File No. 140047 Committee Item No. 2
Board Item No. 21

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Neighborhood Services & Safety **Date** March 6, 2014

Board of Supervisors Meeting **Date** March 18, 2014

Cmte	Board	
☐	☐	Motion
☒	☒	Resolution
☐	☐	Ordinance
☐	☐	Legislative Digest
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☒	☒	Introduction Form (for hearings)
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☐	☒	Public Correspondence

OTHER **(Use back side if additional space is needed)**

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Completed by: Derek Evans **Date** 2/28/14
Completed by: Derek Evans **Date** 3/12/14

An asterisked item represents the cover sheet to a document that exceeds 25 pages.
The complete document can be found in the file.

FILE NO. 140047 RESOLUTION NO.

[Implement a VISION ZERO Three Point Plan: Engineering, Education and Enforcement]

Resolution urging the Mayor, the Chief of Police, and Director of the Municipal Transportation Agency to adopt a VISION ZERO Three Point Plan to expedite the goals of San Francisco's Pedestrian and Bicycle Strategies and implement an action plan to reduce traffic fatalities to zero in the next ten years through better engineering, education, and enforcement.

WHEREAS, The City of San Francisco adopted a Pedestrian Strategy in 2013 to reduce serious or fatal pedestrian injuries by 25 percent by 2016 and by 50 percent by 2021 which is on file with the Clerk of the Board of Supervisors in File No. 140047 and which is hereby declared to be a part of this resolution as if set forth fully herein; and

WHEREAS, In June 2009, the Municipal Transportation Agency (MTA) adopted the San Francisco Bicycle Plan which is on file with the Clerk of the Board of Supervisors in File No. 140047 which is hereby declared to be a part of this resolution as if set forth fully herein, which outlines 60 separate bicycle safety improvement projects; and

WHEREAS, The City of San Francisco continues to experience an entirely preventable loss of life annually, constituting a public health crisis, with 2013 ending with a combined loss of life with 21 pedestrian fatalities and 4 cyclist fatalities; and

WHEREAS, The Board of Supervisors has convened multiple hearings on pedestrian and cyclist safety which reveal an urgent need for action on a combined strategy of engineering, education and enforcement to eliminate traffic fatalities; and

WHEREAS, According to the Police Department's (PD) own data, as captured in PD's 2011 Traffic Collision Report which is on file with the Clerk of the Board of Supervisors in File

No. 140047 and which is hereby declared to be a part of this resolution as if set forth fully herein, an average of 2 to 3 pedestrians are hit by vehicles in San Francisco every day; and

WHEREAS, The Department of Public Health (DPH) developed a methodology in partnership with MTA to identify high injury corridors that should be targeted for pedestrian safety improvements which is on file with the Clerk of the Board of Supervisors in File No. 140047 and which is hereby declared to be a part of this resolution as if set forth fully herein, and the resulting data and map of high injury corridors have been shared with PD for purposes of targeting traffic enforcement in order to save lives; and

WHEREAS, Chicago and New York City have set a national benchmark by committing to reducing traffic fatalities to zero in the next ten years after similar VISION ZERO recommendations implemented in Sweden, the Netherlands and the United Kingdom produced positive results; now, therefore, be it

RESOLVED, That the Board of Supervisors will work with the Mayor, MTA, PD, DPH and the Transportation Authority (TA) to expedite the goals of the Mayor's Pedestrian Strategy and implement a three-point action plan to reduce traffic fatalities to zero by 2024 through engineering, education and enforcement; and, be it

FURTHER RESOLVED, That the City will convene a working group comprised of the City Administrator's office, MTA, TA, DPH, PD, the Department of Public Works (DPW), the Transbay Joint Powers Authority (TJPA), Walk San Francisco, the San Francisco Bicycle Coalition and stakeholders representing Recology, trucking companies and drivers, including the Teamsters and California Trucking Association, to create a mandatory driver safety curriculum for all San Francisco City and County employed drivers and drivers that contract with the City and County of San Francisco and identify and implement programs that increase the safety of efficient goods and commuter movement by all large vehicles with the goal of implementing this training program by 2015; and, be it

FURTHER RESOLVED, The Board of Supervisors urges PD to target its enforcement to known high-injury corridors and intersections and to the most dangerous traffic crimes including speeding, failure to stop, failure to yield, turning violations and violation of the pedestrian and cyclist right of way, and to track and report on the total number of citations for the most high-risk driving violations; and, be it

FURTHER RESOLVED, That the Board of Supervisors urges MTA to create a "crisis intervention" team in collaboration with other city agencies, which would be tasked with engineering and implementing at least 24 pedestrian and cyclist safety pilot projects over the next two years in the corridors where data demonstrates the high number and/or severity of traffic collisions, including temporary bulbouts, traffic signal additions or retiming, speed reduction measures, separated bike lanes, lane removal or left turn restrictions, and that the two year pilot period be used to analyze progress toward our goal of zero traffic fatalities by 2024.

Evans, Derek

From: Alice Rogers [arcomnsf@pacbell.net]
Sent: Wednesday, March 05, 2014 4:19 PM
To: Kim, Jane; Avalos, John; Mar, Eric (BOS); Yee, Norman (BOS); Campos, David
Cc: Evans, Derek; Angulo, Sunny; Chiu, David; Redmond, Michael; Ed Reiskin; Tilly Chang
Subject: Re: Vision Zero Three-Point Plan and Safety Public Awareness Working Group (Agenda items 140047; 140039)

5 March 2014

Re: Vision Zero Three-Point Plan and Safety Public Awareness Working Group

Dear Neighborhood Services and Safety Committee Members and
Sponsors of the Vision Zero Three-Point Plan:

As a 20-year resident, pedestrian and Muni-rider of District 6, I urge you to adopt, implement, and fund the Vision Zero Three-Point Plan and establish a Pedestrian Safety Public Awareness Working Group in order to reduce traffic fatalities to zero within the next ten years. Put teeth into the vision with engineering and enforcement, and get City departments and the public on the same page through coordinated education, outreach and timely follow-through.

Constituents throughout the City will benefit from this plan, but **walkers and bikers in District 6, statistically, are at greatest risk and need implementation measures commensurate with the density** in this area. Stitched through with freeway off/on ramps and the locus of the Bay Bridge connection, District 6 is BOTH the City's primary regional interface for vehicular traffic AND the City's most pedestrian-based residential and office neighborhood; the overlap has been fatal. In designating District 6 as the City's dense urban core, the City MUST support its contract to provide safety and infrastructure for those it has asked to walk, bike and bus.

Our neighborhood is on its feet for this issue, and we thank you in advance for supporting these two resolutions.

Respectfully,

Alice Rogers

Alice Rogers
10 South Park St
Studio 2
San Francisco, CA 94107

415.543.6554

Vice President, South Beach | Rincon| Mission Bay Neighborhood Association*
Quality of Life Sub-committee Co-Chair, Piers 30 / 32 CAC*
Member, South Park Improvement Association*
Member, SF Parks Alliance Policy Council*

*for information only – does not indicate endorsement by these organizations

Evans, Derek

From: Katy Liddell [kliddell2001@yahoo.com]
Sent: Wednesday, March 05, 2014 2:29 PM
To: Campos, David; Mar, Eric (DPH); Mar, Eric (BOS); Yee, Norman (BOS); Kim, Jane; Avalos, John; Chiu, David
Cc: Evans, Derek; Angulo, Sunny; ed.reiskin@sfmta.com; Redmond, Michael
Subject: Vision Zero

Dear Neighborhood Services and Safety Committee Members and
Sponsors of the Vision Zero Three-Point Plan:

Re: Vision Zero Three-Point Plan and Safety Public Awareness Working Group

I urge you to adopt, implement, and fund the Vision Zero Three-Point Plan and establish a Pedestrian Safety Public Awareness Working Group in order to reduce traffic fatalities to zero within the next ten years. In particular, I ask you to focus on **District 6** because our long blocks and freeway-close streets are more dangerous than many other parts of the City.

I am encouraged by the January 16th commitment from SFPD and the Police Commission to change and escalate enforcement practices to focus on pedestrian and bicycle safety issues. Now we need to assure it happens and that it works!

Education, Engineering, and Enforcement are essential – as is ongoing monitoring and reporting.

I am a 19-year resident in D6 and a long-time pedestrian safety advocate. Walking and public transit are my primary methods of transportation, so I speak from vast experience when I tell you that D6 South of Market needs help. This part of the City was not made for pedestrians; it was made for trucks and other vehicles serving the once mostly warehousing district. Now, as you know, this is one of the busiest and most rapidly expanding parts of the City. As thousands of new residents move in, the Central Subway is built, the Transbay Terminal emerges, waterfront / Port projects appear, and this once-underdeveloped piece of the City is built out, our streets are filled with more pedestrians, bicyclists, and vehicles. We continue to run in to each other and cause havoc. We are desperately in need of the three E's.

Please, please follow through on Vision Zero with a focus on D6 to help us make San Francisco and this wonderful new neighborhood a safer one.

Thank you.

Katy Liddell
403 Main Street #813
San Francisco 94105
415.412.2207

President, South Beach / Rincon / Mission Bay Neighborhood Association*
Chair, Piers 30 / 32 CAC*
Member, Southern Station CPAB*
Member, former Rincon Point / South Beach CAC*
Former Board Member, Walk SF*
Former Member and Vice Chair, Pedestrian Safety Advisory Committee (PSAC)*

*for information only – does not indicate endorsement by these organizations

Evans, Derek

From: Caldeira, Rick
Sent: Tuesday, March 04, 2014 1:39 PM
To: Evans, Derek
Subject: FW: Please add Sup. Breed as cosponsor to 140047

For file.

From: Johnston, Conor
Sent: Tuesday, March 04, 2014 11:49 AM
To: Caldeira, Rick
Cc: Breed, London; Angulo, Sunny
Subject: Please add Sup. Breed as cosponsor to 140047

140047
[Implement a VISION ZERO Three Point Plan: Engineering, Education and Enforcement]
Sponsors: Kim; Avalos, Yee, Chiu and Mar
Resolution urging the Mayor, the Chief of Police, and Director of the Municipal Transportation Agency to adopt a VISION ZERO Three Point Plan to expedite the goals of San Francisco's Pedestrian and Bicycle Strategies and implement an action plan to reduce traffic fatalities to zero in the next ten years through better engineering , education, and enforcement.
1/14/14; RECEIVED AND ASSIGNED to the Neighborhood Services and Safety Committee.
2/24/14; REFERRED TO DEPARTMENT.
2/27/14; RESPONSE RECEIVED.

Thank you.

Conor Johnston
Office of Supervisor London Breed
415-554-6783

Sign up for Supervisor Breed's Newsletter here
or visit www.londonbreed.org

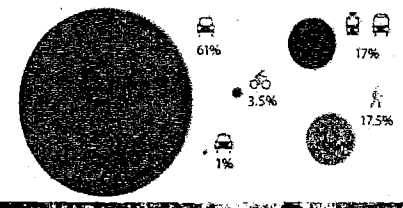
Vision Zero City Team Overview

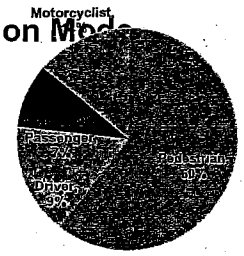
- **Vision Zero Overview**
- **City Team Structure & Process**
- **City Team Updates:**
  - **Engineering**
  - **Enforcement SFPD & District Attorney**
  - **Education**
  - **Funding**
- **Q&A/ Discussion**

Read in Committee 3/6/14
File No. 140047

Vision Zero in San Francisco:
0 Traffic Deaths by 2024

- **Saving Human Life is the Highest Priority**
- **Addressing Existing Inequities in Traffic Deaths and Injuries**
  - *6% of streets account for 60% of severe/fatal pedestrian injuries*





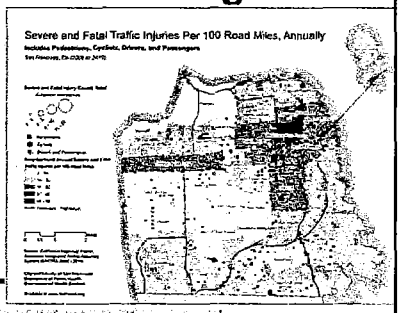
2013 Fatalities, % by Transportation Mode *(Medical Examiner)*

Vision Zero in San Francisco:
0 Traffic Deaths by 2024

- Vision Zero Task Force - *All Modes*
- Pedestrian Safety Initiatives = Strong Foundation
  - Collaborative
  - Evidence-based
  - Data-Driven
  - Targeting Resources
- Co-benefits for people bicycling and driving
- ***Enforcement*** - "Focusing on the 5" causes of death and injury for all modes
- ***Engineering for Slower Speeds*** – high speed predicts death for all modes

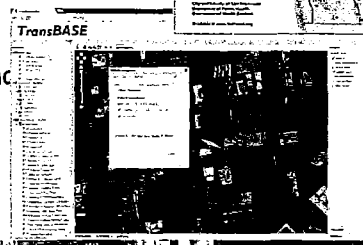
4th "E": Evaluation and Monitoring

- **Analyze distribution and causes of death and injury**
- **Monitor Progress**
- **Evaluate Effectiveness**

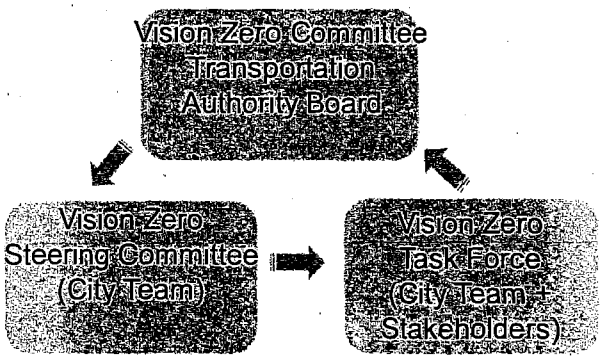


Initiatives:

- TransBASE
- Comprehensive Surveillanc
- CrossRoads
- E-Citations



Vision Zero SF



- Meet bi-monthly (initially) with progress updates to Vision Zero Committee
- 1st Vision Zero Steering committee March meet regularly
- Stakeholder engagement between now and June
- 1st Vision Zero Task Force Meeting June 10 then meet quarterly

Structure

Vision Zero SF

May 2014 Projects delivered now through 2016

- Vision Zero human life saving projects must have highest priority
- City Team to identify/resolve internal bottlenecks to expedite delivery
- Policy makers reinforce priority and sense of urgency:
  - Street right of way changes focusing on human life safety
  - Commitment to legislate speed reduction/vulnerable user protection policies

Vision Zero

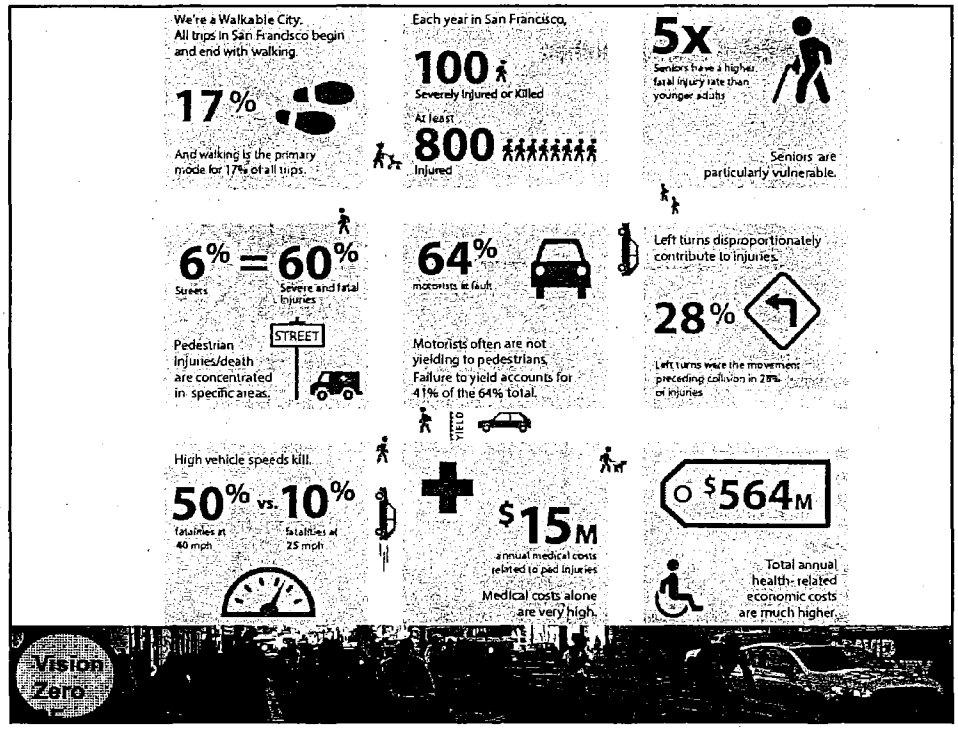
Process

San Francisco Pedestrian Safety Capital Improvement Program:
A Step Towards Vision Zero

March 5, 2014

Vision Zero

Engineering

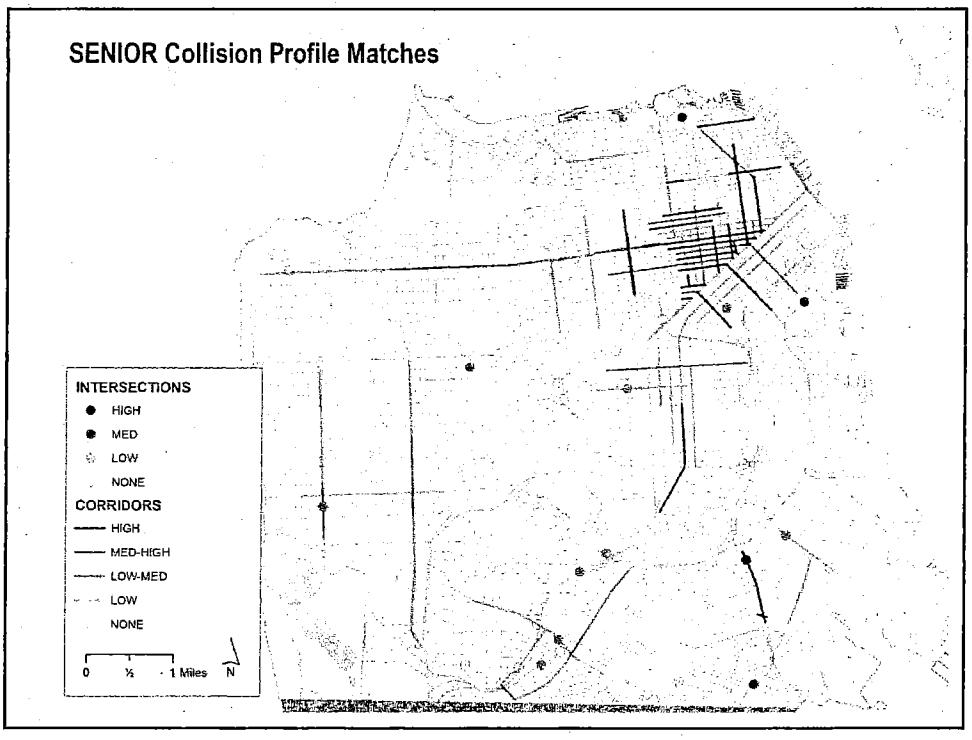


Collision Profiles and Factor Combinations

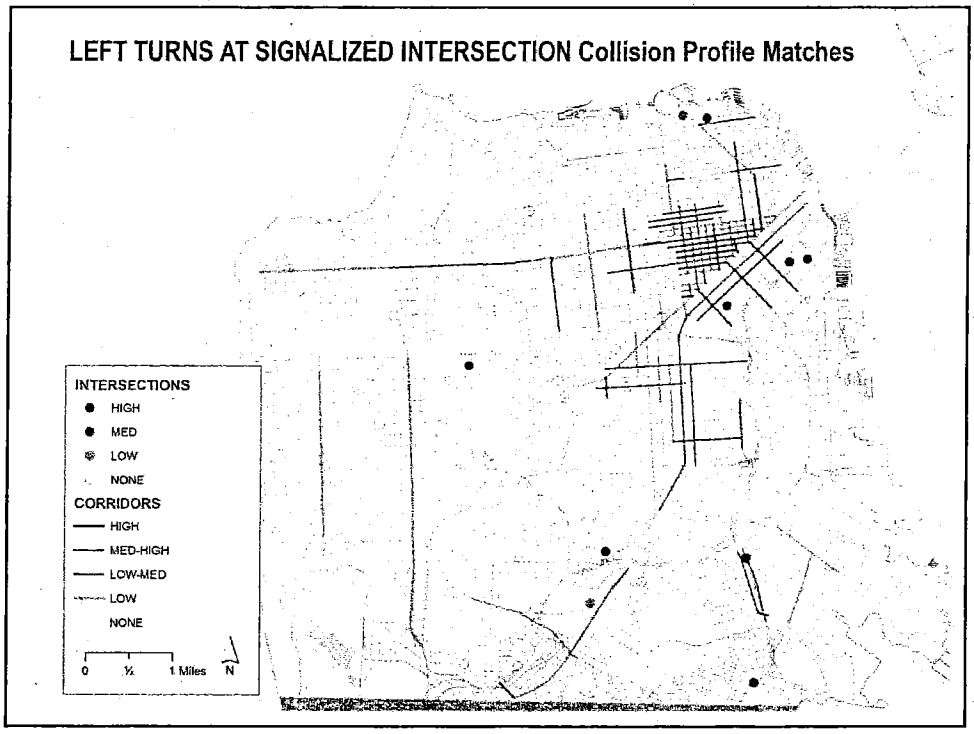
	Collision Profile	Factor 1	logic	Factor 2	logic	Factor 3	logic	Factor 4	logic	Factor 5	logic	Factor 6
1	CHILDREN	child victim	AND	near school	OR	census tract with high child concentration	OR	near park				
2	SENIORS	senior victim	AND	near senior center	OR	census tract with high senior						
4A	LEFT TURNS AT SIGNALIZED INTERSECTIONS	collision involving left turn	AND	signalized intersection								
5	RIGHT TURNS AT SIGNALIZED INTERSECTION	collision involving right turn	AND	signalized intersection								
7	PEDESTRIAN FACILITIES AT SIGNALIZED INTERSECTION	pedestrian failure to obey traffic signal	AND	signalized intersection	AND	lack of pedestrian countdown signal						
8A	COMPLEX INTERSECTIONS	5-leg+	OR	freeway ramps	OR	2 Two-way arterials intersecting						
9A	UNCONTROLLED MARKED CROSSWALK ON ARTERIAL	driver failure to yield	AND	marked crosswalk	AND	High Speed	AND	No Traffic Control	OR	Partial Traffic Control		
10a	MID-BLOCK WITH CROSSWALK	DRIVER FAILURE TO YIELD ROW	OR	PED FAILURE TO CROSS IN XWALK	AND	MID-BLOCK COLLISIONS	AND	MID BLOCK XWALK =1	AND	HIGH VEH VOLUME		
11a	HIGH SPEED ON BUSY ARTERIAL WITH LOW VEHICLE VOLUME	HIGH SPD	AND	ARTERIAL (2,3)	AND	LOW VEH VOLUME						
11b	HIGH SPEED ON BUSY ARTERIAL WITH HIGH VEHICLE VOLUME	HIGH SPD.	AND	ARTERIAL (2,3)	AND	HIGH VOLUME						
12	HIGH SPEED ON NON-ARTERIAL STREET	HIGH SPD	AND	DRIVER FAILURE TO YIELD ROW	AND	NON ARTERIAL (4,5)	AND	HIGH VOLUME				
13	PEDESTRIAN BEHAVIOR	PEDESTRIAN VIOLATION (this covers both failure to follow signals and failure to cross in xwalk)										
17C	HIGH RISK FACTORS	HIGH VIOLENT CRIME	AND	HIGH VOLUME	AND	HIGH SPD						
18	ALCOHOL USE	DRIVER ALCOHOL	OR	PED ALCOHOL								
19	UNSAFE SPEED	UNSAFE SPEED	OR	SPEED DATA > 30								
20	DRIVER BEHAVIOR	DRIVER FAILURE TO YIELD ROW										

Vision Zero

SENIOR Collision Profile Matches



LEFT TURNS AT SIGNALIZED INTERSECTION Collision Profile Matches



Outreach Highlights
What We Heard from San Franciscans

San Franciscans told us to prioritize:

Leading Pedestrian Intervals

Pedestrian Countdown Signals

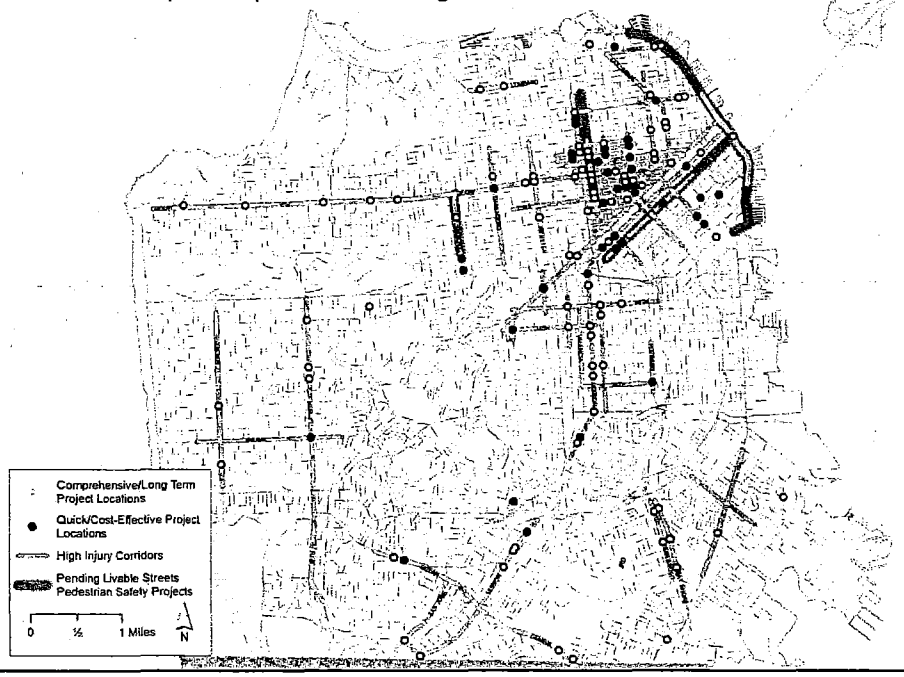
Automated Speed Enforcement

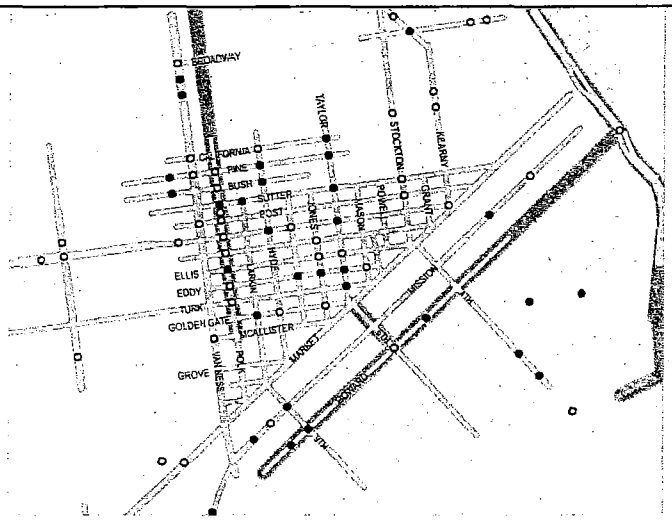
The vast majority of all WalkFirst participants want SFMTA to act quickly and implement temporary measures that are cost effective.

