between the taxi and bicycle community to discuss and resolve conflicts.

(7) Provide education and enforcement on the rules of the road (e.g. passing on the left, stopping at stop signs and stop lights, permission to "take the lane").

(8) Consider bicycle license program.



Image: Person in wheelchair alighting a ramped taxi.

Image: Bumper sticker “This vehicle authorized to enter bike lane when necessary.”

Image: Row of parked taxis on the street.

## Next Steps to grow bicycle mode share

The SFMTA will work with stakeholders through February 2013 to fully create and establish a needs and gap closure assessment methodology to classify the bicycle network in terms of user comfort. By March of 2013, the planning team will develop a Capital Program for the 2013 - 2018 Fiscal Year timeframe. In order to leverage the results of this work, the SFMTA will establish an "Eight-to-Eighty" bicycle ride team who will collect the necessary data for completing the needs and gap closure assessment.


Jan-Feb 2013 Create and approve needs / gap closure assessment methodology for bicycle comfort

Jan-April 2013 Complete the needs / gap closure assessment. Establish an “Eight-to-Eighty” bicycle ride team and leverage crowdsourcing resources for data collection.

April 2013 Develop a Capital Program for the FY 2013-2018 time frame

Jan 2013-ongoing Design and implement key projects, including necessary approvals and environmental clearance. Seek funding to close the funding gap. Report annually on progress through the Strategic Plan Annual Mobility Report.

Once these tasks are complete, the SFMTA will have established an on-going process for the efficient delivery of bicycle facilities and support programs. The implementation of key projects, including acquiring the necessary approvals and environmental clearance and identification of funding, will progress throughout the Strategic Plan timeframe of 2013 to 2018. To hold the SFMTA accountable, the Strategic Plan Annual Mobility Report will include a report of the progress on bicycle improvements.

**This ongoing work will ensure *bicycling is part of everyday life in San Francisco.***

## Acknowledgements

### Executive Leadership

Edwin M. Lee, Mayor

### City and County of San Francisco

### Board of Supervisors

Eric Mar | District 1

Mark Farrell | District 2

David Chiu | District 3

Carmen Chu | District 4

London Breed | District 5

Jane Kim | District 6

Norman Yee | District 7

Scott Wiener | District 8

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SF Department of Public Works, SF County Transportation Authority, SF City Planning, SF Department of Public Health, SF Travel, SF Bicycle Coalition, SF Bicycle Advisory Committee, SF Environment, Mayor's Office on Disability, Independent Living Resource Center, Aging and Adult Services, Lighthouse for the Blind, SF Paratransit, MAAC, and SF Taxi providers.

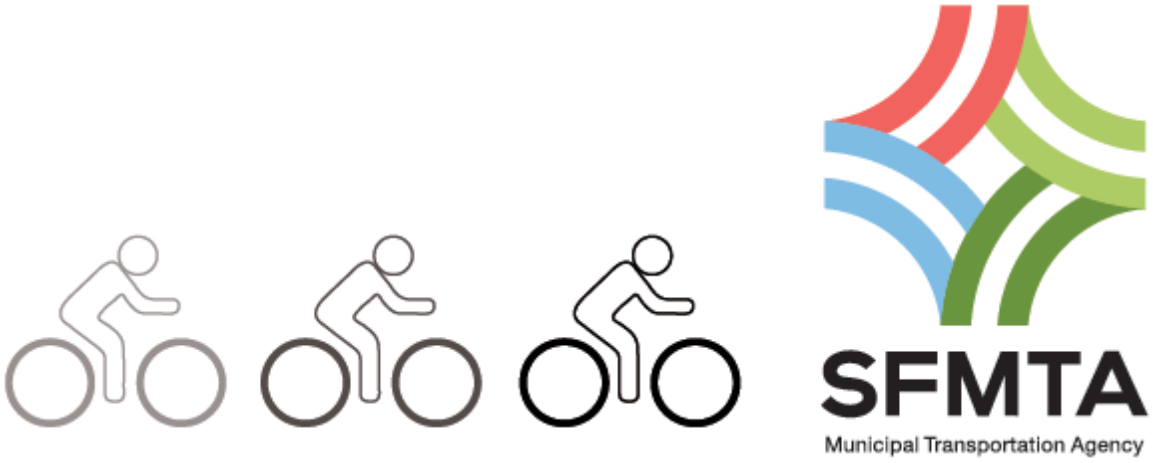


Image: Bicycle logo and SFMTA logo

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