80% of respondents wanted SFMTA to first fix the intersections and corridors where the most collisions occurred

85% of respondents think pedestrian safety is getting worse in the City

WalkFirst Capital Improvement Program





EFFECTIVENESS: 68%
of severe/fatal injuries on High Injury Network targeted by WalkFirst Pedestrian Safety CIP

COST: $50M
for implementation of WalkFirst Pedestrian Safety CIP

TIMEFRAME: Years 1–5
for implementation of WalkFirst Pedestrian Safety CIP

Quick / Cost-Effective Improvements

- Advance Stop or Yield Lines / Red Visibility Curbs
- Continental Crosswalks
- Leading Pedestrian Intervals
- Turn Prohibitions
- Reduced Lane Widths
- Temporary Corner Bulbs & Chokers
- Pedestrian Scrambles
- Speed Humps
- Signal Timing Changes
- Protected Left Turns
- Temporary Pedestrian Refuge Islands


6th/Howard Before
Vision Zero


6th/Howard After
Vision Zero

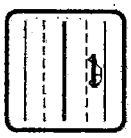

6th/Market Before
Vision Zero


6th/Market After
Vision Zero

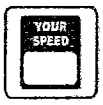
Comprehensive / Longer-Term Improvements

- Speed Tables & Raised Crosswalks
- Corner Bulbs & Chokers
- Pedestrian Detection
- Radar Speed Display Signs / Portable Speed Trailers
- Marking Unmarked Crosswalks
- Pedestrian Warning Signs
- Pedestrian Countdown Signals
- Flashing Beacons (RRFB's & HAWKs)
- Roadway Safety Lighting
- Road Diets
- New Midblock Crosswalks
- Pedestrian Refuge Islands

WalkFirst Programs

Selected Corridor Planning & Design		$ COST: $1.9M TIMEFRAME: Years 1-5
Enforcement		$ COST: $1.2M TIMEFRAME: Years 1-5
Automated Speed Enforcement Legislation		$ COST: $40K TIMEFRAME: Years 1-2
Education Campaigns		$ COST: $1.9M TIMEFRAME: Years 1-5

WalkFirst Programs

Radar Speed Display Signs		COST: $1.9M TIMEFRAME: Years 1-5
Signal Retiming Program		COST: $550K TIMEFRAME: Years 1-5
Flashing Beacon Program		COST: $300K TIMEFRAME: Years 1-5
Daylighting Program		COST: $300K TIMEFRAME: Years 1-5
Pedestrian Detection Pilot		COST: $40K TIMEFRAME: Year 1

Next Steps

- 24-project plan: deliver by January 2016
- Finalize 24 Project List: March 2014
- Share with Vision Zero Task Force in June 2014
- First project type complete: 6th/Howard

Vision Zero SF

- San Francisco Police Department
- San Francisco District Attorney

Vision Zero SF

Current campaigns:

Mayor's "Be Nice, Look Twice" : February – June 2014
- Awareness of issue and causes

Pedestrian Safety Campaign: June 2014 – early 2015
- Build on awareness, focus on violations of Pedestrian right-of-way

Large Vehicle and safer streets: January '14 – 2015
- Enhanced driver training program for city and private fleets

Additional ongoing safety education efforts:

Safe Routes to School
- Addressing pedestrian and bicycle safety for schoolchildren

Adult bicycle safety education classes
- Teaching people who bike how to ride safely and responsibly

Vision Zero SF

Program-level Synergies and Support

Community-wide Collaborations On:

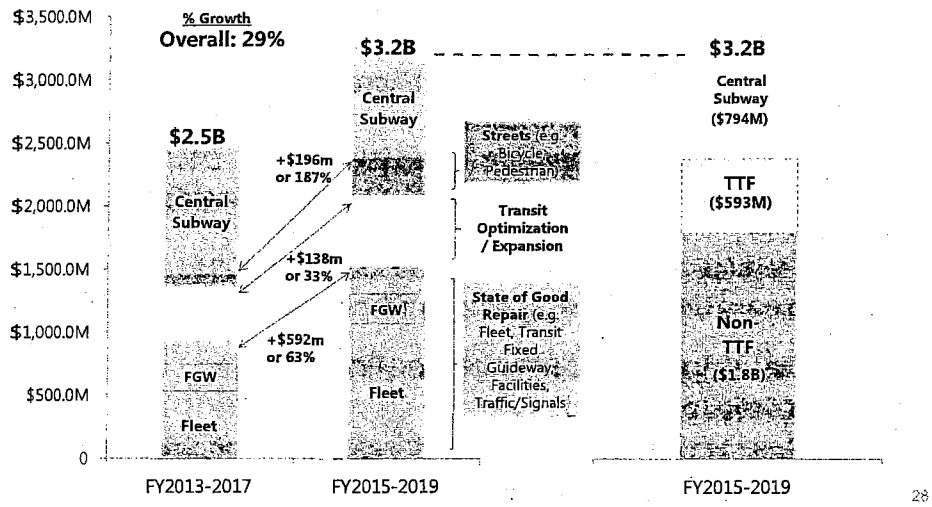
- Funding – public and private funds
- Cultural Shift – education and enforcement
- Public Involvement –input and reporting
- Project Delivery – all departments, and the public, must play a role

Underway:

- TA Vision Zero Committee and Program Support to VZ Steering Committee (Kim – 140047)
- Start-up efforts for Pedestrian Safety Public Awareness Working Group (Yee – 140039)

Increased Partnerships

SFMTA Proposed 2015- 2019 CIP



Funding

Committed Funding

Planned – Sources to Tap Into

- State Active Transportation Program (est.) $40.0 million
- OneBay Area Grant Program (est.) $63.0 million

Committed Sources (5-Year : FY 15 – FY 19)

- Proposition K Sales Tax $22.7 million
- SFMTA Revenue Bonds $13.0 million
- Proposition AA Vehicle Registration Fee $ 6.3 million
- SFMTA Operating Funds (Capital) $ 5.0 million
- General Fund (FY 13/14 only) $ 1.0 million
- Development Impact Fees (varies)

29

Transportation Task Force - Recommendations

- **Recommendation:** Pursue three revenue sources that, when combined, address a significant percentage of transportation improvements – **first step November 2014 Ballot Measures**

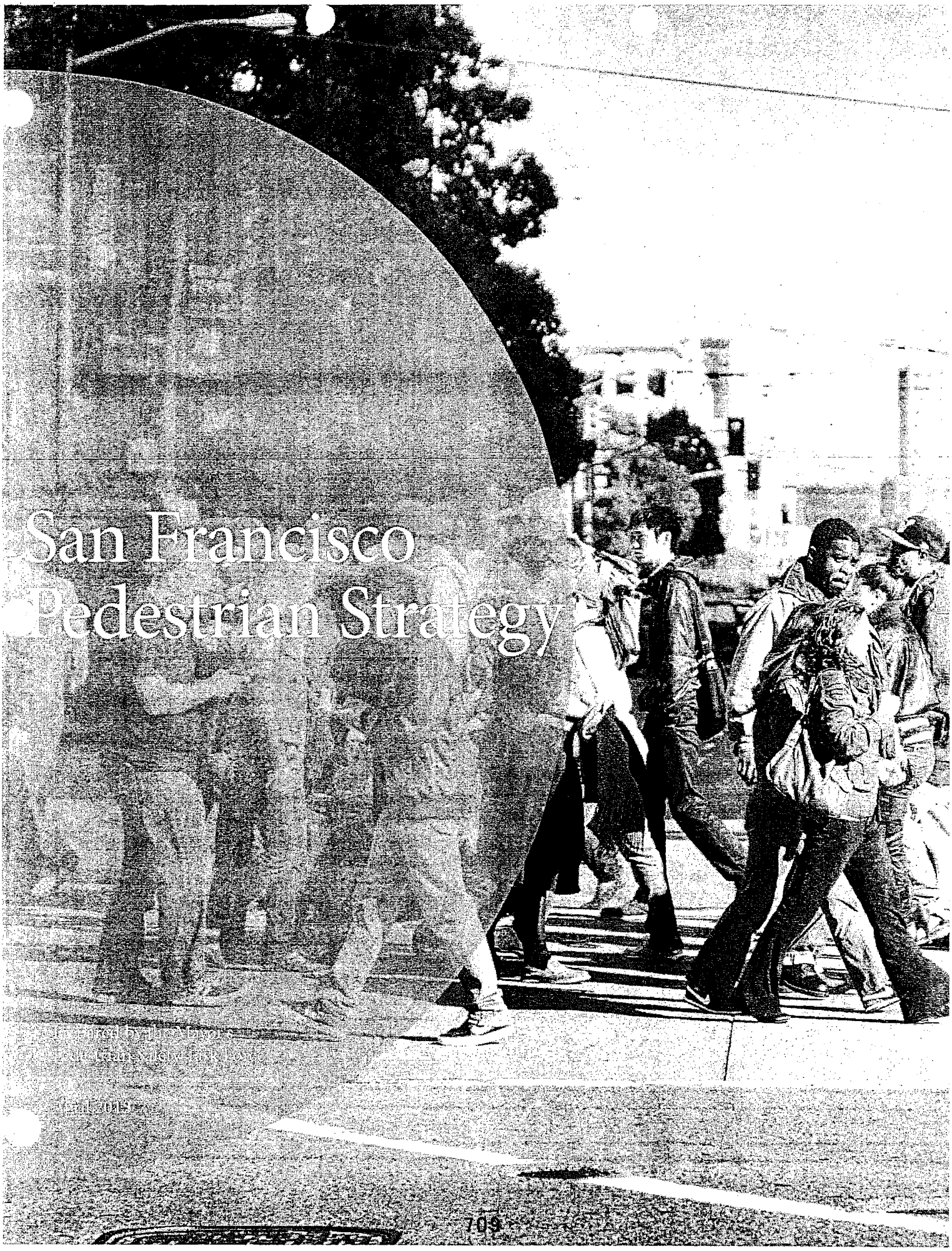
Revenue Source (2013$)	15-Year Annual Average	15-Year Total
General Obligation Bond	$55 m	$829 m
Vehicle License Fee Increase	$73 m	$1,100 m
0.50% Sales Tax Increase	$69 m	$1,000 m
Grand Total	**$197 m**	**$2,929 m**

Transportation Task Force - Revenue Measures

- Ability to **improve transit travel time by up to 20% on lines that serve 65% of Muni riders**
- **Purchase up to 57 new Muni Buses and 6 Light Rail Vehicles** increasing vehicle capacity and reliability to meet growing ridership needs
- **Improved condition of existing infrastructure** such as
  - Traffic and Pedestrian Signals
  - Muni Metro escalators and elevators
- Ability to **leverage additional regional funds**

Transportation Task Force - Revenue Measures

- **Increasing the City's ability to meet mode shift goals**
  - More funding to implement critical pedestrian safety projects identified by WalkFirst
  - More funding for bicycling infrastructure to improve safe travel conditions
  - More funding to meet emerging transportation needs
- **Increase ability to deliver high-profile city priority projects** such as
  - Major corridor improvements, such as Market Street
  - Meeting City's commitment to fund Caltrain



San Francisco Pedestrian Strategy

Contents

Vision Statement

San Francisco is the most walkable city in North America. People choose to walk because our streets are lively and safe. Our actions to make walking more attractive will lead people to choose to walk for most short trips. This in turn will help create an efficient, effective transportation system and improve the health and well-being of our residents. San Francisco's status as a great walking city will attract visitors and workers from all over the world to enjoy the vibrant street life and build the economy.

Goals

1. Reduce serious and fatal pedestrian injuries by 25% by 2016 and by 50% by 2021

2. Reduce serious pedestrian injury inequities among neighborhoods

3. Increase walking and reduce short trips (< 1 mile) taken by car by 25% by 2021.

4. Provide high-quality walking environments

Key Strategies

- Upgrade 44 miles of streets, 5 miles per year through 2021, to improve pedestrian safety and comfort on key walking streets with high rates of pedestrian injury.
- Give extra crossing time at 800 intersections citywide, at least 160 annually
- Re-engineer streets around at least 5 schools and 2 areas with high numbers of senior injuries annually to increase safety
- Update or create at least nine plazas (installing at least one per year) and request proposals for parklets aiming to install 20 annually, pending demand
- Re-open 20 closed crosswalks by 2021
- Plan Green Connections, a citywide network of 140 miles of green streets to help people walk safely to parks and the waterfront, including six conceptual designs by the end of 2013 and build the entire network by 2032
- Upgrade 13,000 curb ramps in the next 10 years
- Install pedestrian countdown signals at 184 intersections by 2021
- Target enforcement of high-risk behaviors (i.e., speeding, red-light running, failing to yield to pedestrians) on high-injury corridors and intersections, and report quarterly on injury collisions and enforcement
- Pursue state legislation for prioritizing sustainable transportation and targeting enforcement (e.g., speed cameras, congestion pricing, vulnerable user laws)

Message from Mayor Lee

San Francisco is one of the best cities for walking in the country. Our bustling downtown, waterfront, distinctive neighborhoods and world-class parks are just the start. Our city is the birthplace of parklets, and with New York City, of Sunday Streets-new ways to enjoy streets as shared public space. Over the past year, we have lowered speed limits around 181 schools to make it safer for children and families to walk to school.

Building a walkable city matters for many reasons: health, equity and our city's economy. Walking provides a simple, inexpensive way for residents to get healthy physical activity and recreation. A great walking environment is essential to our city's prosperity. Attractive sidewalks and plazas draw shoppers. They also attract successful businesses and talented workers, as illustrated by the number of companies that are choosing to locate in San Francisco today. Many of the nation's top companies know their employees prefer to be in a city where they can choose to walk, bike or take transit to work.

But we still have important challenges to address. Over 800 people are hit by cars in San Francisco each year, and 100 of those people are severely injured or killed. These collisions cost millions of dollars in public funds and untold costs for victims and families. Each is a tragedy, and each is preventable.

My predecessor, Mayor Gavin Newsom, issued Executive Directive 10–03 in December 2010 calling for a reduction in severe and fatal injuries by 50 percent, reducing safety inequities among neighborhoods, and increasing walking.

I am committed to delivering on these goals.

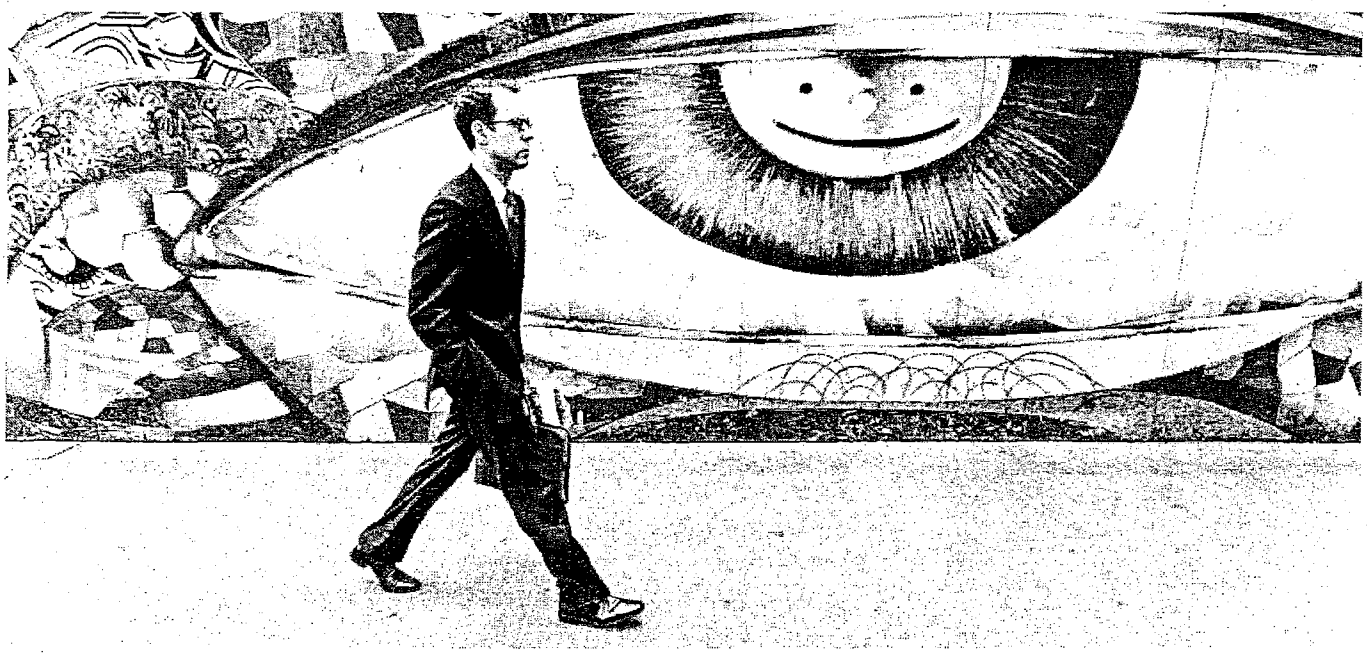
Building on the Better Streets Plan, the WalkFirst project, and programs like Sunday Streets, the Pedestrian Strategy provides a comprehensive list of actions to make city streets more safe and comfortable for everyone, improving the pedestrian experience for residents, employees, and visitors.

City agencies and stakeholders, along with my office, will work together to advance this Strategy and make San Francisco the most walkable city in North America.

Sincerely,

Edwin M. Lee, Mayor

Context



A City for Walking

San Francisco is a city that walks. San Francisco's compact size and daytime population of nearly one million mean that walking is a crucial part of keeping our city moving. Yet, 25% of all car trips are less than one mile, a distance easily walked by most adults. This suggests that there is still much to be done to encourage even more walking.

Fundamental

Nearly a fifth of of the 4 million trips San Franciscans and visitors take each day are entirely by foot. And every single trip each person makes, whether it's by bus, bike or car, begins and ends with walking.

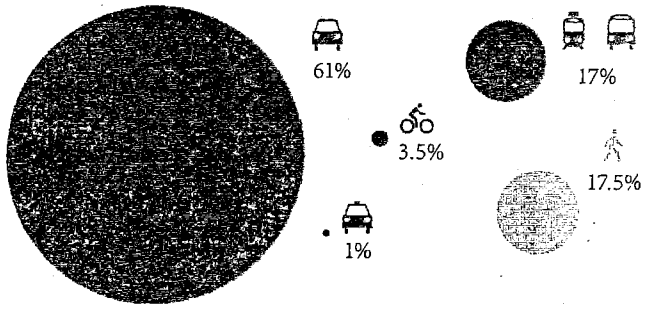
Commute

- Daily Transportation
- A Popular Commute Option
- Getting to School

School

The number of kids who walk to school, though still low, is increasing. There are Safe Routes to Schools programs at 15 schools, and 55 schools participated in Walk to School Day in 2012.

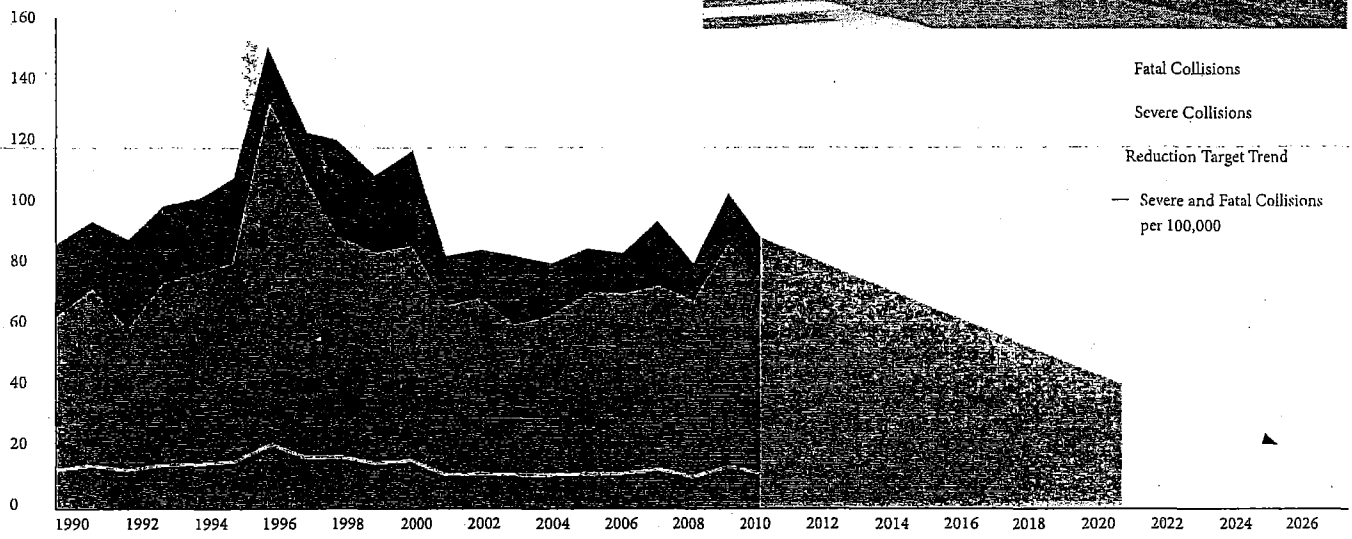
2010 Primary Transportation Mode
(All trips begin and end with walking)[1]



Pedestrian Safety

Why focus on pedestrians?

People walking are a key measure of a healthy city. This Pedestrian Strategy is part of the City's broader effort to address the safety of all road users. In San Francisco, over the past decade, on average 20 pedestrians were killed and 800 injured in collisions with motor vehicles every year. Pedestrians make up half of all traffic fatalities in San Francisco. Each one of these deaths and injuries is avoidable.



It is our job to make sure that our streets and sidewalks are safe, pleasant and convenient for the hundreds of thousands of people who live in, work in, and visit our city each day.

Safe Streets for People with Disabilities

The improvements addressed in this strategy will help make streets safer and more accessible and easy to use for people with disabilities. Measures like installing 13,000 curb ramps and increasing crossing time at 800 intersections will make it easier to get around the city for everyone, including those in wheelchairs, with walkers, or anyone who simply needs a little extra time to get across the street. Throughout this document we refer to walking and to pedestrians; this includes everyone, whether walking or using an assistive device to navigate our sidewalks and streets.

Context

Risk Factors

By examining the underlying causes behind these collisions, the City is taking steps to reduce risk factors and prevent more tragedies.

Speed:

Speed is responsible for ten times the number of pedestrian injuries in San Francisco as driving under the influence of drugs or alcohol. Wide, fast arterial streets, such as Geary, Van Ness, and sections of 4th and 6th Streets approaching the freeway have the highest rates of collisions that cause serious injury or death to pedestrians.

The dangers of speed are exponential. A small increase in speed results in a large increase in the likelihood of death to a pedestrian in the case of a collision. A pedestrian struck at 40 mph is four times more likely to die than one struck at 30 mph; a pedestrian struck at 30 mph is six times more likely to die than one struck at 20 mph.

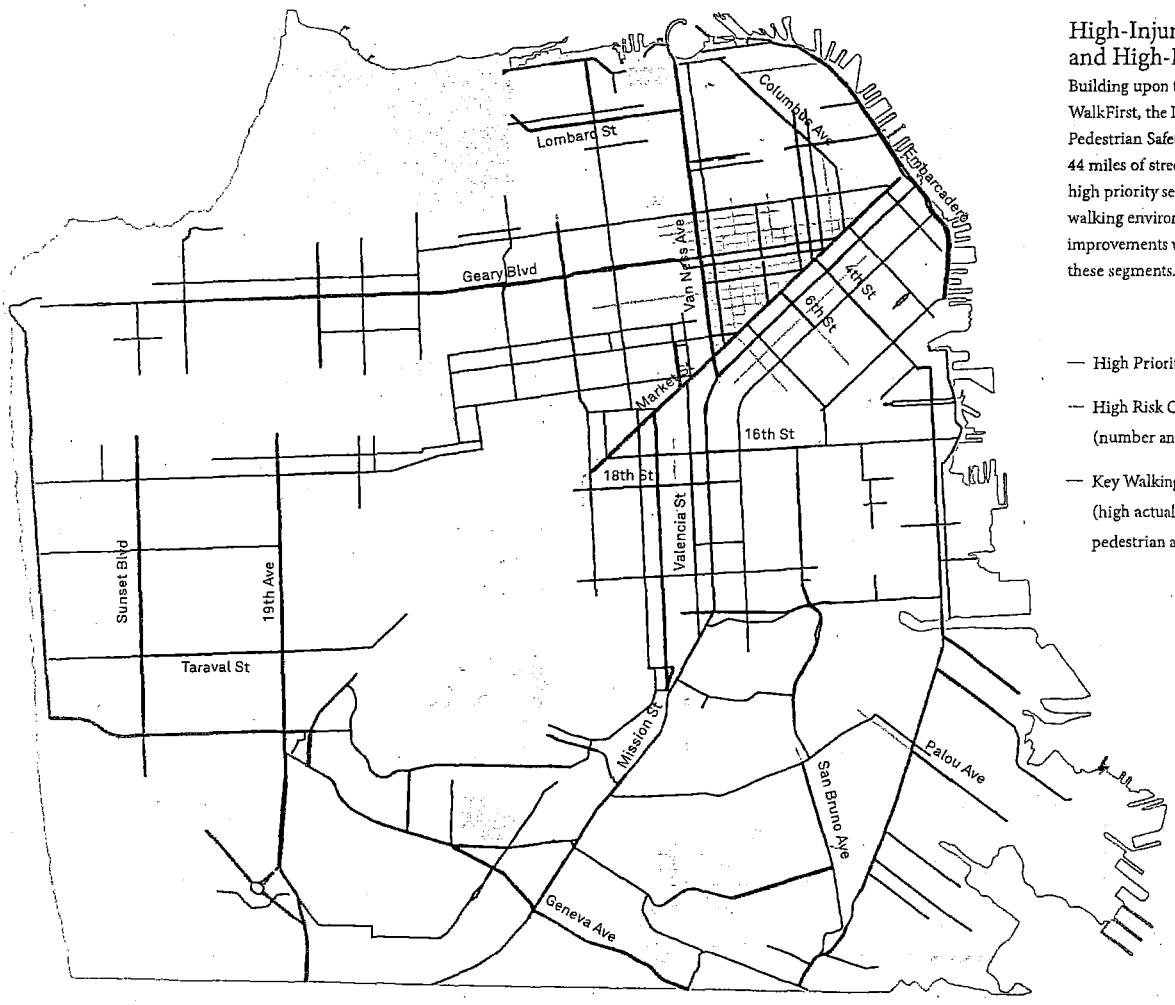
Failure to Yield:

Sixty-eight percent of pedestrian collisions occur at intersections. In 2011, 41% were due to drivers failing to yield to pedestrians in the crosswalk.

Left Turns:

Of 2,692 intersection collisions involving pedestrians from 1999-2003, 15% involved a right-turning vehicle and twice as many, 31%, involved left-turning vehicles.

Targeted enforcement and engineering to reduce these risks will calm speeds, improve intersections, and save lives.



High-Injury Corridors and High-Priority Streets

Building upon the work completed through WalkFirst, the Data Subcommittee of the Pedestrian Safety Task Force identified 44 miles of streets in San Francisco as high priority segments to improve the walking environment. Complete Streets improvements will be implemented along these segments.

- High Priority Segments
- High Risk Corridors (number and severity of collisions)
- Key Walking Streets (high actual and potential pedestrian activity)

Despite San Francisco's notoriously foggy weather, and shorter daylight hours in the winter, 67% of collisions occur on clear days and 62% during the daytime, suggesting that it is within our power to mitigate many of the factors that cause collisions.

Solutions

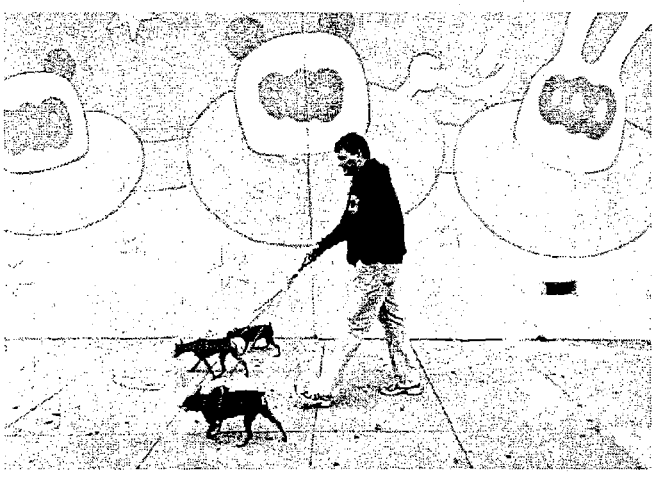
Addressing Unsafe Speed

This strategy includes many actions to address the problem of unsafe speed, including targeted traffic enforcement, new speed reporting devices, and traffic calming and complete streets interventions that include road diets, narrowing lanes, and installing speed humps and wider sidewalks, especially with corner bulb-outs.

Improving Streets and Intersections

This strategy also includes actions to make intersections safer and ensure that drivers yield to pedestrians when they have the right of way. These include stepped-up police enforcement and several engineering techniques: narrowing intersections with bulb-outs; narrowing or reducing lanes; adding continental or 'ladder' crosswalks and pedestrian refuges; providing additional crossing time with signal adjustments; and installing pedestrian countdown signals.

These all improve intersection safety by slowing cars, helping drivers and pedestrians see each other, and giving pedestrians enough time to cross safely.



What a Walkable City Means for San Francisco

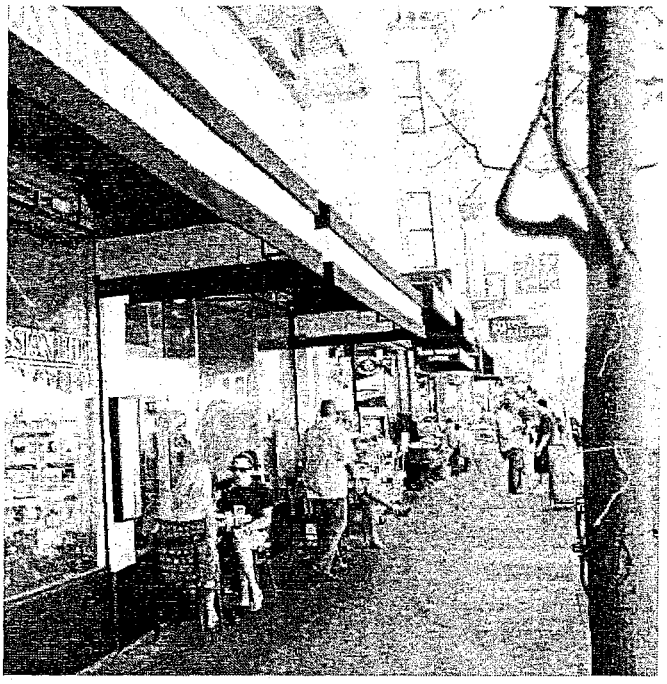
A Healthy City

Walking is a simple, easy way for San Franciscans to get the 30 minutes of daily exercise everyone needs to achieve good health. Walking regularly has been shown to reduce bad cholesterol and increase good cholesterol, lower blood pressure and risk of type II diabetes, increase bone density, improve mood, and even increase life expectancy by several years.[3]

Exercise is also important to maintaining a healthy weight. While SF is ahead of the nation with lower obesity rates, nearly 17% of SF adults are obese, and one in five say they do not get exercise on a regular basis. Nearly half of San Francisco's 5th graders are outside the "healthy body composition" zone and over 20% of school kids report getting no physical activity in the past seven days.[4]

A more walkable city provides a free and easy way to add physical activity into daily life and improve the physical and mental health of residents, workers, and visitors alike.

Context



A Prosperous City

The investments the City is making in walkable streets are paying off for local business. For instance, after the City slimmed traffic lanes and widened the sidewalks on Valencia Street, merchants reported increased sales, and more area residents shopping locally. Two-thirds of respondents said that increased levels of walking and bicycling helped improve business and sales.[5] Special events such as Sunday Streets bring additional foot traffic to neighborhoods and boost local economies.

Larger companies are choosing to stay in San Francisco, or relocating here from the Peninsula because they know their employees value living somewhere that they can choose to walk, bike or take transit to work.[6]

Walkable streets are also essential to attract tourists. The tourism industry generates over $526 million in tax revenue for the City of San Francisco each year. Nearly half of tourists report that they come to San Francisco to experience the city's overall ambiance, atmosphere (48%) and scenic beauty (42%). Upon leaving, many note that their least favorite thing about the City was traffic or other transit issues (10%). This is despite the fact that many tourists remain in a small, entirely walkable portion of the city, suggesting that more can be done to improve the walking environment for these valuable visitors.

A Sustainable City

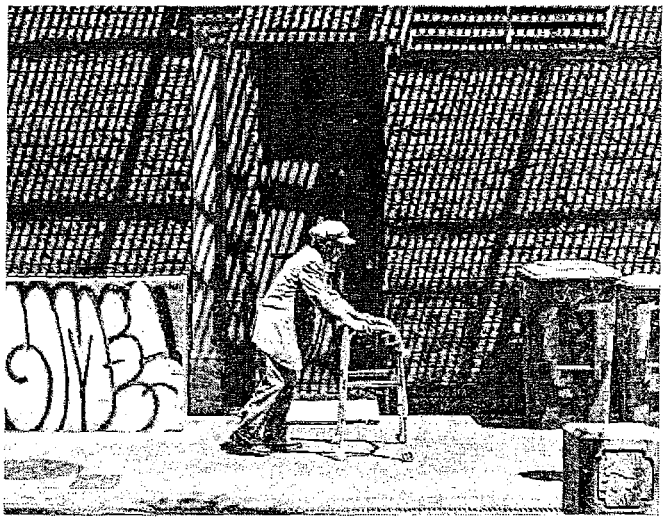
33% of trips one mile or less are still taken by cars in San Francisco. For many able-bodied people this is a distance easily traveled by foot. By shifting more of these trips to walking we can help reduce congestion for those who may still need to drive, and help meet the City's goals of cutting greenhouse gases (below 1990 levels) by 25% by 2017 and 40% by 2025.

An Equitable City

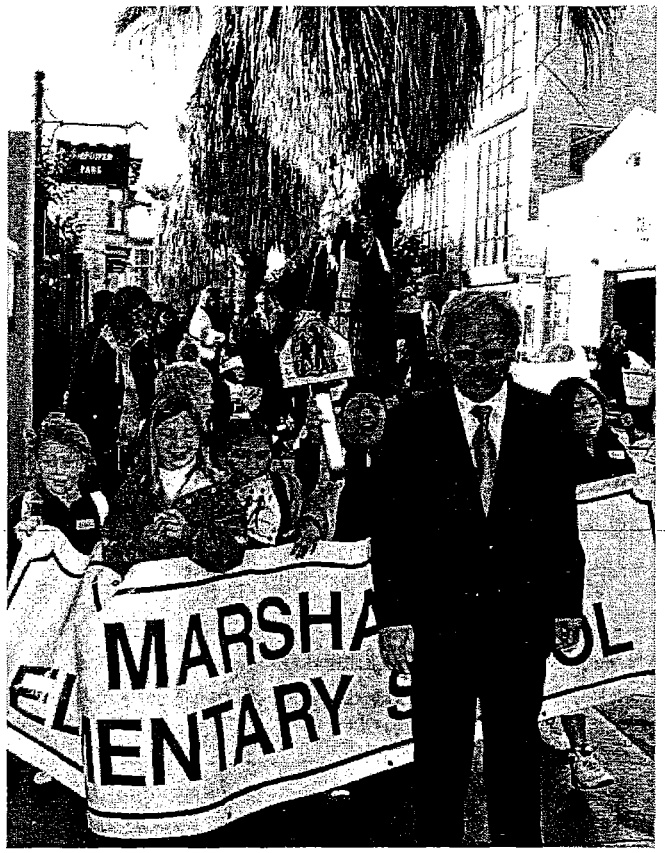
Pedestrian collisions have a disproportionate impact on certain neighborhoods, as the map on page 6 of this report shows. Children and seniors face disproportionate risks from collisions. Seniors are four times as likely as other adults to be killed by a car in Francisco; about half of fatal crash victims are seniors, though seniors only account for 15% of the population.[7]

One out of every five trauma cases in San Francisco is a pedestrian hit by a car, and San Franciscans pay about $15 million per year in public costs for hospital expenses related to pedestrian crashes.[8] That's on top of lost days of work for the victim and caretakers, not to mention the pain and emotional trauma for all involved.

Nearly one-third of San Franciscans do not own a car. For these families, walking is an essential part of daily travel. 40% of trips in San Francisco are under a mile, about 20 minutes by foot; walking these short trips helps to alleviate traffic congestion, improve air quality and support public health.



Existing Efforts



City Programs

San Francisco has a comprehensive set of programs and initiatives dedicated to improving pedestrian safety and the quality of the pedestrian environment, including:

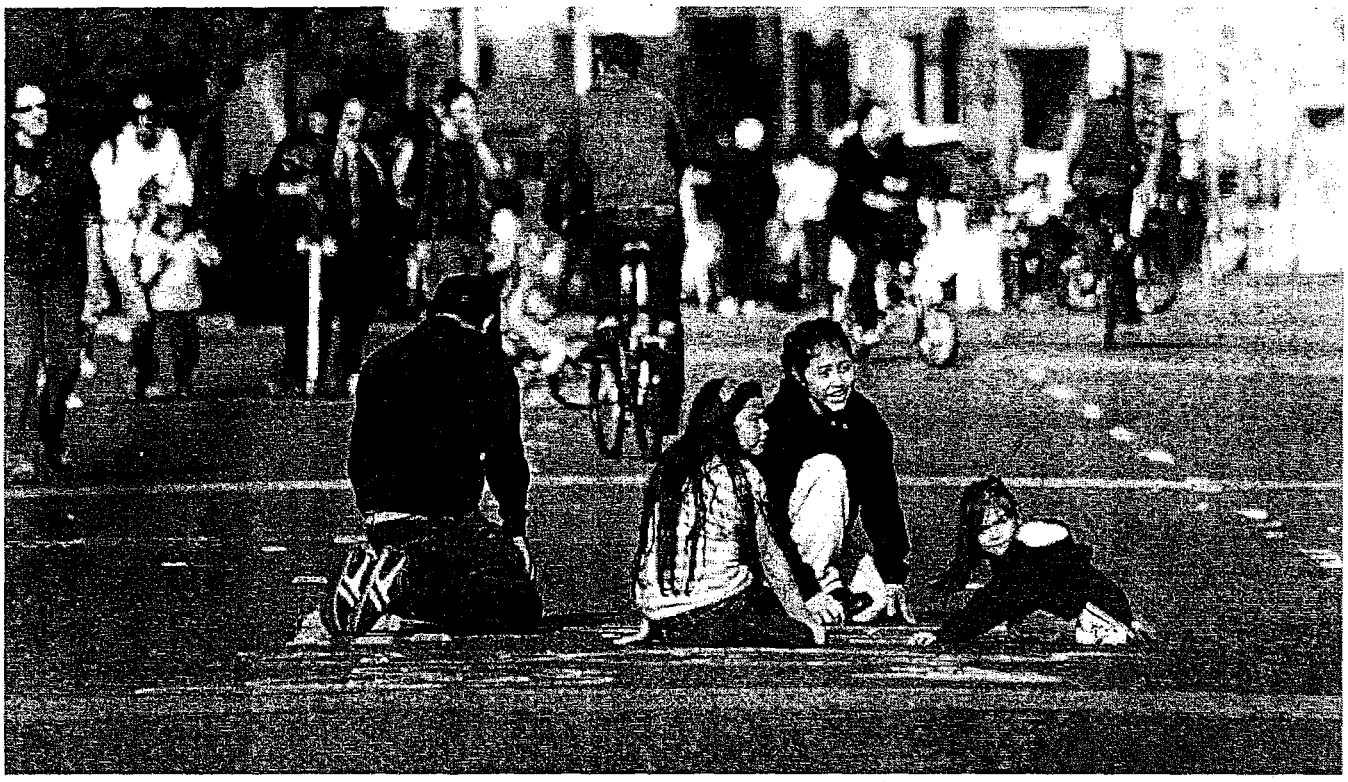
SFMTA's Pedestrian, Traffic Calming and School Area Safety programs

SF Planning Department's Pavement to Parks and Green Connections

SFDPH's Program on Health, Equity and Sustainability

Safe Routes to Schools

Sunday Streets and Better Streets initiatives



Existing Efforts

In recent years the City has:

- Installed and enforced 15-mile-per-hour speed limits at 181 schools to protect children and make neighborhood streets safer and more comfortable for everyone
- Increased pedestrian crossing time at 390 intersections
- Installed over 200 traffic calming devices, such as speed humps, citywide
- Created the first pilot "home zone," with holistic traffic calming measures to slow speeds and put the safety and comfort of people first
- Stepped up enforcement of crosswalk violations and other activities that endanger pedestrians
- Created a Pedestrian Environmental Quality Index and pedestrian injury prediction models to focus resources strategically in the areas of greatest need
- Launched Sunday Streets, which attracts thousands of San Franciscans and visitors to walk and enjoy vibrant events in car-free streets
- Supported the creation of over 100 parklets, creative ways to use street space to provide seating and other amenities for pedestrians and shoppers
- Built four new plazas and one promenade to enliven streets and provide more space for people on foot

The City has been recognized for these efforts:

Walk Score®

Walk Score:
2nd Most Walkable City in U.S., 2012

WALK FRIENDLY COMMUNITIES

University of North Carolina:
Gold Level Walk Friendly Community

2012

2012 Sustainable Transport Award:
for SFpark, cycling and public space improvements

20TH ANNUAL Golden Wheel AWARDS

San Francisco Bicycle Coalition's Golden Wheel Award: for installation of parklets

Goals and Actions

The City is committed to taking the following actions to reduce pedestrian collisions and increase walking by creating more pedestrian-friendly streets. The actions are linked to a set of measurable objectives with deadlines.

Of the many important actions listed below, it is worth highlighting a few that form the core of this strategy — the improvements to be made on high-priority streets (see box at right) and in targeted areas.

Improve at least 5 miles of "High Priority" streets each year

- Redesign one mile per year with treatments including sidewalk widening and greening, new traffic lights, etc.
- Redesign four miles per year with less capital-intensive treatments such as re-opening crosswalks, narrowing lanes or road diets, countdown crossing signals, etc.

Continue to improve school safety around at least 5 schools annually

- Prioritize schools that did not qualify for 15-mph zones because they are on streets with high traffic speed and volume.
- Improvements will include increased traffic enforcement as well as bulb-outs, mid-block crossings with traffic lights, and countdown signals.

Improve safety around at least 2 areas annually that have high rates of injuries to seniors

- Focus enforcement around senior centers, targeting failure to yield to pedestrians, as well as speeding and red-light running as needed.
- Improvements will include fixes such as bulb-outs, midblock crossings with traffic lights and countdown signals, and longer crossing times.

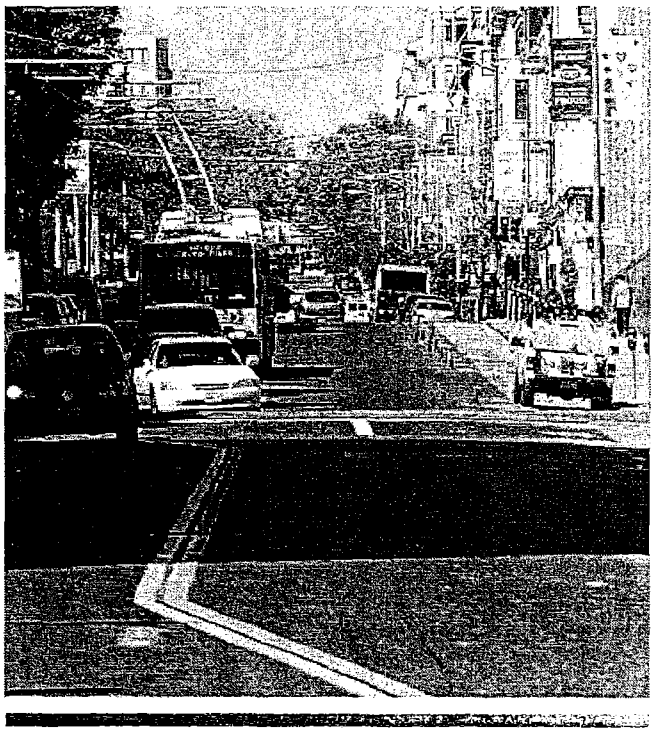
High-Priority Streets

High-priority streets were identified by the WalkFirst project and the Data Subcommittee of the Mayor's Pedestrian Safety Task Force. WalkFirst analyzed the street network to find corridors with high actual or potential volumes of pedestrians — Key Walking Streets — and overlaid these with corridors with high frequency and severity of crashes. The WalkFirst project identified 44 miles of streets as priority candidates to receive Complete Streets improvements between now and 2021.

At least eight miles of these high-priority streets will receive more capital intensive treatments including sidewalk widening.

The remaining 36 miles will receive interventions that may include road diets, bulb-outs, additional crossing time, and the addition of flashing beacons, or reopening of crosswalks; again, interventions will undergo necessary environmental clearance.

The City will make these improvements in concert with other planned construction wherever possible to save costs and minimize disruption to residents and businesses.



Goals and Actions

The City has identified the following goals to reduce the unacceptable number of collisions that harm and kill pedestrians. These goals are backed by a set of Objectives and measurable Objective Indicators with their respective Actions. (Please see website for complete list of Objective Indicators and Actions)

Goal 1: Reduce Pedestrian Injuries

Objective 1.1 Target enforcement efforts to reduce pedestrian injuries

Objective 1.2 Reduce vehicle speeds on arterial streets

Objective 1.3 Implement a citywide pedestrian safety marketing campaign

Objective 1.4 Advance complete collision and injury surveillance to inform prevention and monitor progress

Indicator	Reporting Agency	Proposed Targets FY2014	FY2016	FY2021
Reduce Severe/Fatal Injuries Baseline (2006-2010 data): 97 (20 fatal, 77 severe) collisions	SFDPH	15% reduction	25% reduction	50% reduction

Actions

Increase enforcement hours focused on speeding and failure to yield, on high-priority streets	SFPD	Increase 10%	Increase 20%	Increase 30%
Slow speeds (measured by 85th percentile speeds)	SFMTA	Within 5 mph of speed limit	Within 4 mph of speed limit	Within 3 mph of speed limit
Residential perceptions of traveler behavior, importance of traffic laws	SFMTA/ SFDPH	Establish Baseline	Improvement	Improvement
Develop comprehensive traffic injury surveillence system to inform injury prevention and evaluation efforts	SFDPH	Pilot system	Identify funding to maintain system	System fully implemented

Goal 2: Reduce Neighborhood Injury Inequities in Pedestrian Injury

Objective 2.1 Reduce injuries both on highest injury corridors and areas

Indicator	Reporting Agency	Proposed Targets FY2014	FY2016	FY2021
Reduce Fatal and Severe Injuries Per Mile on High-Injury Corridors Baseline (2006-2010): 86 severe/fatal injuries per 100 road miles, annually.	SFDPH	25% reduction	50% reduction	75% reduction

Actions

Focus enforcement and street improvements in neighborhoods with highest rates of injuries. Baseline (2006-2010 data)	SFDPH	15% reduction in the highest injury areas	25% reduction in the highest injury areas	50% reduction in highest injury areas
Highest injury areas--District 3 (D3): 23*, D6: 20* Second highest injury areas--D1: 10*, D5: 14*, D11: 10*		10% reduction in the 2nd highest injury areas	12.5% reduction in the 2nd highest injury areas	25% reduction in 2nd highest injury areas

*Severe/fatal injuries per 100 road miles annually

Goal 3: Increase Walking Trips and Reduce Driving for Short Trips

Objective 3.1 Expand public outreach promoting walking

Objective Indicator	Reporting Agency	Proposed Targets FY2014	FY2016	FY2021
Increase Walk Trips as % of Work Trips 2012 Baseline: 9–10%	SFMTA	11%	12%	13%
Increase Walk Trips as % of All Trips 2012 Baseline: 18–20%	SFMTA	21%	22%	23%
Increase Walk Trips as % of School Trips 2012 Baseline: Kinder.: 26%, 5th: 23%	SFMTA/SFUSD	Kinder.: 28%, 5th: 25%	Kinder.: 28%, 5th: 25%	Kinder.: 32%, 5th: 29%
Reduce Car Trips of Less Than One Mile 2012 Baseline: 25% of car trips are less than 1 mile	SFMTA	2.5%	5%	25%

Actions

Manage parking through SFpark, planning/zoning, and congestion management 2012 Baseline: SFpark at approximately 19,250 parking spaces.	SFMTA/Planning/SFCTA	Expand SFpark and update parking policy in planning documents	Pilot congestion management; parking policy adopted	SFpark citywide; congestion management established
Create wayfinding signs with destinations and walking times	SFMTA	Destinations established, signs designed	Signs up in priority areas	Signs up citywide
Increase public outreach to encourage walking and prioritize pedestrians	SFMTA/SFDPH	Establish baseline	Improvement	Improvement

Goal 4: Provide High-Quality Walking Environments

Objective 4.1 Provide comprehensive safety, streetscape and walkability improvements and focused, proven safety and accessibility improvements

Objective 4.2 Target safety and walkability improvements near schools and areas with higher rates of senior pedestrian injuries

Objective 4.3 Improve safety and comfort of walking to transit

Objective 4.4 Implement pilot tests for promising, innovative treatments for safety and walkability

Objective 4.5 Expand data analysis to inform targeted safety and walkability improvements

Objective 4.6 Improve resident perceptions of safety and walkability

Objective Indicator	Reporting Agency	Proposed Targets FY2014	FY2016	FY2021
Provide Complete Streets Improvements on High Priority Segments 2012 Baseline: 44 miles of High Priority Segments	SFMTA	5 Miles annually	5 Miles annually	5 Miles annually
Provide Focused Safety Improvements on High Injury-Density Corridors	SFMTA	20 intersections/ crossings annually	20 intersections/ crossings annually	20 intersections/ crossings annually

Actions

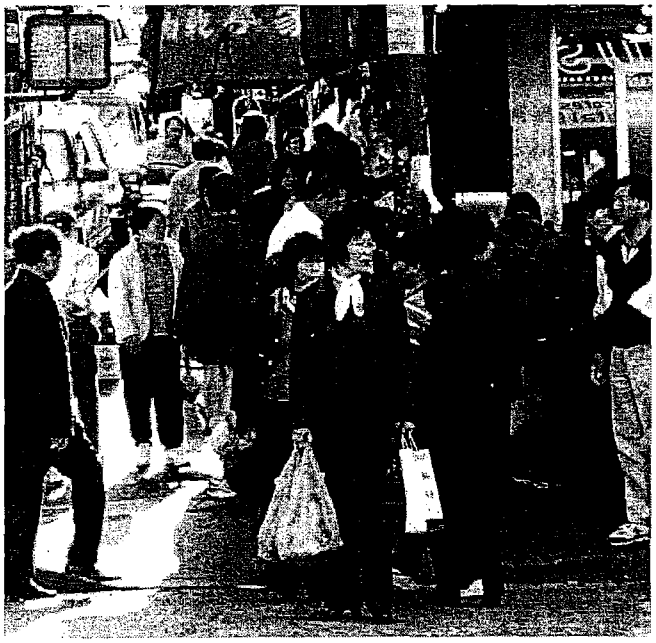
Put the Complete Streets policy into practice	SF Planning	6 departments developed and using CS checklists	12 departments developed and using CS checklists	All relevant depts. developed and using CS checklists
Improve streets around schools and areas with high levels of senior injuries	SFMTA	Design initiated and funding obtained	14 school/senior areas total	49 school/senior areas total
Improve safety and visibility with sidewalk widening at bus stops	SFMTA	Install 35 bus bulbs annually on Muni Rapid routes	70 bus bulbs installed on Muni Rapid routes	172 bus bulbs installed on Muni Rapid routes

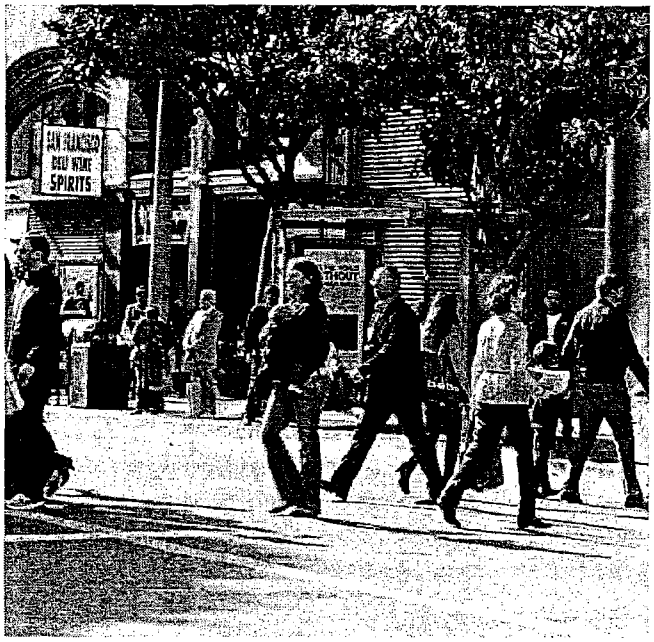
Goals and Actions (Please see website for complete list of tools)

	Improvement	Annual Target	Average Time to Implement	Average Unit Cost
Striping and Signage				
15 mph speed limit signs	S V C	5	< 12 months	$
Reopen crosswalks	S V C	2	< 12 months	$
Narrow lanes	S C	as needed	< 12 months	$
Signals				
Pedestrian countdown signals	S V C	15–20	< 12 months	$ $
Flashing beacon	S V C	3 (within 2 years)	< 12 months	$
Extended pedestrian crossing time	S C	160	< 12 months	$
Smart lighting	S V C	3 (within 2 years)	< 12 months	$
Core Projects				
Bulbouts	S V C	10	2 years	$ $
Rumble Strips	S	3 (within 4 years)	< 12 months	$
Pedestrian Refuges	S V C	10	2 years	$ $
Raise Crosswalks	S V C	3 (within 2 years)	< 12 months	$
Best Practices Projects				
Widen Sidewalks	S V C	1 mile	2–3 years	$ $ $ $ $
Pedestrian-Oriented/Priority Corridors	S C	Complete by 2021	1–2 years	$ $ $ $
Close gaps in the pedestrian network	C	14 in 10 years	1–2 years	$ $ $ $
Supportive Projects and Programs				
Pavement to Parks	C	1 plaza, 1 parklet RFP, 20 parklets	< 12 months	$ $
Green Connections	C	Planning by 2013, installed by 2032	n/a	$ $ $
Curb Ramps	S V C	1300	18 months	$ $ $ $

Tool	Improvement	Annual Target	Average Time to Implement	Average Unit Cost
Enforcement				
Targeted Pedestrian Safety Efforts	S V	Continual	< 2 months	$
Pilot automated speed enforcement	S V	Continual	<12 months	$$
LIDAR Speed Guns	S	Continual	< 12 months	$
Education and Outreach Programs				
Walking and Safety Outreach Campaign	S	Continual	< 12 months	$ $ $
Special Events (e.g. Sunday Streets, PARK(ing) day)	V C	11 per year	< 12 months	$
Website with Strategy Information and Click It, Fix It	V C	Continual	< 6 months	$
Enhance Pedestrian Safety Information in DMV Manual	S	NA	1–2 years	$
Expand Safe Routes to School	S V C	Continual	1–2 years	$ $
Legislation and Policy				
Pursue Top Legislative Priorities (e.g. automated speed enforcement)	S	NA	< 12 months	$
Mobility Access and Pricing Program	S C	NA	< 12 months	$
Institutionalize Complete Streets	S V C	NA	< 12 months	$
Monitoring and Accountability				
Multi-agency reporting, collection and analysis with statics to be posted on website		Continual	1-2 years	$ $
Update Board of Supervisors and Pedestrian Safety Advisory Committee		2+ times per year	1 month	$
Update actions on website		Continual	3 months	$

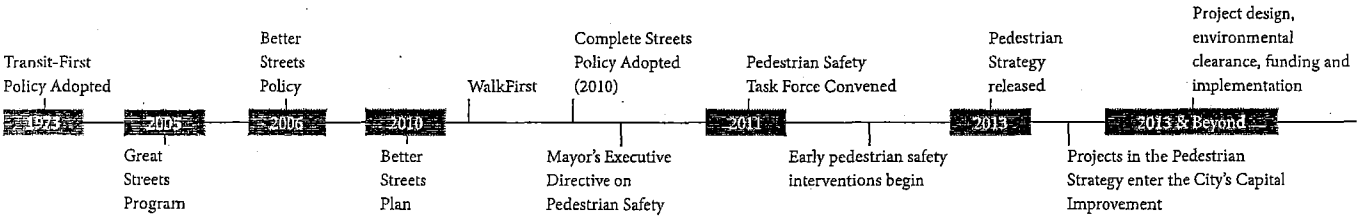
Improvements: S = safety for all users V = visibility of pedestrians C = comfort for people
Costs: $ = <$100K $ $ = $100-500K $ $ $ =$500K-1M $ $ $ $ = $1M–5M $ $ $ $ $ = > $5M





Creating the Pedestrian Strategy

San Francisco's Pedestrian Policies & Programs



In 2010, the Mayor issued Executive Directive 10-03, which calls on the City to reduce fatal and serious injuries to pedestrians by 25% by 2016 and 50% by 2021 (compared to a 2008 baseline). The directive also called for the development of a Pedestrian Strategy, which would examine current conditions and make recommendations for near- and long-term actions and funding sources to improve safety and walkability.

The existing conditions report was created by WalkFirst, an interagency collaboration between the San Francisco Department of Public Health (SFDPH), Planning Department, Municipal Transportation Agency (SFMTA), and the County Transportation Authority. WalkFirst identified key walking streets throughout San Francisco and established criteria to prioritize and improve pedestrian safety and walking conditions, encourage walking, and enhance pedestrian connections to key destinations. More information can be found on the SF Planning Department's website: http://walkfirst.sfplanning.org

The Pedestrian Safety Task Force was convened by the Mayor and led by SFMTA and SFDPH; it was comprised of key city agencies including Planning, the County Transportation Authority (SFCTA), Department of Public Works (SFDPW), the Police Department, the District Attorney's Office as well as community stakeholders including Walk San Francisco, members of the Pedestrian Safety Advisory Committee, and Senior Action Network.

The Pedestrian Safety Task Force's Steering Committee, led by SFMTA, was responsible for the creation of this report.

The Data Subcommittee of the Pedestrian Safety Task Force took the maps developed via WalkFirst and added a layer of traffic safety data, and used this new dataset to identify the 44 miles of "high priority" streets referenced in this document where the City will prioritize safety and walkability improvements, all of which will require the necessary environmental clearances."

Highlights of Mayor's Executive Directive 10-03 (December 2010)

- Reduce fatal and severe injuries by 25% by 2016 (2008 baseline) and by 50% by 2021 (2008 baseline)
- Reduce pedestrian injury inequities among neighborhoods
- Increase walking trips
- Develop an interagency pedestrian strategy with measurable goals and identify funding sources for implementation for the mid and long-term.

The entire Task Force worked together to set the goals and deliverables outlined in this strategy document.

The Pedestrian Safety Task Force will continue to connect quarterly to monitor the progress towards the strategy's targets, and coordinate city agencies responsible for implementation and report these updates to the Mayor's Office and the Board of Supervisors. The Task Force will also connect with community and business groups and the SFMTA Board to create the needed partnerships to realize our goals. Finally, the Task Force will adjust or expand upon actions when necessary to ensure we are meeting our safety and walkability goals.

The public is also encouraged to participate in monitoring the City's progress and to engage with safety and walking projects in their neighborhood. All information pertaining to the Strategy including progress updates and Click It Fix It will be posted online at: PedestrianStrategy.org.

Implementing the Pedestrian Strategy

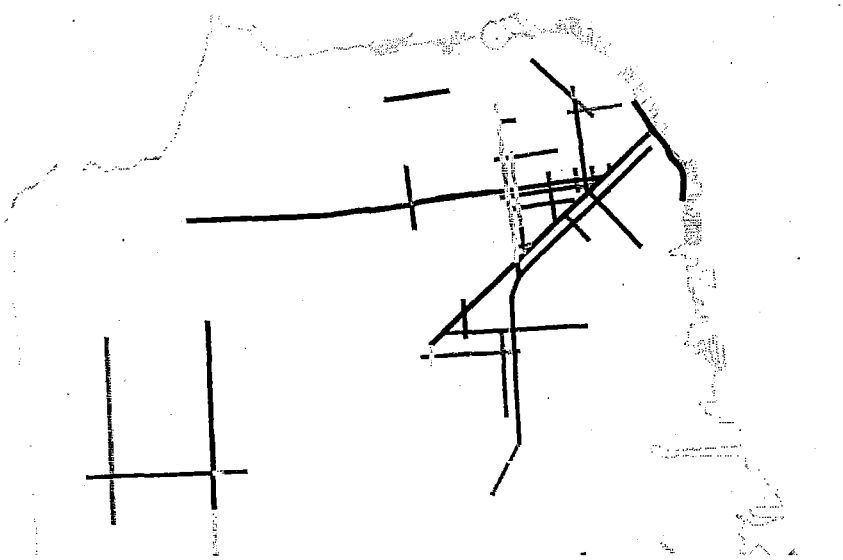
To meet the goals of the Mayor's Executive Directive (to reduce severe and fatal injuries and increase walking), the city will prioritize resources to implement safety and walkability projects and programs focusing on the 44 miles of High Priority Segments. The Strategy outlines three implementation focus areas:

- Core Projects & Programs* : low-cost safety projects and programs
- Best Practices Projects: major street design changes to be phased in over time via pilot and evaluation process
- Supportive Projects and Programs: efforts that contribute to safer and better walking conditions

Many of the actions in the Best Practices category have high capital estimates and have not yet been applied to specific intersections or streets. Therefore, they will need to be piloted and evaluated before being added to the city's capital improvement program. This rational approach will be guided by the Steering Committee to do the following:

- By August 2013--develop evaluation and prioritization criteria for safety and walkability projects and programs
- Biannually, starting Spring 2014--update the 5 year capital improvement program with Core Projects and Programs and Best Practices Projects
- By January 2014--provide an annual evaluation report to measure the progress of the Pedestrian Strategy benchmarks

Focus Areas	Evaluation	Outcome	Financials (2013 - 2021) $ Need	$ Prospective	$ Shortfall
Core Projects & Programs	Evaluate Effectiveness of Project & Programs	Successful Core Programs Continued Core Projects Completed	$60M	$50M	
Best Practices Projects	Evaluate Effectiveness of Pilots	Assign Pilot Next Steps • Effective > keep with existing investment • Effective > construct permanent improvements	$30M	$25M	($5M)
			$273M	$73M	($200M)
Supportive Projects and Programs (to be funded separately)	Monitor Supportive Projects and Programs	Report on how projects address safety and walkability	$172M		
		Total	$363M	$148M	($215M)



High-priority streets where streetscape and transit projects will include pedestrian improvements: 5 miles
High-priority streets where repaving projects do not yet include pedestrian improvements: 3 miles
High-priority streets with transit projects that do not yet include pedestrian improvements: 27 miles
High-priority streets where no projects are yet planned; potential for arterial traffic calming: 9 miles

In order to fund the strategy, the city will need to refocus its existing resources traditionally used for safety and walkability to implement projects and programs along the 44 miles of High Priority Segments. Sixty million dollars is needed to fund the Core Projects and Programs from today to 2021 and an additional $30 million to pilot and evaluate Best Practices Projects. These evaluations will inform the larger capital program which has been estimated at $273M, for which prospective funds identified may cover approximately one-fourth of this need; additional funding is required.

The Mayor's 2030 Transportation Task Force is currently working to identify a funding approach to close investment shortfalls. The result of their work will be released this year and inform this strategy. One effort already underway is Complete Streets integration (see map to the left), which calls for all city projects to examine the inclusion of pedestrian safety and walkability improvements as part of the Steering Committee's tasks.

* Core Projects & Programs includes: Striping & Signage, Signals, Core Infrastructure - Projects, Enforcement, Education and Outreach Programs, Legislation and Policy, Monitoring and Accountability from pages 14 and 15.

Next Steps

This Pedestrian Strategy provides a path towards making San Francisco the most walkable city in North America. The City is committed to advancing this strategy quickly. As San Francisco continues to grow, our policies will also encourage dense mixed-use development with excellent public transit to reduce the need to drive and encourage walking, bicycling and public transit use.

Below are some early action steps, either under way or beginning in 2013 to advance the Pedestrian Strategy.

Physical Street Improvements

Identify key priority segments to be improved each year (approximately 5 miles):

- Develop walk audit of the key walking streets by district
- Convene key stakeholder groups to identify priority areas in each district
- Walk corridors and complete safety and comfort assessment
- With the City Controller's Office, prioritize treatments for high-priority streets as well as identify treatments citywide for inclusion in the city Capital Plan

Education & Outreach

Promote the benefits of walking:

- Make San Francisco the first city in the nation to launch Walk to Work Day on April 12, 2013
- Develop multi-media campaign to encourage walking and pedestrian priority
- Positively reinforce good behavior for people driving, bicycling and walking
- Complete Sunday Streets evaluation and target key walking streets as part of 2013 routes

Enforcement

- Target enforcement on key walking safety streets
- Start Monthly Safety Data Reports by SFPD on collisions and enforcement

Policy and Institutions

- Prioritize key polices for agency adoption and approval
- Identify key walking safety legislation for city and state approval including automated speed enforcement
- Improve the City's project delivery process
- Tailor the Better Streets Plan's "Complete Streets Checklist" and adopt among implementing agencies

Performance Monitoring

City website dedicated to Pedestrian Strategy updates:

- Directors' updates to Mayor and Task Force quarterly
- Multi-agency collision data collection, analysis, and reporting

Acknowledgements

Executive Leadership

Mayor Edwin M. Lee

Gillian Gillett
Mayor's Office, Director of Transportation Policy

Edward D. Reiskin
Director of Transportation, San Francisco Municipal Transportation Agency

Barbara A. Garcia
Director, Department of Public Health

John Rahaim
Director, Planning Department

José Luis Moscovich
Executive Director, San Francisco County Transportation Authority

Pedestrian Safety Task Force

Timothy Papandreou
San Francisco Municipal Transportation Agency, Deputy Director of Sustainable Streets Division, Co-Chair

Rajiv Bhatia, MD, MPH
SF Department of Public Health,
Director of Environmental Health, Co-Chair

Steering Committee

San Francisco Municipal Transportation Agency

Frank Markowitz

Mari Hunter

Luis Montoya

Bridget Smith

San Francisco Department of Public Health

Megan Wier

Ana Validzic

San Francisco Planning Department

Adam Varat

Lily Langlois

San Francisco County Transportation Authority

Tilly Chang

Seon Joo Kim

Jesse Koehler

San Francisco Police Department

Capt. Al Casciato

Capt. Denis O'Leary

Walk San Francisco

Elizabeth Stampe

Other Task Force Organizations

San Francisco Department of Public Works

Peg Divine

Ken Spielman

Cristina Olea

San Francisco United School District

Nik Kaestner

Pedestrian Safety Advisory Committee

Robin Brasso

Jay Lee

John Alex Lowell

Senior Action Network/California Walks

Bob Planthold

Mayor's Office on Disability

Joanna Fraguli

San Francisco Department of the Environment

Krute Singa

San Francisco District Attorney's Office

Rebecca Prozan

San Francisco City Administrator's Office/Capital Planning

Brian Strong

San Francisco Fire Department

Andy Zanoff

San Francisco Public Utilities Commission

Rachel Kraai

San Francisco Recreation and Parks Department

Sarah Ballard

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Matt Brill, SFMTA

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Open Plans

Notes

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SFMTA Bicycle Strategy

April 2013

SFMTA
Municipal Transportation Agency

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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.

SFMTA's Strategic Plan Vision

San Francisco: great city, excellent transportation choices.

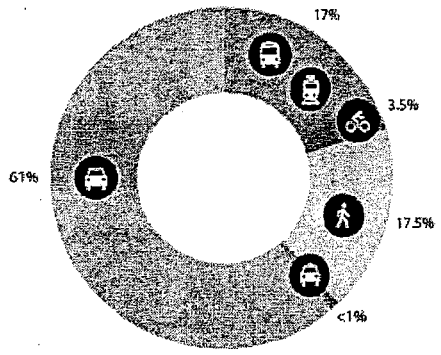
The SFMTA 2013-2018 Strategic Plan is a work plan to meet the mid- and long-term goals of the city's transportation network. The SFMTA Bicycle Strategy is one of several Strategy documents that define mode-specific goals and objectives the Agency will accomplish by 2018 and beyond. The SFMTA Bicycle 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. **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. **Objective 3.3:** Allocate capital resources effectively.

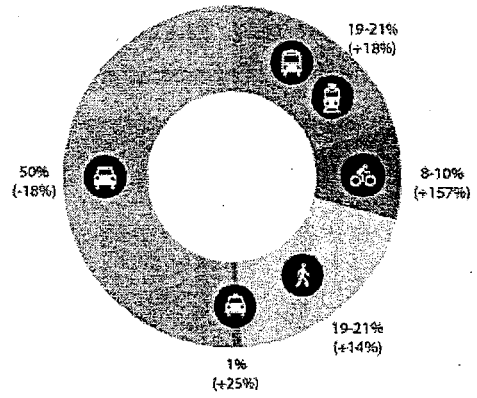
The SFMTA 2013-2018 Bicycle Strategy sets new directions and policy targets to make bicycling a part of everyday life in San Francisco. The key actions are designed to meet the SFMTA 2013-2018 Strategic Plan mode share goal: 50 percent of all trips made using sustainable modes (walking, bicycle, public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

2010 Mode Split



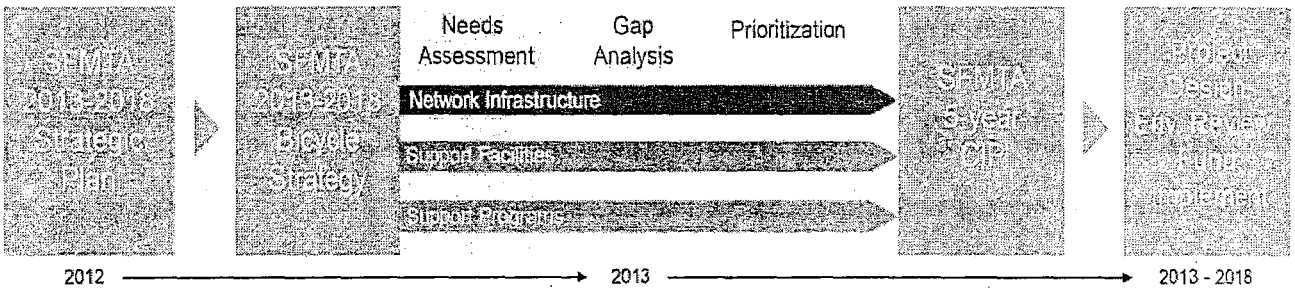
2018 Mode Split Potential



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.

2013-2018 Bicycle Strategy Process



Bicycling in San Francisco

10 YEARS OF CONTINUING PROGRESS

11% San Francisco's mode share increased by two-thirds over the previous decade to 3.4 percent of all trips.

GOLD 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

#3 Third highest in bicycling and walking levels (out of 51)

Fourth highest in bicycle commute rate (out of 51)

SAFE Sixth safest for riding bicycles (out of 51)

Eighth lowest in walk / bicycle fatality rates (out of 51)

Since 2008, the SFMTA has

1400 Installed 1400 additional bicycle racks on sidewalks and in bicycle corrals, for a total of nearly 8800 racks citywide

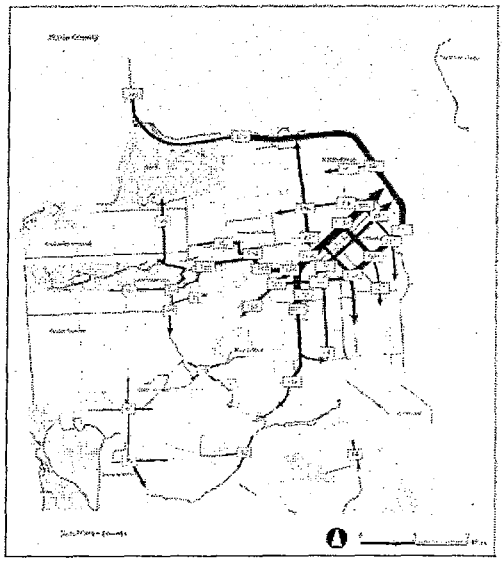
20 Installed 20 miles of bicycle lanes and designated 41 miles of shared use paths, for a citywide network of 215 total miles.

JFK Installed the John F. Kennedy Boulevard bikeway, in cooperation with the Recreation and Parks Department

Expanded the Sunday Streets program to ten annual events

10 Incorporated temporary bicycle treatments into special event traffic

2011 Bicycle Counts



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.

BIG CHANGES NEEDED IN THE NEXT 10 YEARS

2/3 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.

10% 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.

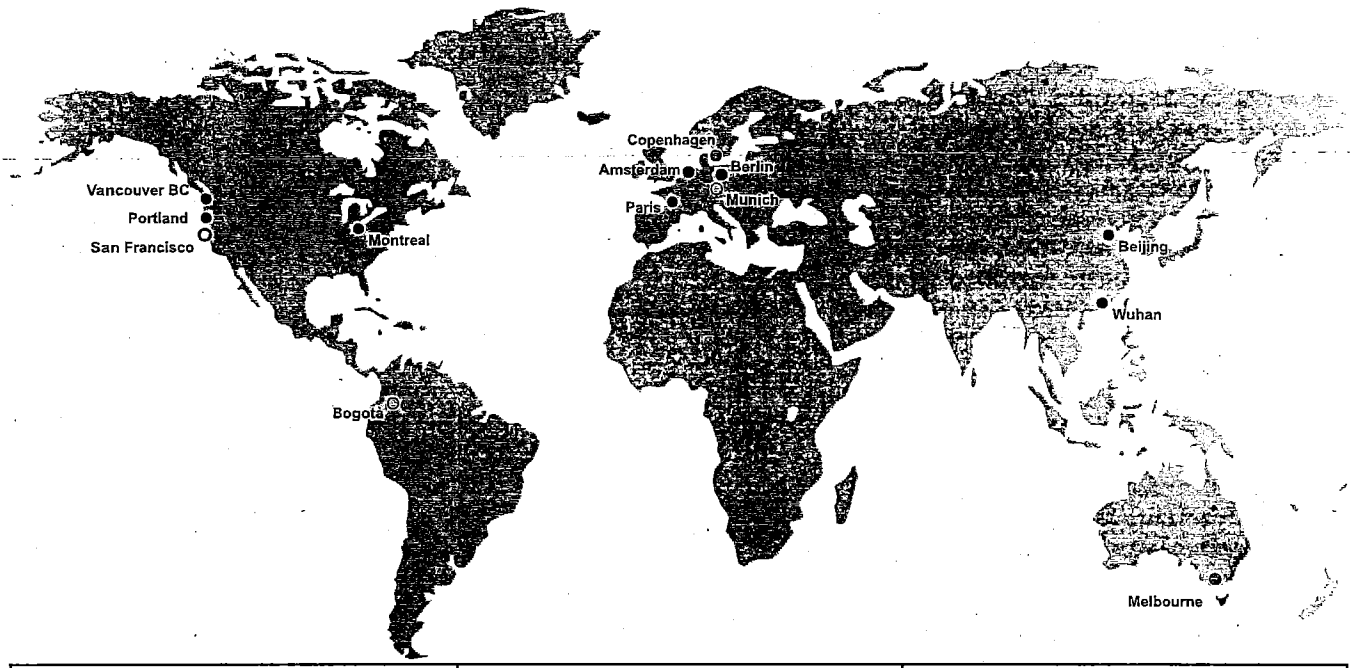
Only 15 out of 150 public schools in the city receive bicycle safety education.

The bicycle network is fragmented and not legible to all current and potential users.

250% Bicycle activity needs to grow by 250 percent for the city to reach its goal of 50 percent non-auto trips by 2018.

How does San Francisco compare?

San Francisco ○	Amsterdam ●	Copenhagen ○
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%	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	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



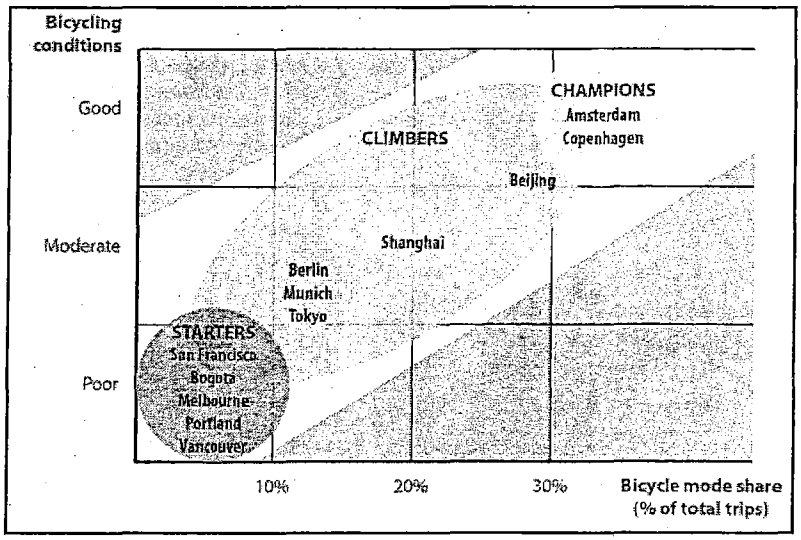
Munich ◎	Berlin ●	Portland OR ●
Pop: 1.4M, Density: 11.5K / sqmi Regional pop: 2.6M Bicycle mode share: 14% (2008) Bicycle network: 752 miles Bicycle sharing: No Average gas price: $7.75 / gal	Pop: 3.5M, Density: 10K / sqmi Regional pop: 6M Bicycle mode share: 13% (2008) Bicycle network: 876 miles Bicycle sharing: Yes (Call-a-Bike) Average gas price: $7.75 / gal Transit mode share: 26%	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 ◉	**Melbourne ●**	**Vancouver BC ●**
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	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%	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.

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.



Derived from: Presto Cycling Policy Guide.

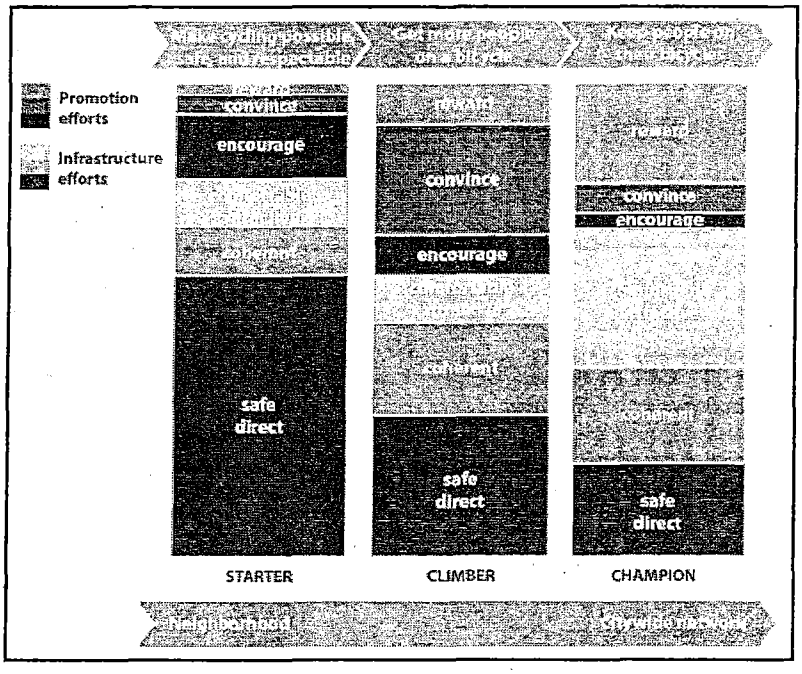
However, San Francisco has many of right characteristics to become a Climber city in the next five to six years. The city has an urban density similar to Amsterdam, Copenhagen, and Munich. Both Amsterdam and Copenhagen's bicycle networks have the same order magnitude of mileage as San Francisco (~200+ 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.

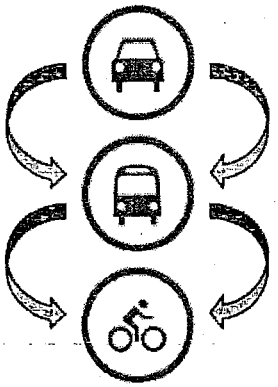


Source: Presto Cycling Policy Guide.

Encouraging Mode Shifts

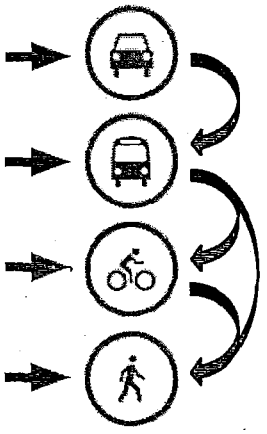
Key decision factors for people shifting modes

Decision Factor	Encouragement	Virtuous Cycle begins
Auto to Transit Increasing congestion & cost; vulnerability to crashes	*Auto to Transit* Improving reliability & reducing crowding makes transit more attractive	Freed capacity on transit attracts new riders
Transit to Bicycles Crowded & unreliable, especially in the peak hour of service	*Transit to Bicycles* 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

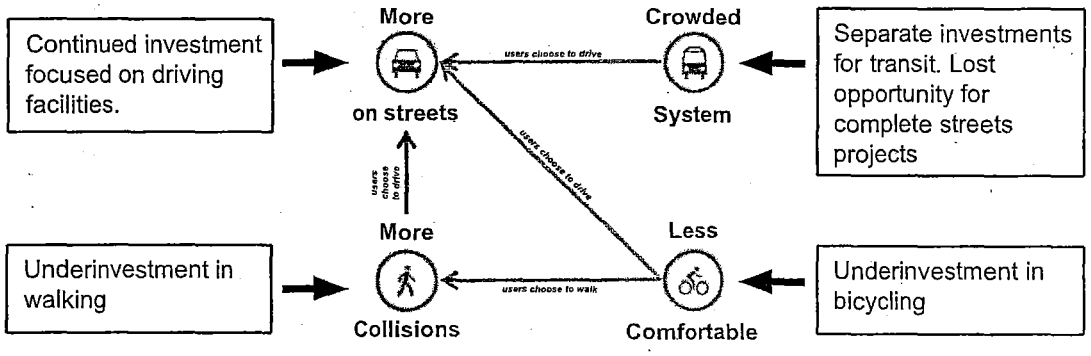
Action	Effect
Investment in parking and demand management	Taxis and rideshare demand increases.
Investment in transit improvements, reliability, and convenience	People shifting from transit to bicycles create more room on peak transit for new riders, improving transit performance.
Investment in bicycling 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



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.

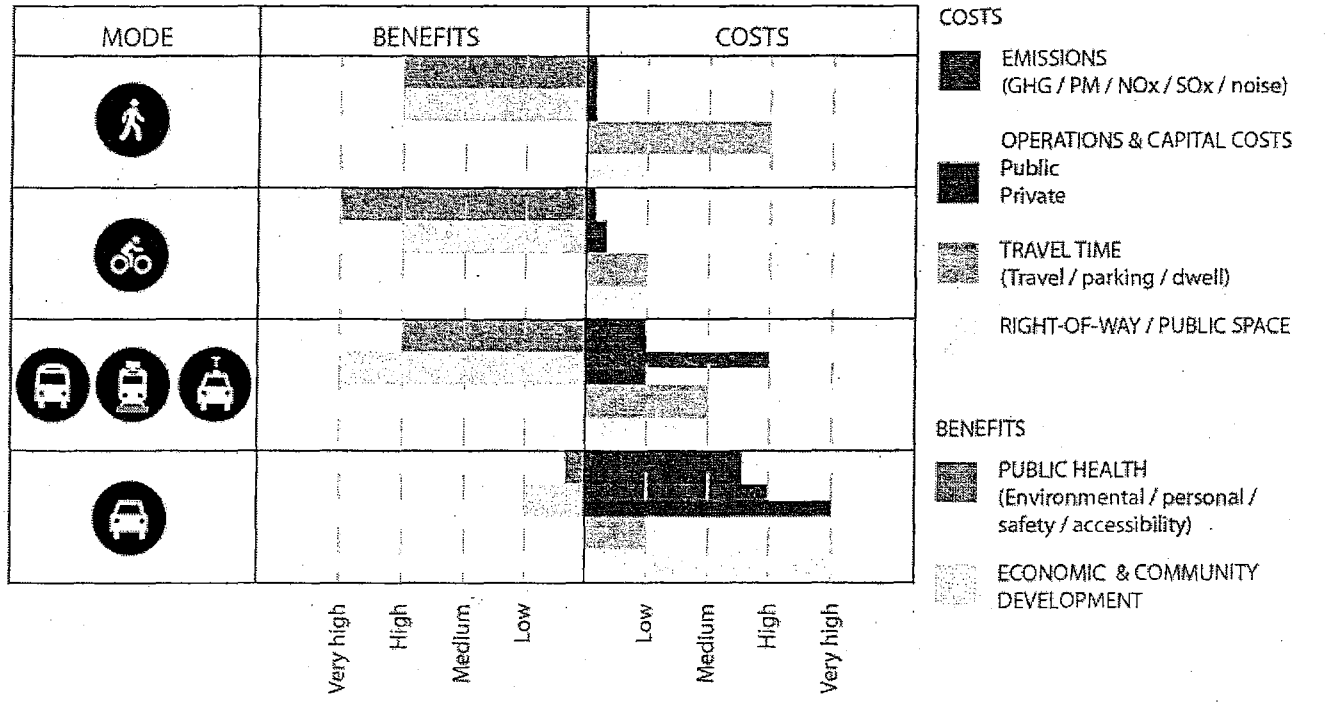
- Bicycle traffic is quiet, results in less wear and tear on roads, and uses little road and parking space.
- People on bicycles establish a personal presence, creating safer neighborhoods by adding eyes on the street.

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.



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.

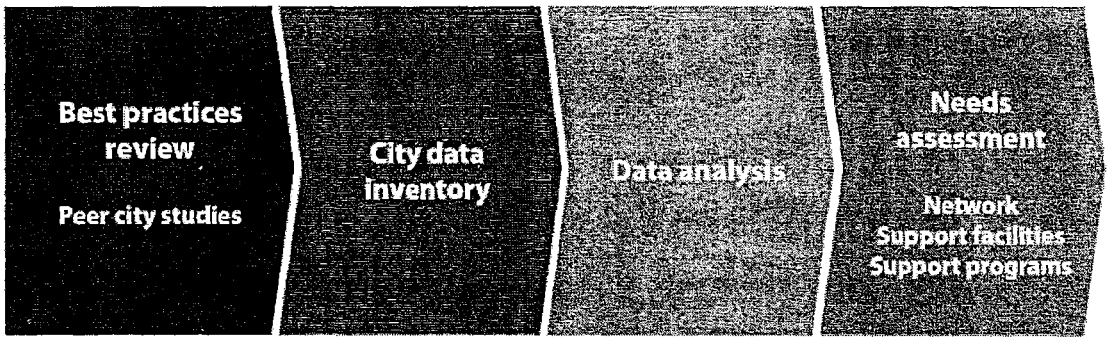
The following Needs Assessment summarizes the following background data:

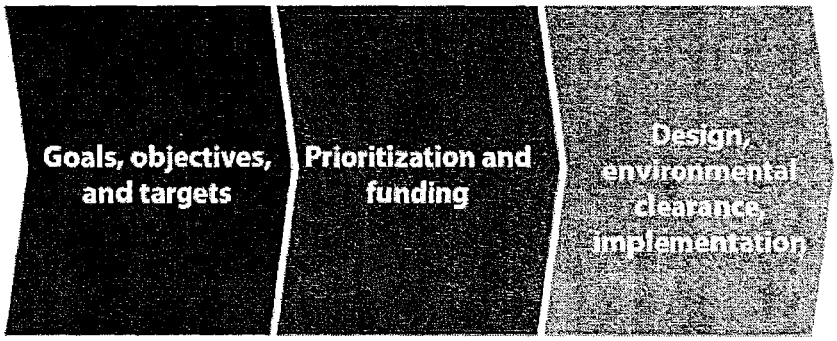
- Differences in bicycle activity across the city, as identified by commute mode share
- Citywide bicycle travel patterns based on trip origins and destinations, and topography
- Bicycle safety and crash hot spots
- Bicycle parking coverage for short-term trips, such as shopping and errands
- Bicycle 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





Needs Assessment
Accommodating Bicycle Growth in the Core

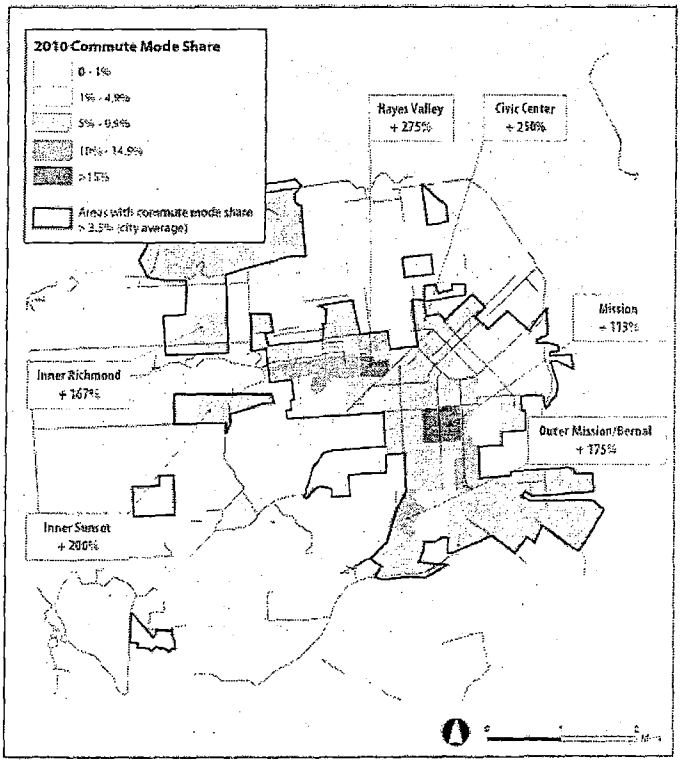
Areas in the central-downtown corridors or "Core Bicycle Area" have a 7 percent bicycle mode share. The Western Addition and Mission neighborhoods have bicycle mode shares now approaching or exceeding 10 percent. Other neighborhoods like Haight Ashbury, Inner Richmond, Bayview, and Inner Sunset have 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 in bicycle rates is likely due to changing demographics and improvements to the bicycle network.

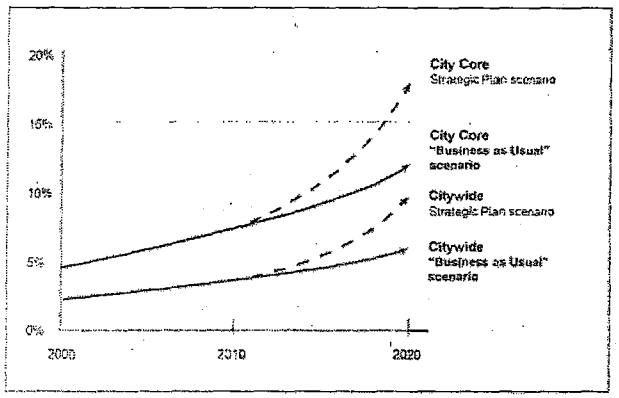
The area demographics, land use, and density are prime for further bicycle activity. The existing bicycle infrastructure and support facilities in these neighborhoods are already highly utilized.

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.

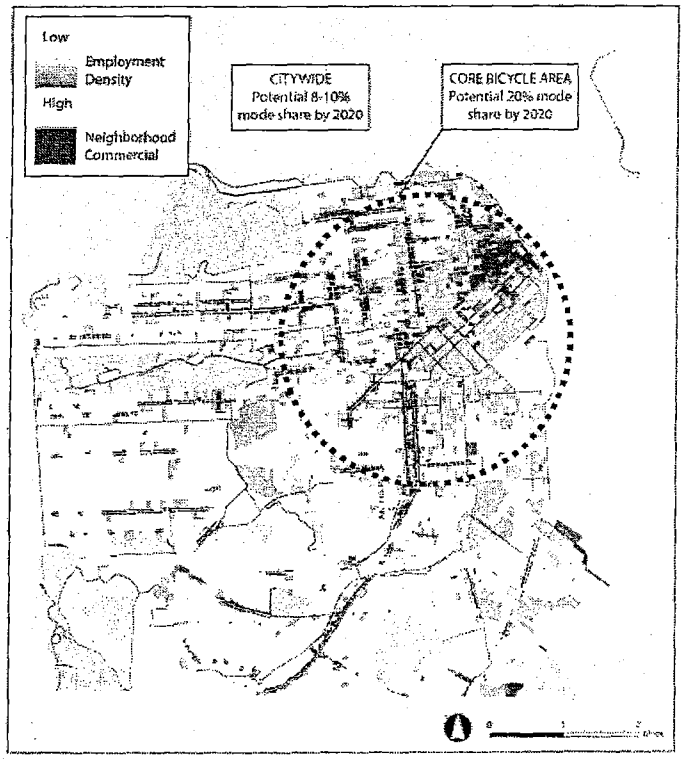
Bicycle Commute Mode Share (2010)



Projected City Bicycle Mode Share



Destination Land Uses



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.

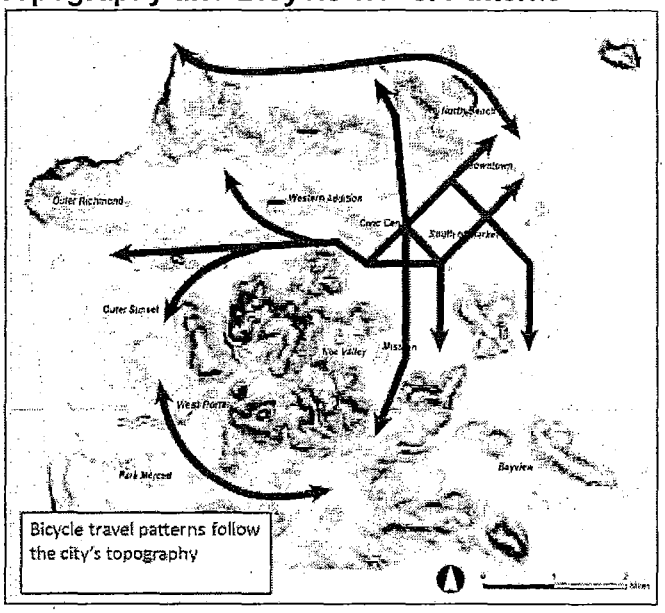
Identified need: Network gaps, areas with drops in rider comfort, and crash-prone intersections. High-quality facilities that emphasize an identity of a "core" route.

Neighborhood Connections

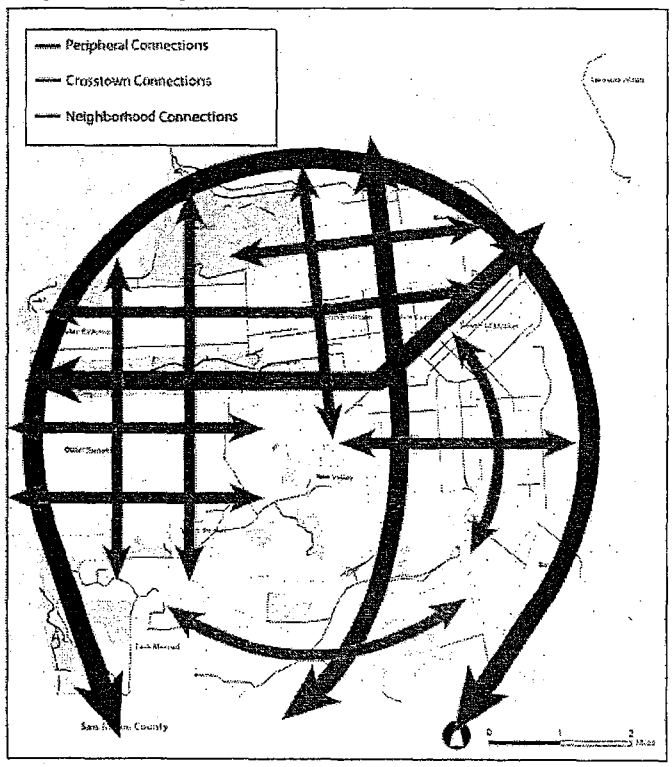
The density and quality of bicycle facilities determines the preferred path for bicycle trips within and between neighborhoods. Network coverage varies across the city, with dense coverage in the city core and sparse coverage in the city periphery.

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.

Topography and Bicycle Travel Patterns



Citywide Bicycle Network Framework



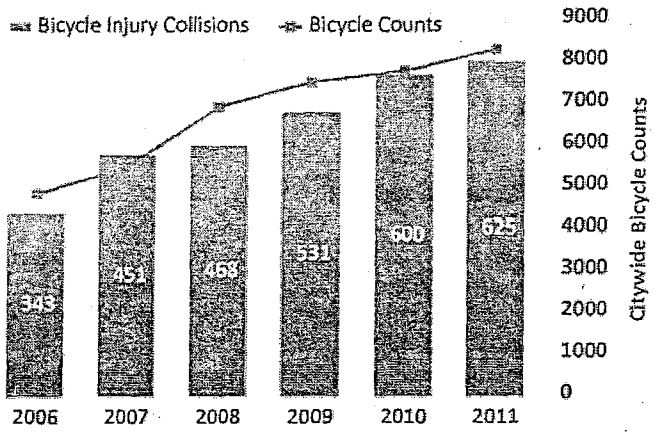
Needs Assessment
Improving Bicycle Safety

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.

Bicycle Crashes and Activity (2006-2011)

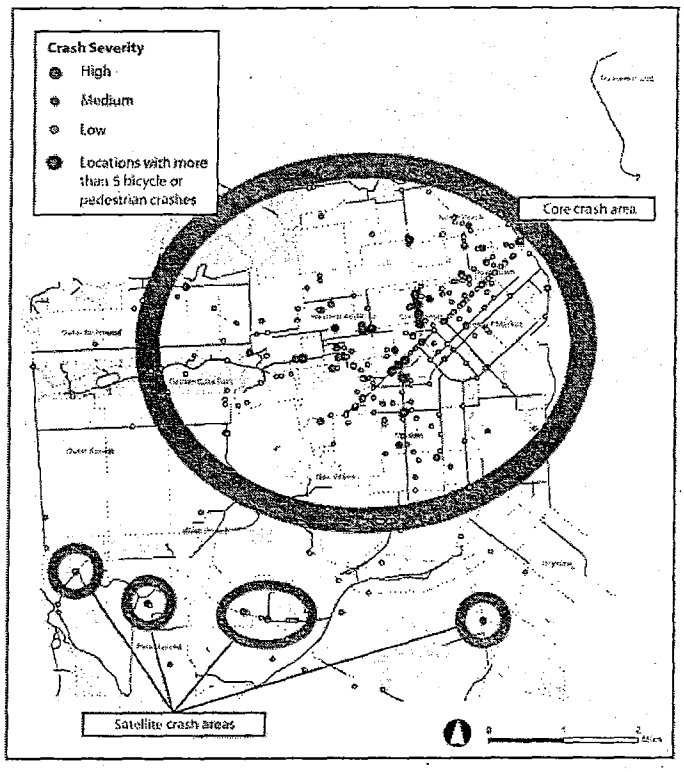


Core Area crashes

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.

Bicycle Crash Distribution



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.

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).

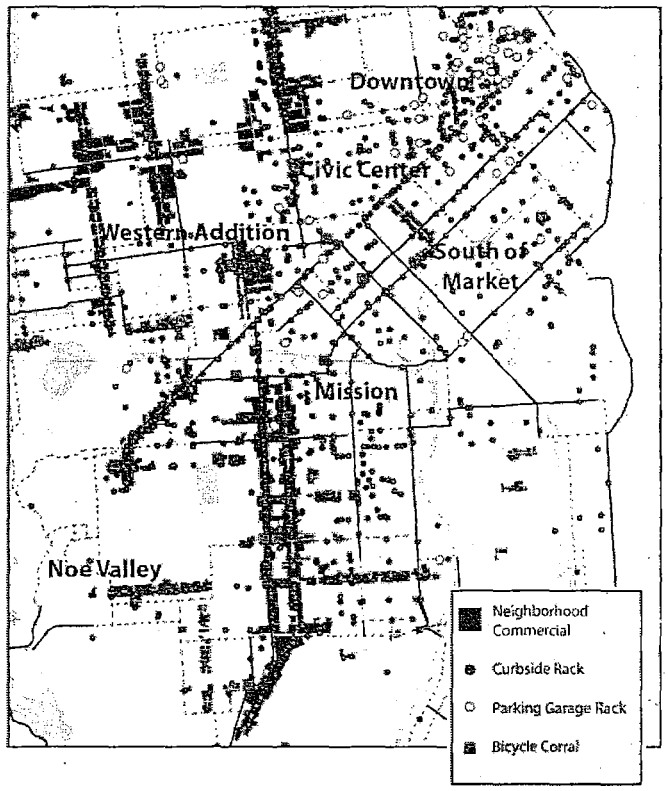
Outer Neighborhood bicycle parking

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.

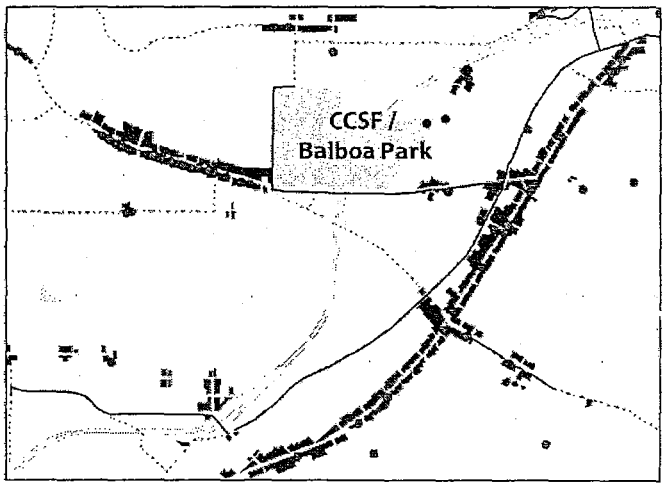
At minimum, there should be one bicycle rack per block on commercial corridors. This is necessary to establish a reasonable expectation for bicycle parking at most trip destinations.

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



Outer Neighborhood Bicycle Parking



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.

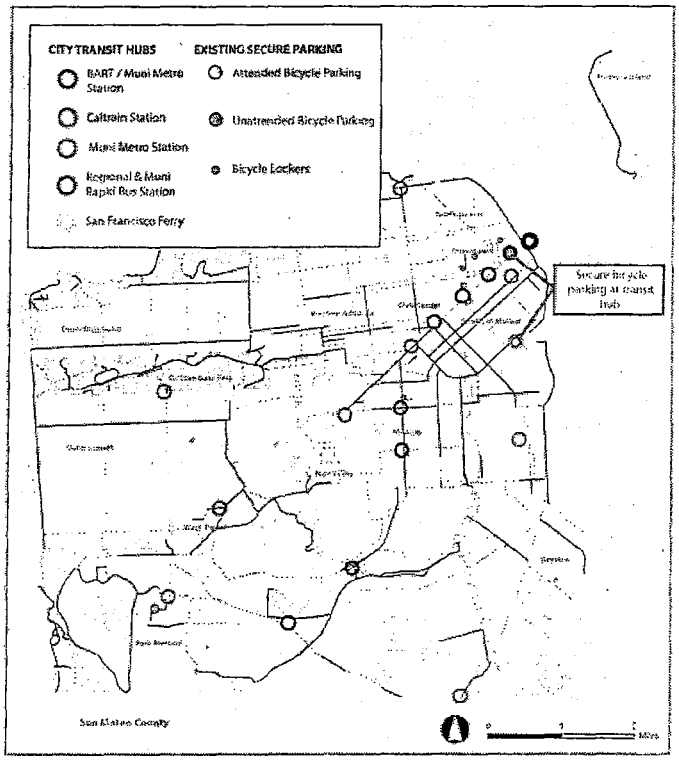
Local transit trips: Bicycle sharing

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.

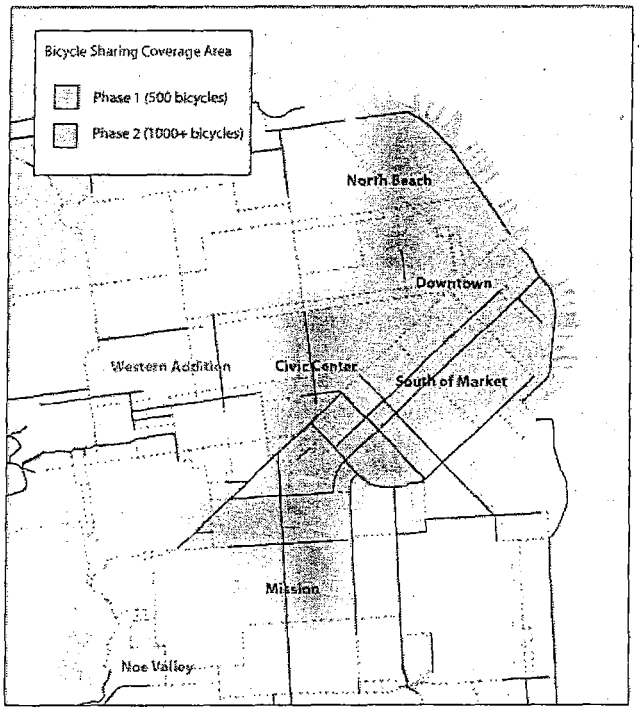
Phase 2 of the bicycle sharing system will deploy 2750 bicycles across 275 stations. Time for implementation will depend on the success of the pilot project and funding.

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



Bicycle Sharing Coverage Area



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.

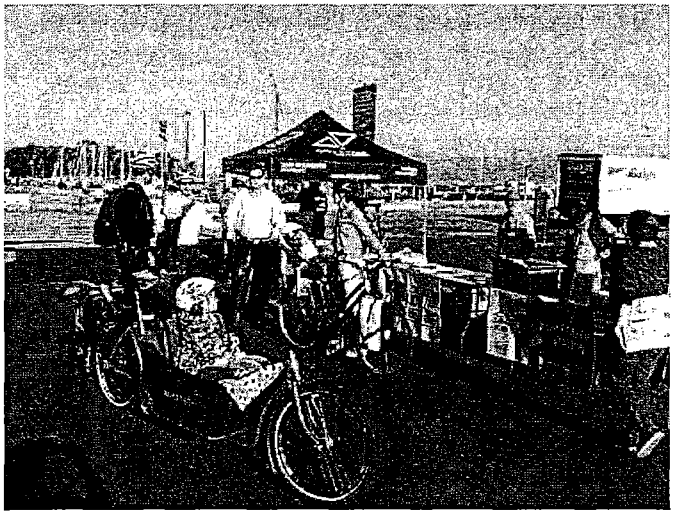
Identified need: Regular adult bicycle and bicycle-focused driver education across the city and as part of new facility openings. Target outreach to vulnerable users, including low-income communities, the disabled community, and seniors. Expanded Sunday Streets and other bicycle-friendly events. Business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

Citywide programming: Marketing

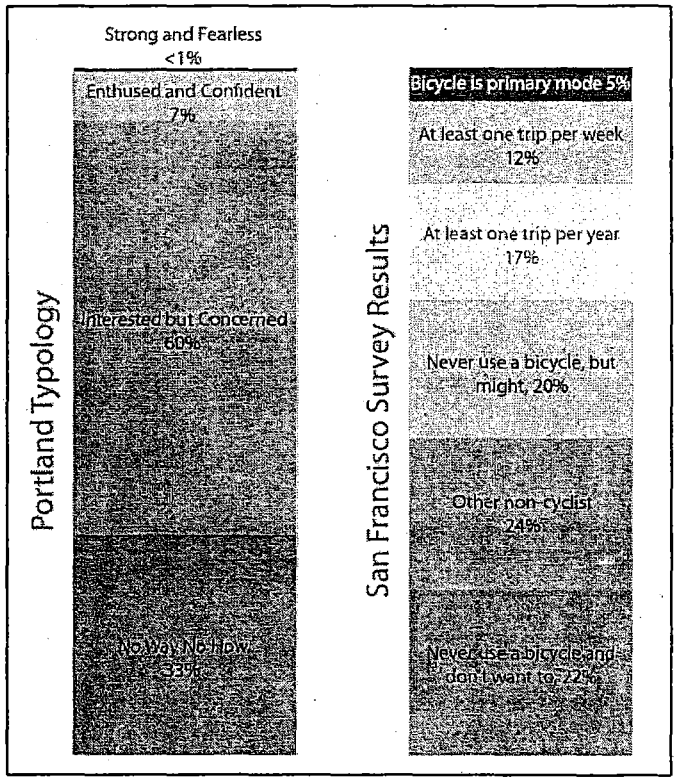
Bicycle education and outreach can improve perceptions of bicycling within the city by establishing a common understanding for considerate behavior. Fostering San Francisco's perception as a bicycle-friendly city can generate additional benefits from industry and tourism.

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



San Francisco's Bicycle Demographic



Excluding people that ride bicycles as their primary mode, nearly a third (29 percent) of San Franciscans already bicycle occasionally and could be encouraged to bicycle more frequently. Another two-thirds do not bicycle at all; support programs could convince them to start.

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, which 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.

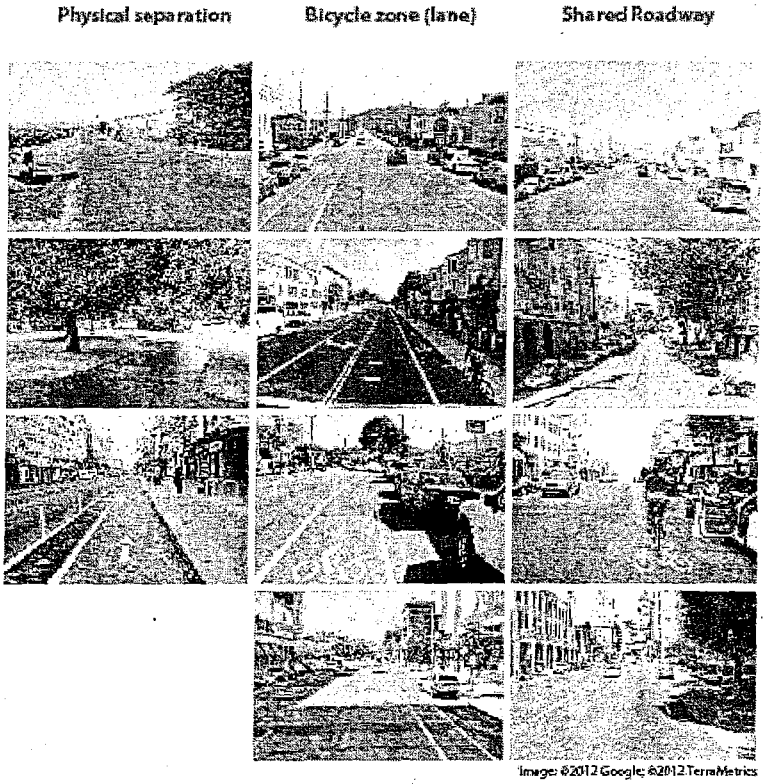
Level of Traffic Stress (LTS)

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 by "strong and fearless" people on bicycles.



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 the route

Needs Assessment
Connectivity Analysis

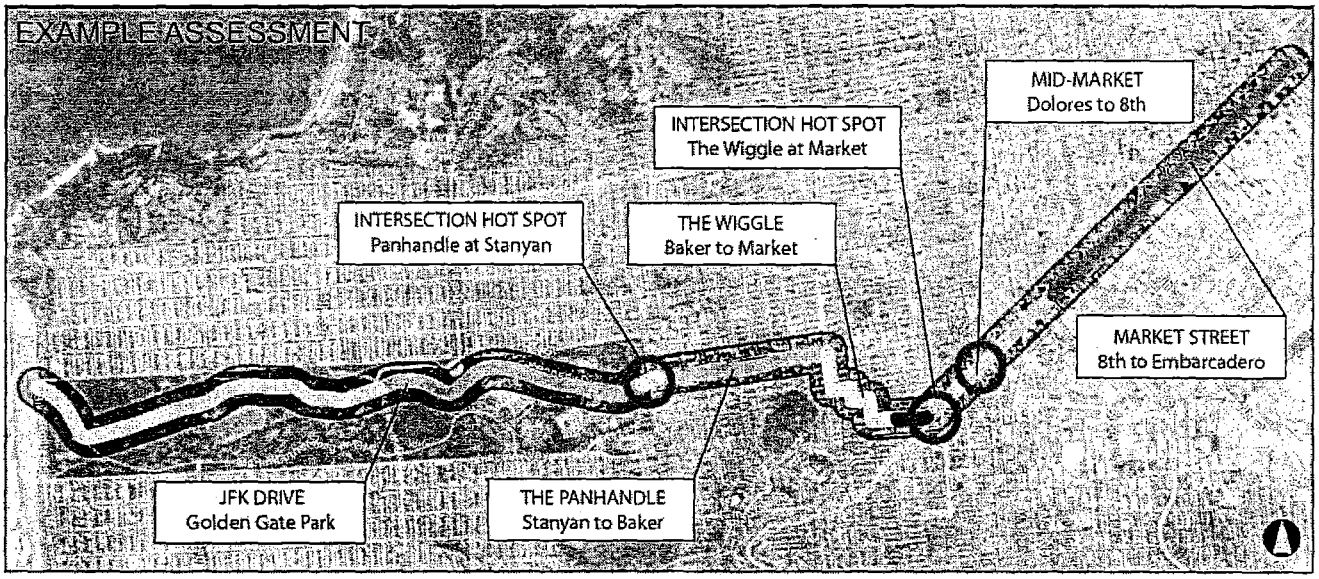
Maintaining expectations of comfort and safety.

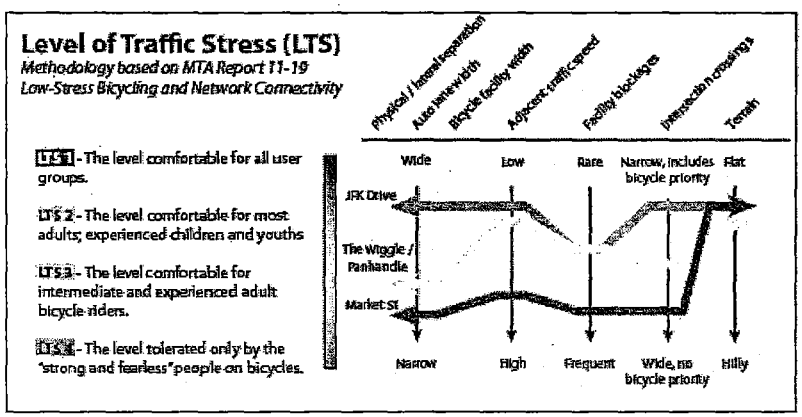
Perhaps even more important than the comfort of any given facility is the consistency of that comfort through the network.

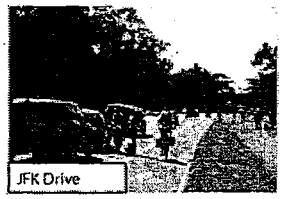
Significant drops in comfort along a corridor, even in a short segment or at a single intersection, can become a deterrent from riding bicycles.

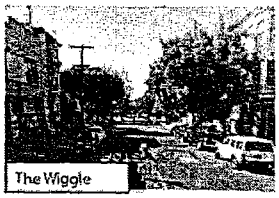
The figure below illustrates variations in comfort along the Golden Gate Park - Panhandle - Wiggle - Market Street corridor. The section from John F. Kennedy Drive to the Panhandle is between LTS 1 and 2, since much of that section is either on a physically separated path or adjacent to low volumes of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






JFK Drive


The Wiggle

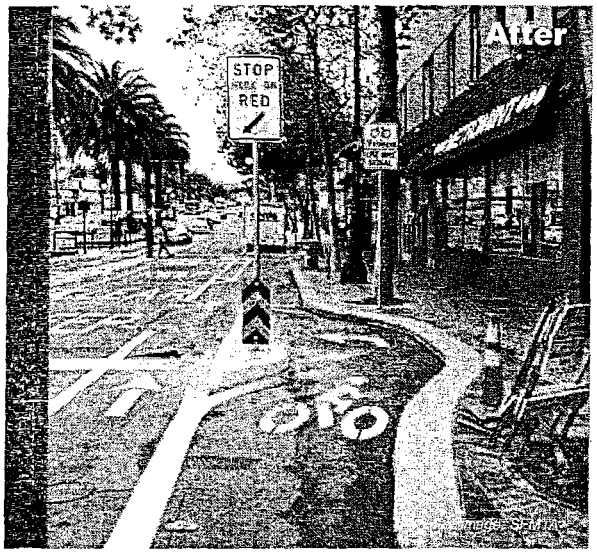

Mid-Market


Market at 5th

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.

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.

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.

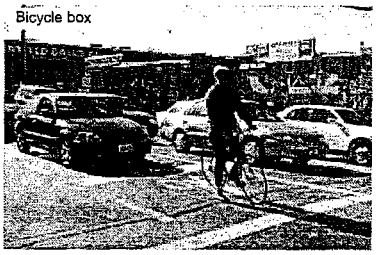
KEY PURPOSE/OUTCOME

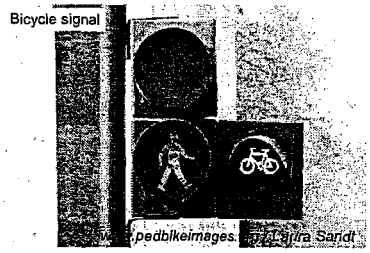
Tools	SAFETY	CONNECTIVITY	CONVENIENCE	SECURITY	COST* per mile or intersection	TIME** to implement
Network Treatments						
Wayfinding signage	✓	✓			$	Very short
Traffic diverter	✓	✓	✓		$	Very short
Bicycle boxes	✓	✓			$	Short
Bicycle signal, bicycle boxes, and counters	✓✓	✓✓			$ $	Medium
Buffered bicycle lane	✓✓	✓			$x5	Medium
Basic cycle track	✓✓✓	✓			$x6	Long
Colored bicycle lane	✓✓	✓			$x7	Long
Bicycle boulevard	✓✓	✓			$x8	Very long
Separated 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

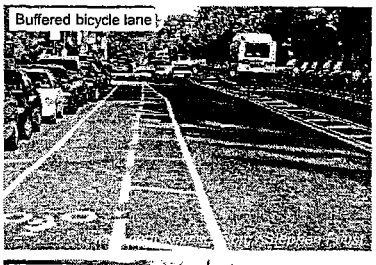
*Cost estimate scale increases approximately logarithmically. $ = $5k, $$ = $10K, $$$ = $25K, $x4 = $50K, $x5 = $100K, $x6 = $250K, $x7 = $500K, $x8 = $1M, $x9 = $5M, $x10 = $10M.

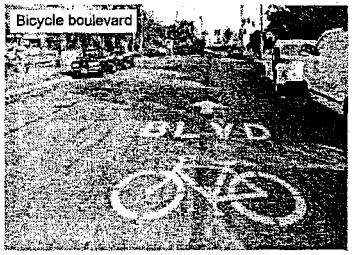
** Estimates vary greatly depending on environmental clearance. Very short = ~1 year, Short = 1-2 years, Medium = 3-4 years, Long = 5-6 years, Very Long = 6+ years

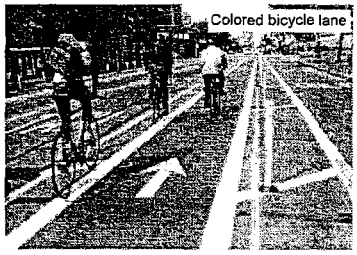

Wayfinding signs


Bicycle box



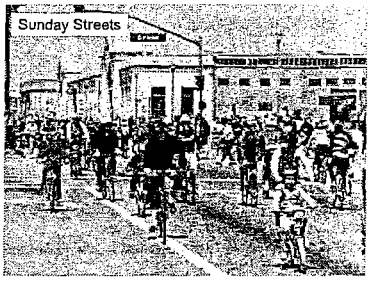

Buffered bicycle lane




Colored bicycle lane


Basic cycle track

Support Program Toolkit

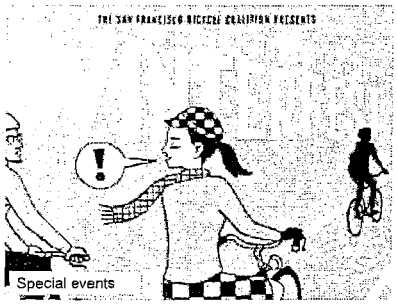


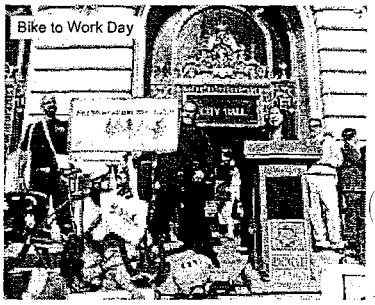
Tools	EDUCATION	ENCOURAGEMENT	INNOVATION	COST** per year	Partnership Opportunity
Existing Program (expanded)					
Media campaigns		✓		$$	✓✓
Dedicated bicycle customer service	✓			$$	
Bicycle special events		✓		$$$	✓✓
Free bicycle network maps	✓			$x4	
Sunday Streets (10 events annually)		✓	✓	$x7	✓
Safe Routes to School (150 schools)	✓			$x7	✓
New Program					
Targeted enforcement	✓			$$$	
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		✓	✓	$$	✓✓✓*
School / business bicycle competitions / games*		✓	✓	$$	✓✓✓*

KEY PURPOSE/OUTCOME

*Sponsorship opportunity

**Cost estimate scale increases approximately logarithmically. $ = $5k, $$ = $10K, $$$ = $25K, $x4 = $50K, $x5 = $100K, $x6 = $250K, $x7 = $500K, $x8 = $1M, $x9 = $5M, $x10 = $10M



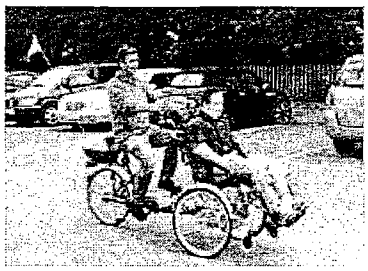


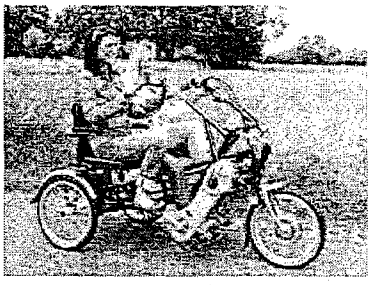
Bicycle System Inclusiveness
Accessibility and Taxis

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

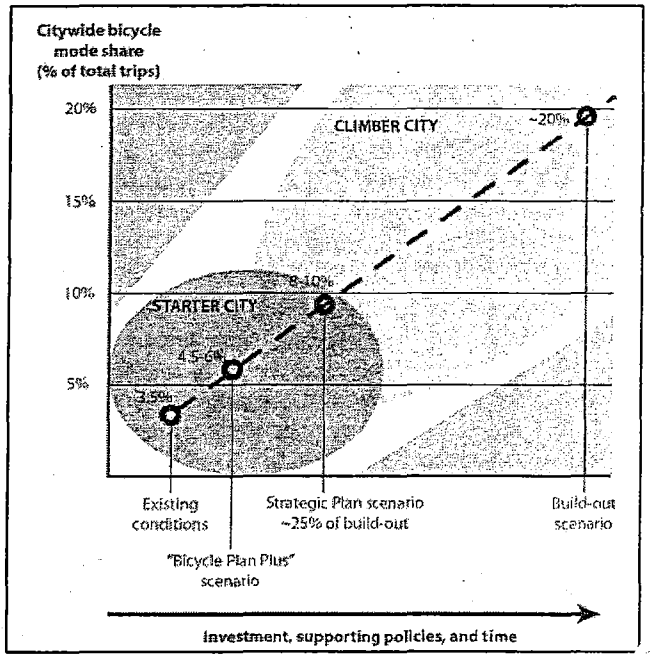
Image: Copenhagenize.com

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

Funding Gap and Investment Scenarios

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

Bicycle program funding (per the SFMTA 2012-2017 CIP)

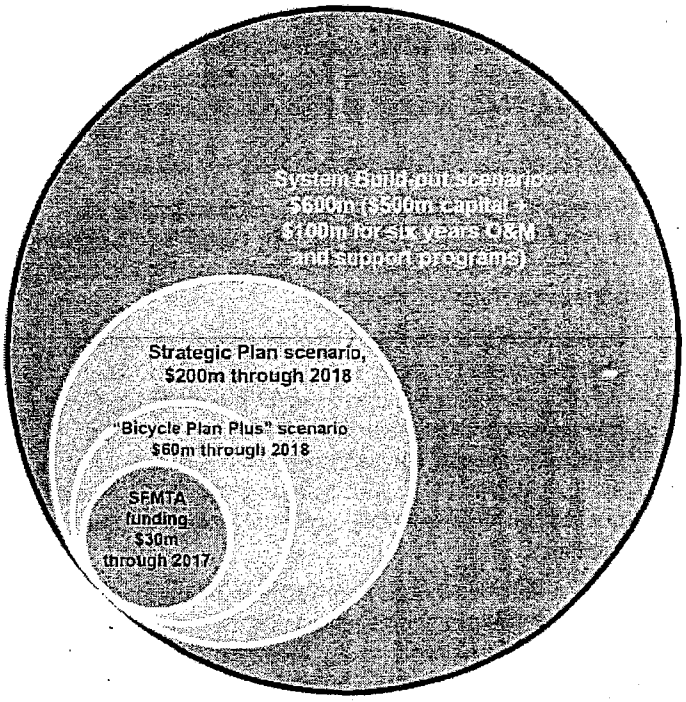
- State (Caltrans BTA / STIPTE) - $1m
- Regional (BAAQMD, MTC TDA) - $1.9m
- City / County (Prop B, OBAG, Prop AA, Prop K, TFCA) - $23.2m
- SFMTA (Bond A) - $4.1m
- **Total - $30.3m**

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).



The funding gap, 2013-2018

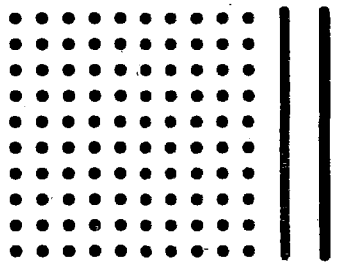
Potential Investment Scenarios.

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

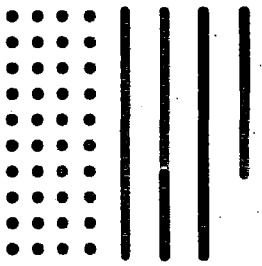
Budget breakdown
65% intersections, 35% network



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

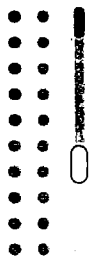
Budget breakdown
20% intersections, 80% network



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



Proposed Project Prioritization

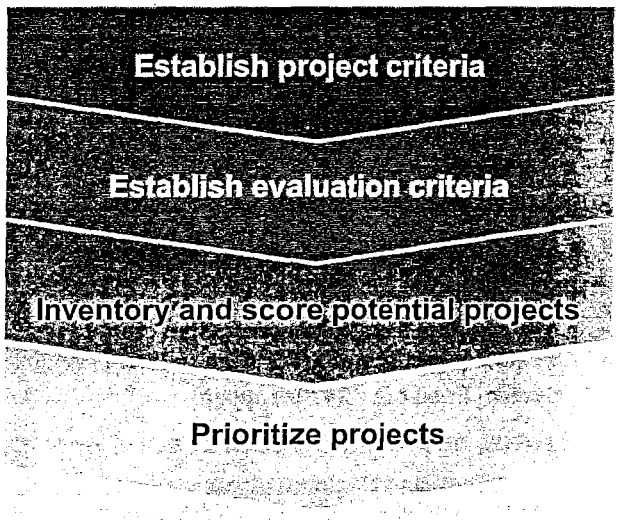
A clear and concise Decision Making Process

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

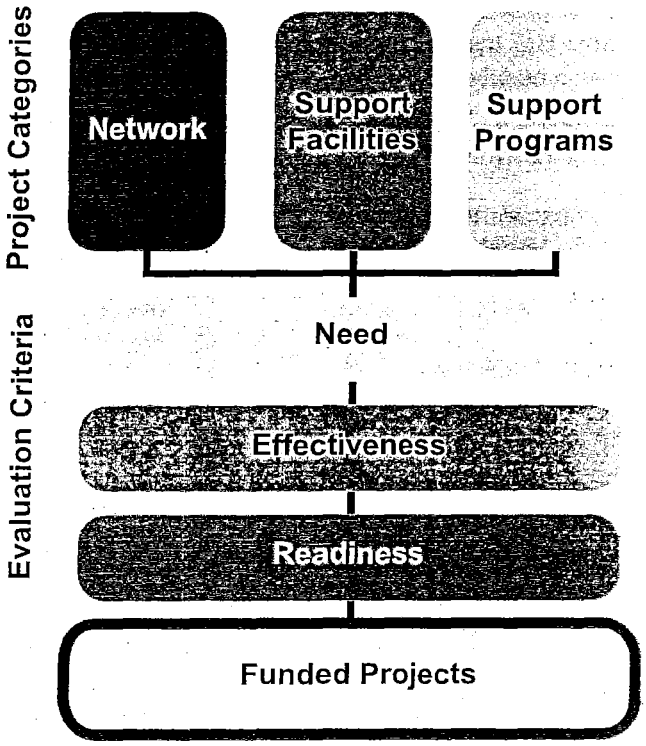
Project evaluation will use the following framework:

- 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



Evaluation Framework



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

Image: Flickr / Lynn Friedman

GOAL 2

Increase convenience for trips made by bicycle

GOAL 3

Normalize riding bicycles through media, marketing, education, and outreach

Image: Flickr / Pyramis

GOAL 4

Plan and deliver complete streets projects

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.

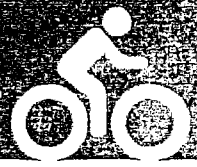
Objective 1.3: Ease navigation through the bicycle network.

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.

<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 1.1: Percent of the bicycle network that is moderately comfortable for an average person on a bicycle.</td><td colspan="3">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.
Decrease the bicycle crash rate by 10 percent each year.</td></tr>
<tr><td>OBJECTIVE 1.2: Number of crash hotspots improved.</td><td colspan="3">Study and pilot safety countermeasures at three crash hotspots per year.
Decrease the bicycle crash rate by 10% from the 2012 baseline each year.</td></tr>
<tr><td>OBJECTIVE 1.3: Miles of networked bicycle routes with wayfinding signs indicating destinations and distance.</td><td>Develop a bicycle wayfinding sign plan.</td><td>Install the citywide bicycle wayfinding system (100% network coverage).</td><td></td></tr>
<tr><td rowspan="2">OBJECTIVE 1.4: Bicycle counts and evaluation.</td><td>25% network coverage with automatic bicycle counters.
Install the first "bicycle barometer".</td><td>50% network coverage with automatic bicycle counters.
Install a second and third "bicycle barometer".</td><td>100% network coverage with automatic bicycle counters.
Install the fourth and fifth "bicycle barometer".</td></tr>
<tr><td colspan="3">Collect and analyze bicycle sharing data.
Collect, analyze and report changes to city bicycle activity via the annual SFMTA Mobility Report.</td></tr>
</table>

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. Replace 100% of existing SFMTA bicycle lockers with e-lockers	Establish a second new attended and second new unattended secure bicycle parking station. Incorporate e-lockers into secure bicycle parking facilities.	Establish a third new attended and third new unattended secure bicycle parking station. 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) 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". 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. One annual bicycle education course in each SF Supervisor District through the Bicycle Ambassador program.	Annual bicycle education at 50% of SFUSD schools. Two annual bicycle education courses in each SF Supervisor District through the Bicycle Ambassador program.	Annual bicycle education to 100% of SFUSD schools. 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.

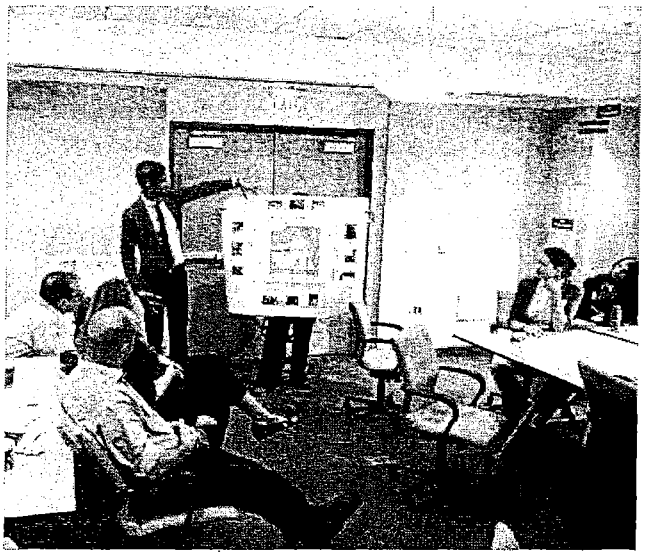
The performance indicators listed below are the key measures that will indicate how the SFMTA is performing with respect to bicycle project delivery.

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

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

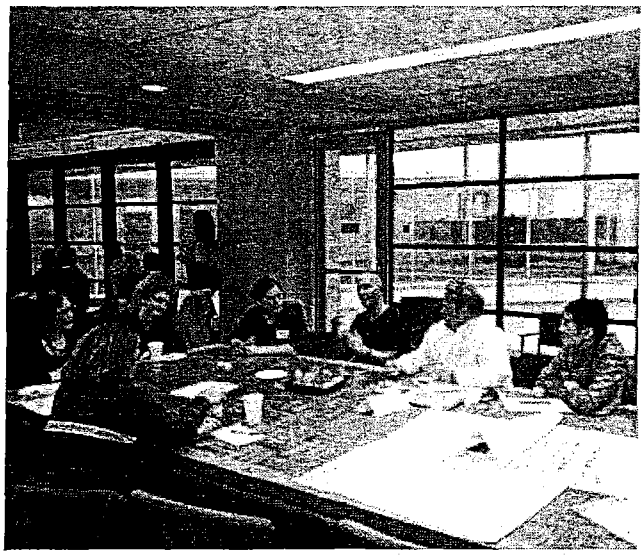
(4) Design for bicycle-transit integration

(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

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").

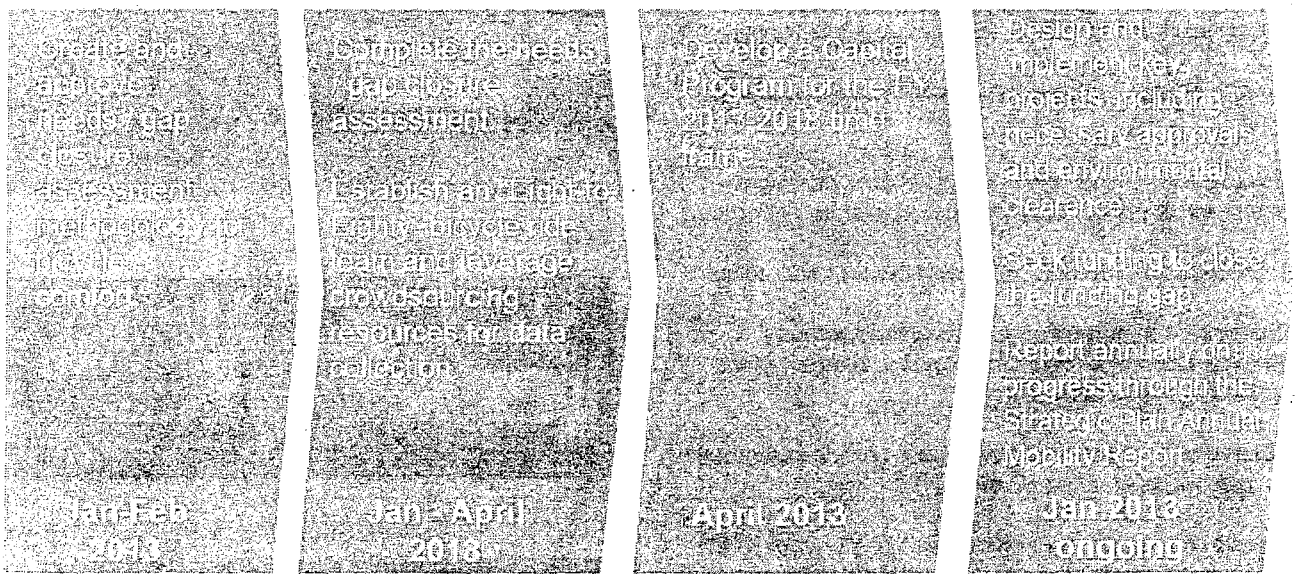
(8) Consider bicycle license program.

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.

Next Steps



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
David Campos | District 9
Malia Cohen | District 10
John Avalos | District 11

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Cristina Rubke

Director of Transportation

Edward Reiskin

SFMTA Staff

Primary authors:

Timothy Papandreou, Deputy Director, Strategic Planning and Policy
Andrew Lee, Transportation Planner
Peter Brown, Capital Project Manager
Mari Hunter, Transportation Planner
Anne Fritzler, Transportation Planner
Terra Curtis, Transportation Design Trainee
Carly Sieff, Transportation Design Trainee
Craig Raphael, Transportation Design Trainee

Contributors:

Ricardo Olea; City Traffic Engineer
Bridget Smith; Principal Engineer, Livable Streets
Nate Chanchareon, Manager, Multimodal Planning
Julie Kirschbaum, Manager, Transit Service Planning
Heath Maddox, Senior Transportation Planner
Matt Lasky, Transportation Planner
Luis Montoya, Transportation Planner
Seleta Reynolds, Manager, Livable Streets
Jonathan Rewers; Manager, Capital Fund Programming
Annette Williams, Manager, Accessible Services
Christine Hayashi, Deputy Director, Taxi Services
Jay Primus, Manager, SFPark
Amit Kothari, Director, Off-Street Parking

Partner Departments and Agencies

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.

SFMTA

Municipal Transportation Agency

One South Van Ness Avenue
San Francisco CA 94103
www.sfmta.com

2010-2011 San Francisco Collisions Report

SFMTA | Municipal Transportation Agency

August 28, 2012

City and County of San Francisco
San Francisco Municipal Transportation Agency
Sustainable Streets Division
1 South Van Ness Avenue, 7th Floor
San Francisco CA 94103

CONTENTS

SUMMARY

- Non-fatal injury collisions totaled 3,111 in 2011. Injury collision totals are relatively unchanged since 2004.
- Fatal collisions totaled 28 in 2011. Of these fatalities, 17 were pedestrians and 3 were riding a bicycle.
- Approximately a third of non-fatal injury collisions were broadsides and unsafe speed was listed as the primary cause in approximately one-fifth of collisions.
- 2010 and 2011 had the lowest red light running collision totals of the past ten years.
- The 2011 pedestrian non-fatal injury collision total of 844 was an increase relative to 2009-2010 totals. About a fourth of San Francisco's injury collisions involve pedestrians.
- The 2011 bicycle injury collision total of 630 was the highest in the past ten years. About a fifth of San Francisco's injury collisions involve bicycles.
- Muni reported injury and fatal collisions was 103 in 2011, the lowest total in the past five years.
- The San Francisco Municipal Transportation Agency (SFMTA) has taken and will continue to take a variety of measures specifically designed to reduce collisions at high collision intersections and citywide.

ABOUT THIS REPORT

This report is prepared by the SFMTA in order to document long-term collision trends and intersections with the highest citywide collision totals. This information is used to identify locations that may need special attention and evaluate previous mitigation measures.

There are two main data sources used in this report. The source of the collision data prior to and including 2010 is the Statewide Integrated Traffic Records Systems (SWITRS) maintained by the California Highway Patrol (CHP). California Vehicle Code Section 20008 requires that local governments send their police collision reports to the State. The CHP enters this data into database files which are then processed by SFMTA. SWITRS totals for 2010 were not considered official by the CHP until the first quarter of 2012, thus delaying the preparation of this report. Collision data for 2011 is from the San Francisco Police Department. The 2011data is not the official state total for San Francisco, but is provided now given the current delay in obtaining SWITRS totals. All figures in this report that include 2011 data do not include those reported by other police agencies in the City and are thus subject to be revised in the future.

Due to limited police staff resources, property damage only (non-injury) collisions are generally underreported in San Francisco and therefore are not included in this report. Though some injury collisions are not reported as well, injury collisions have been reported more consistently over time. This report also focusses on collision totals rather than rates, since rates require detailed traffic volume information that is not available for all intersections.

Short-term annual increases in collisions at any one intersection or the city as a whole could be partly the result of random yearly variations. Out of the thousands of intersections in San Francisco, in any one year some will have more or fewer collisions than the expected annual average, even if the underlying conditions of the location have not changed. Focusing on multi-year trends can help reduce the effects of short-term fluctuations.

PART 1: CITYWIDE INJURY AND FATAL COLLISION TRENDS

Reported non-fatal injury collisions in San Francisco totaled 3,081 in 2010 and 3,111 in 2011. These totals are in line with those reported since 2004 (Figure 1). While non-fatal injury collisions steadily declined until 2006, annual totals have unfortunately remained relatively unchanged since then. The total number of reported people injured by traffic collisions in 2010 was 3,940.

The number of collisions resulting in fatalities in 2010, 23, was one of the lowest that San Francisco has recorded (Figure 2). The number of collisions resulting in fatalities in 2011 was 28. In general, injury collisions are a more reliable indicator of collision trends because fatal collisions, being fewer in number, are subject to sharper fluctuations from year to year. This is illustrated in the higher annual variance seen in Figure 2 compared to Figure 1. Since 2004 annual fatal collision totals below 30 have been more common, a possible indication of an improving trend.

FIGURE 1
San Francisco Non-Fatal Injury Collision Totals (1990-2011)

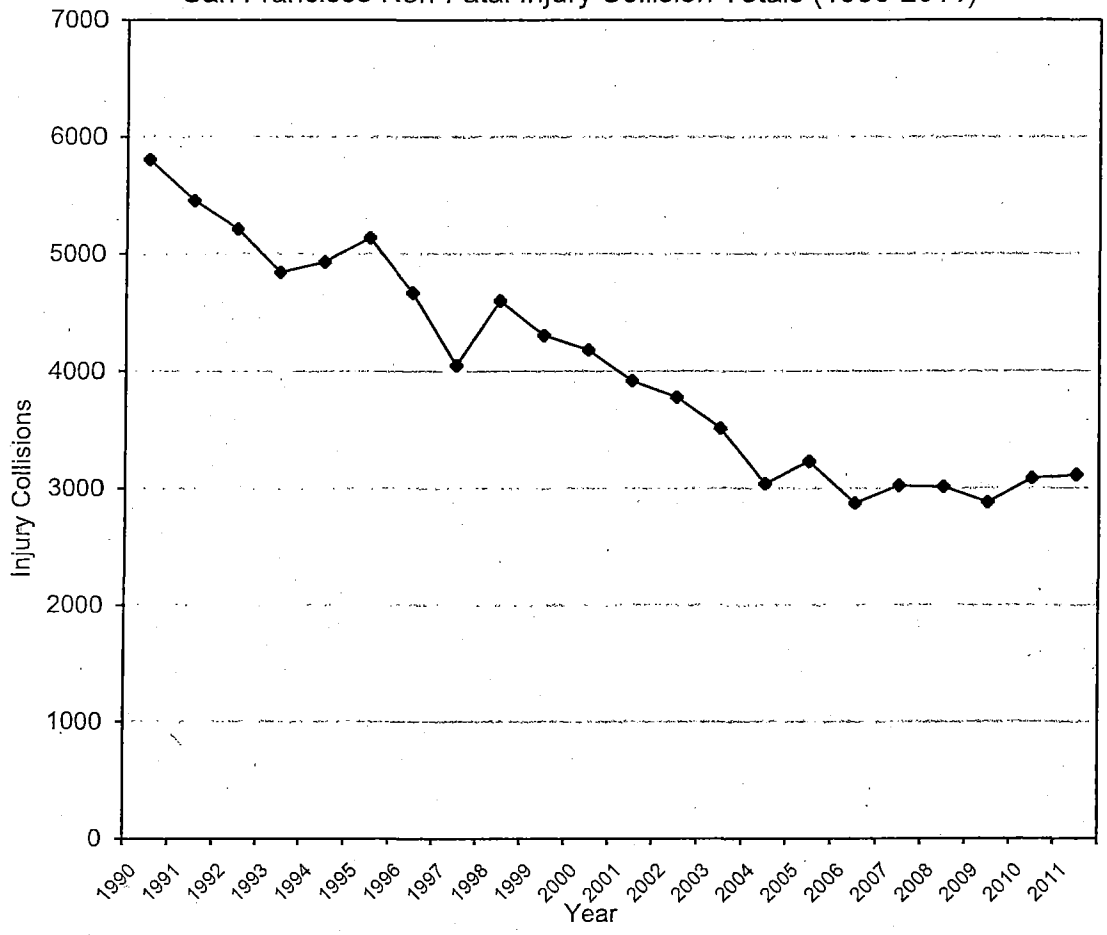


Figure 1: San Francisco Non-Fatal Injury Collision Totals (1990-2011)

Year	1990	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	5,804	4,182	3,917	3,777	3,511	3,038	3,227	2,869	3,021	3,010	2,877	3,081	3,111

FIGURE 2
San Francisco Fatal Collision Totals (1990-2011)

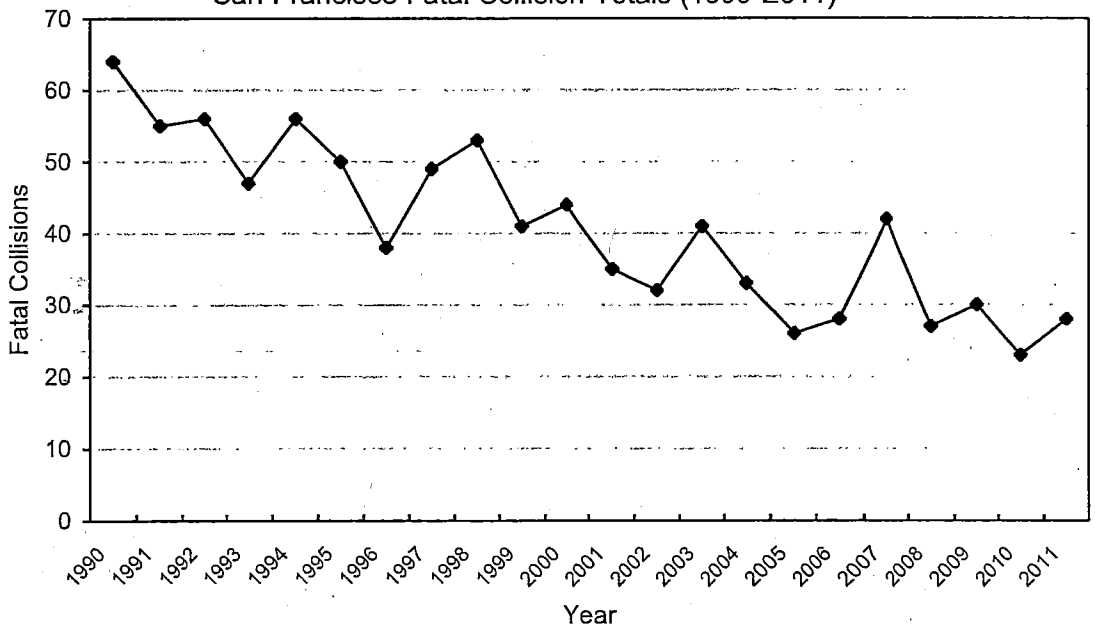


Figure 2: San Francisco Fatal Collision Totals (1990-2011)

Year	1990	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	64	44	35	32	41	33	26	28	42	27	30	23	28

Table 1 lists the previous five-year non-fatal injury collision totals according to the three non-fatal injury severity categories used by all police departments in the state. The percentage of "other visible Injury" plus "severe injury" has increased over the past five years, going from 34 percent of the injury total in 2005 to 39 percent in 2010.

TABLE 1
San Francisco 2006-2010 Injury Collision Severity
(With percentage of annual total injury collisions)

Year	Complaint of Pain	Other Visible Injury	Severe Injury	Total
2010	1,902 (61%)	1,002 (33%)	177 (6%)	3,081
2009	1,782 (62%)	901 (31%)	194 (7%)	2,877
2008	1,889 (63%)	941 (31%)	180 (6%)	3,010
2007	1,937 (64%)	896 (30%)	188 (6%)	3,021
2006	1,895 (66%)	807 (28%)	167 (6%)	2,869

PART 2: COLLISION TYPES AND CAUSES

Tables 2 and 3 show 2010 injury collision totals by primary collision type and cause. The two most common types of collisions, broadsides and vehicle-pedestrian, together comprise 52 percent of injury collisions. The top primary collision cause is speeding. Collisions, however, can be the result of more than one cause or set of conditions.

TABLE 2
2010 Non-Fatal Injury Collisions by Primary Collision Type (Total of 3,081)

Type	Collisions	Percent
Broadside (Right-Angle)	918	30%
Vehicle-Pedestrian	673	22%
Rear-End	503	16%
Sideswipe	370	12%
Head-On	192	6%
Other	425	14%

TABLE 3
2010 Non-Fatal Injury Collisions by Primary Collision Cause (Total of 3,081)

Cause	Collisions	Percent
Unsafe Speed	630	21
Vehicle Right-of-Way Violations	396	13
Violation of Traffic Signals and Signs	379	12
Driver Violations of Pedestrian Right-of-Way	347	11
Improper Turning	253	8
Violations by the Pedestrian	224	7
Other	852	28

Figure 3 illustrates the trend in injury collisions resulting from violation of California Vehicle Code Section 21453(A), failure by a motorist to obey red light signal indication. 2010 recorded the lowest broadside and red light violation injury collision totals of the past ten years. Traffic signal hardware and timing improvements described in this report appear to have helped reduce these types of collisions at certain intersections. This decrease also coincides with the city's deployment of red light photo enforcement starting in 1997 and other efforts aimed at reducing the incidences of red light running.

FIGURE 3
San Francisco Injury
Red Light Violation Collisions (1999-2011)

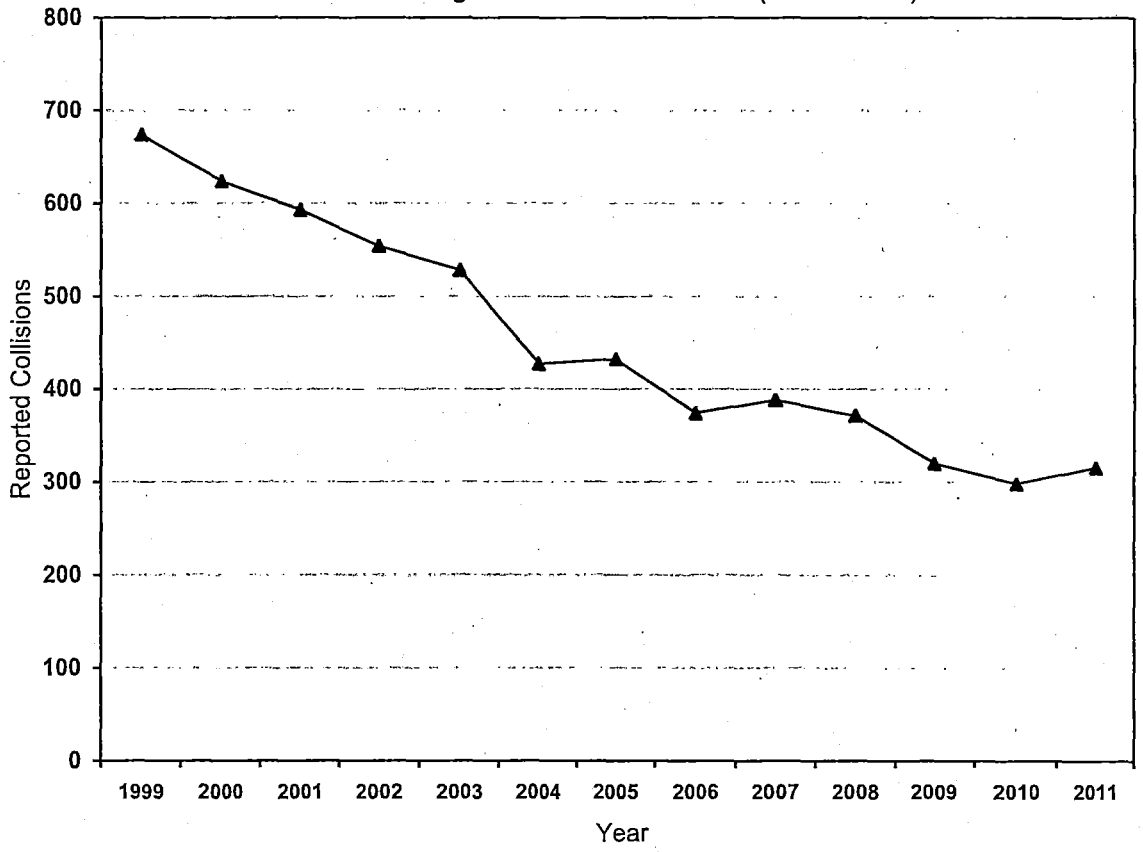


Figure 3: San Francisco Injury Red Light Violation Collisions (1999-2011)

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total Red Light Running	674	624	593	554	528	427	432	374	388	371	320	298	315

PART 3: HIGHEST COLLISION INTERSECTIONS

About two-thirds injury collisions in San Francisco occur at intersections. As documented in previous annual reports, the number of intersections with double digit annual injury collision totals has decreased thanks in part to San Francisco's targeted safety efforts.

Table 4 is a list of the highest injury collision intersections for the most recent three-year period, 2009-2011. This extended analysis period identifies locations that have had cumulative higher totals. Figures 4 through 11 describe the ten-year collision pattern for these eight intersections

TABLE 4
Three-Year Highest Injury Collision Intersections, 2009-2011
Intersections with 16 or more injury collisions

Street A	Street B	2009-2011 Injury Collisions
Market Street	Octavia Boulevard	30
4th Street	Harrison Street	24
Fell Street	Masonic Avenue	20
13th Street	Mission / Otis sts	19
Duboce Avenue	Valencia Street	18
13th Street	South Van Ness Ave	18
16th Street	Potrero Avenue	16
Hayes Street	Van Ness Avenue	16

Intersections dropping out of the highest three-year injury collision list include 19th Avenue and Sloat Boulevard, Bayshore Boulevard and Paul Avenue, Bayshore Boulevard and Silver Avenue, and Essex and Harrison streets. SFMTA has taken various measures at these locations, including signal timing and hardware changes.

Market Street and Octavia Boulevard

2009-2011 injury collisions: 30

Primary Pattern: Eastbound Market Street illegal vehicle right turns to freeway on-ramp colliding with eastbound bicyclists travelling in bicycle lane.

Engineering Changes: Intersection completely redesigned as part of Octavia Boulevard project (opening date September 2005). City has taken a number of enforcement, signage, timing, and channelizing measures to improve compliance with right-turn restriction on eastbound Market, most recently adding another "No Left Turn" sign (October of 2011). Crosswalks markings will be upgraded in 2012.

Collision Trend: Increase in collision totals since 2005. The intersection had the highest collision total for San Francisco in 2011 (13 injury collisions), with nine of these being vehicle-bicycle collisions.

FIGURE 4
Octavia Boulevard and Market Street, Injury Collisions (2000-2011)

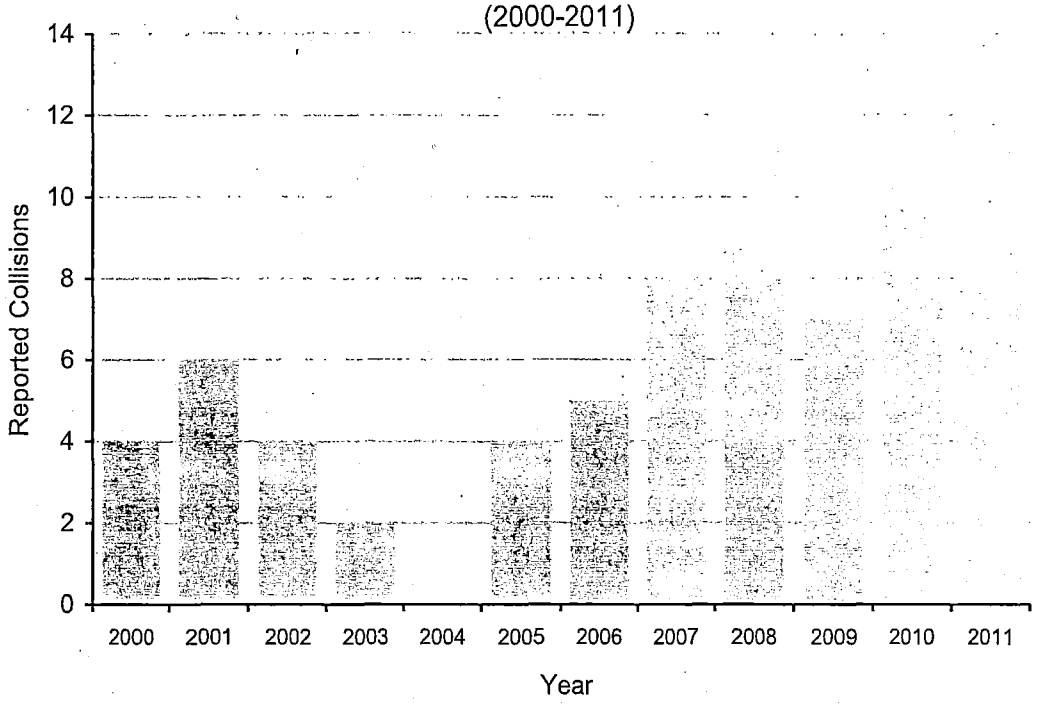


Figure 4: Octavia Boulevard and Market Street, Injury Collisions (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	4	6	4	2	0	4	5	8	9	7	10	13

4th and Harrison Streets

2009-2011 injury collisions: 24

Primary Pattern: Broadsides and 4th Street southbound sideswipe collisions

Engineering Changes: SFMTA has added mast arm signals to improve signal visibility and overhead mast arm traffic lane signs to clarify which lanes on 4th Street can be used to access the freeway. Signal timing was adjusted in 2011. 4th Street is currently under construction as part of the SFMTA Central Subway project.

Collision Trend: Location saw a sharp drop in collisions after 2000-2001. The collision increase during 2009-2010 was followed by a sharp drop in 2011. SFMTA will continue to monitor.

FIGURE 5
4th and Harrison Streets, Injury Collisions (2000-2011)

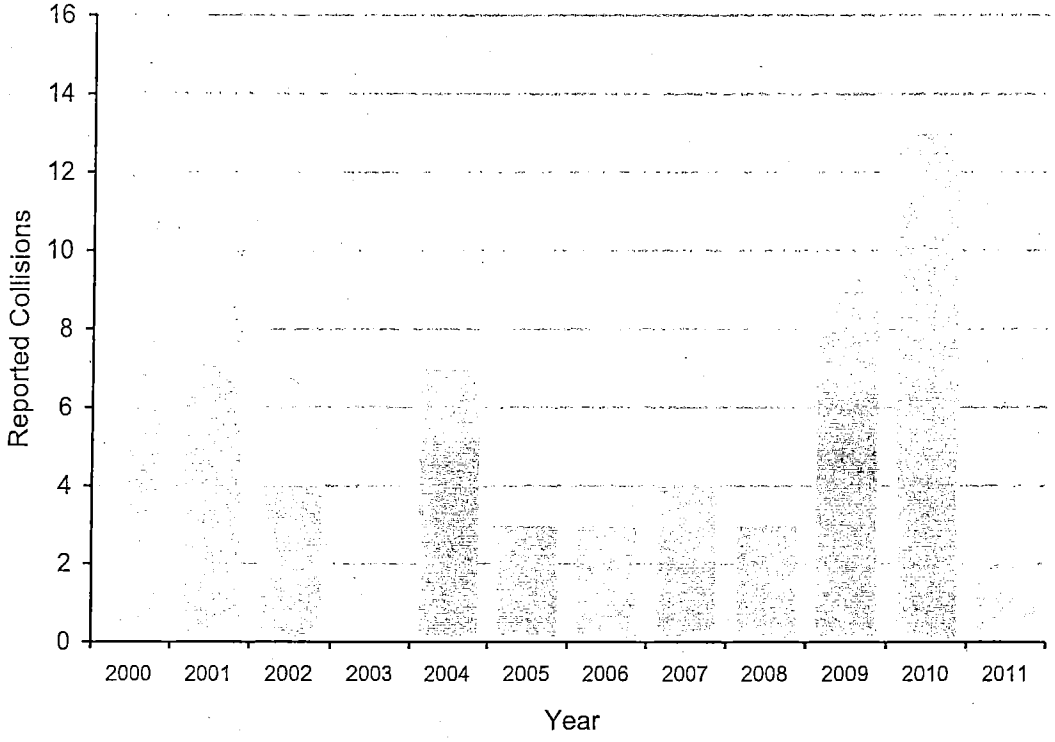


Figure 5: 4th Street and Harrison Street, Injury Collisions (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	15	10	4	0	7	3	3	4	3	9	13	2

Fell Street and Masonic Avenue

2009-2011 injury collisions: 20

Primary Pattern: Westbound Fell Street left turns with Panhandle path bicycles.

Engineering Changes: In 2008 SFMTA installed a bicycle signal treatment that separated Fell Street left-turning motor vehicles from bicycles and pedestrians crossing Masonic Avenue on the south side at Fell Street. Red light camera was activated in late 2011. Further signal design changes are to be completed in the summer of 2012.

Collision Trend: 2011 saw the highest collision total for the intersection, with 11 total reported, five of these being vehicle-bicycle collisions.

FIGURE 6
Fell Street and Masonic Avenue, Injury Collisions (2000-2011)

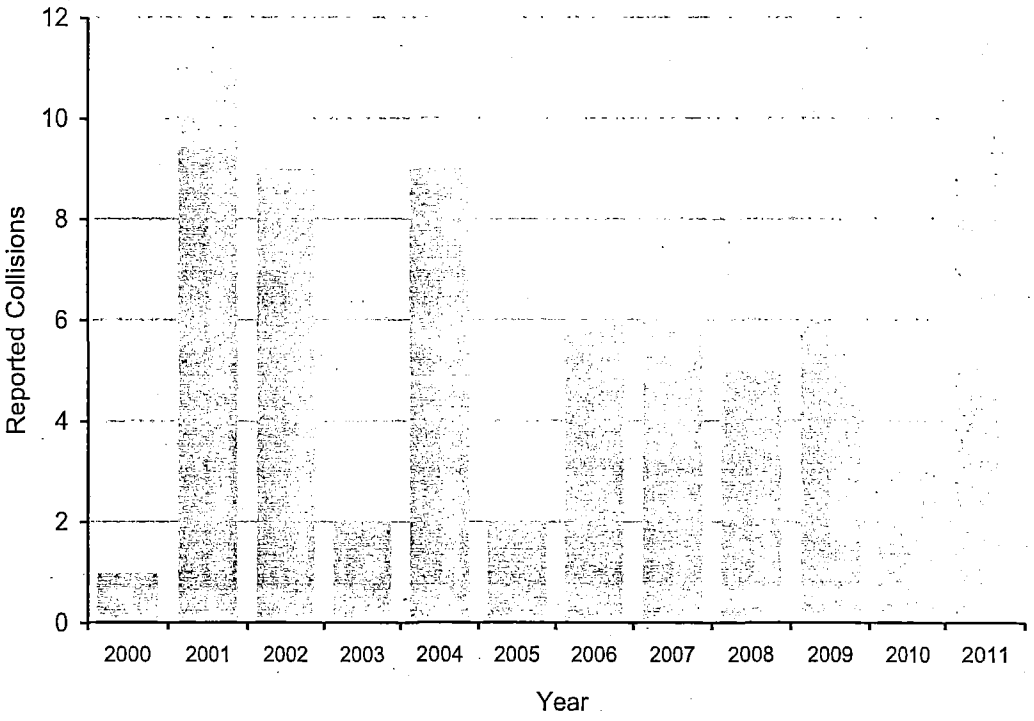


Figure 6: Fell Street and Masonic Avenue, Injury Collisions (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	1	11	9	2	9	6	6	6	5	6	3	11

13th, Mission, and Otis Streets

2009-2011 injury collisions: 19

Primary Pattern: None

Engineering Changes: Intersection was reviewed in 2011 by SFMTA and signal timing was changed in November of 2011. SFMTA modified the all-red signal clearance phases, pedestrian crossing times, and coordination with adjacent traffic signals.

Collision Trend: Location has had a varying collision pattern, with collisions most recently increasing in 2010-2011.

FIGURE 7
13th, Mision and Otis Streets, Injury Collisions (2000-2011)

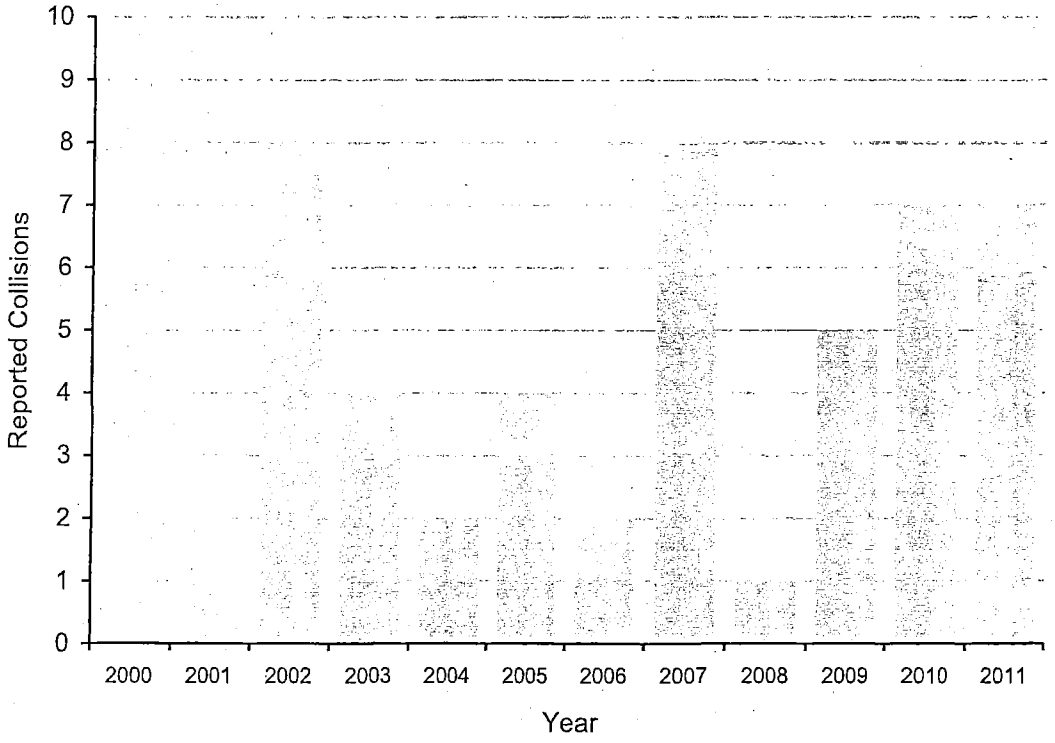


Figure 7: 13th, Mission, and Otis Streets, Injury Collisions (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	9	1	8	4	2	4	2	8	1	5	7	7

Duboce Avenue and Valencia Street

2009-2011 injury collisions: 18

Primary Pattern: Vehicle-bicycle collisions

Engineering Changes: The location was included in a signal upgrade contract that added a signal mast arm facing westbound Duboce Avenue. Signal was retimed in 2010 to update pedestrian crossing time and all-red clearance phases. SFMTA staff will review pattern of bicycle-vehicle collisions (8 bicycle-involved collisions 2008-2010).

Collision Trend: Sustained increase in collisions since 2006-2007.

FIGURE 8
Duboce Avenue and Valencia Street, Injury Collisions (2000-2011)

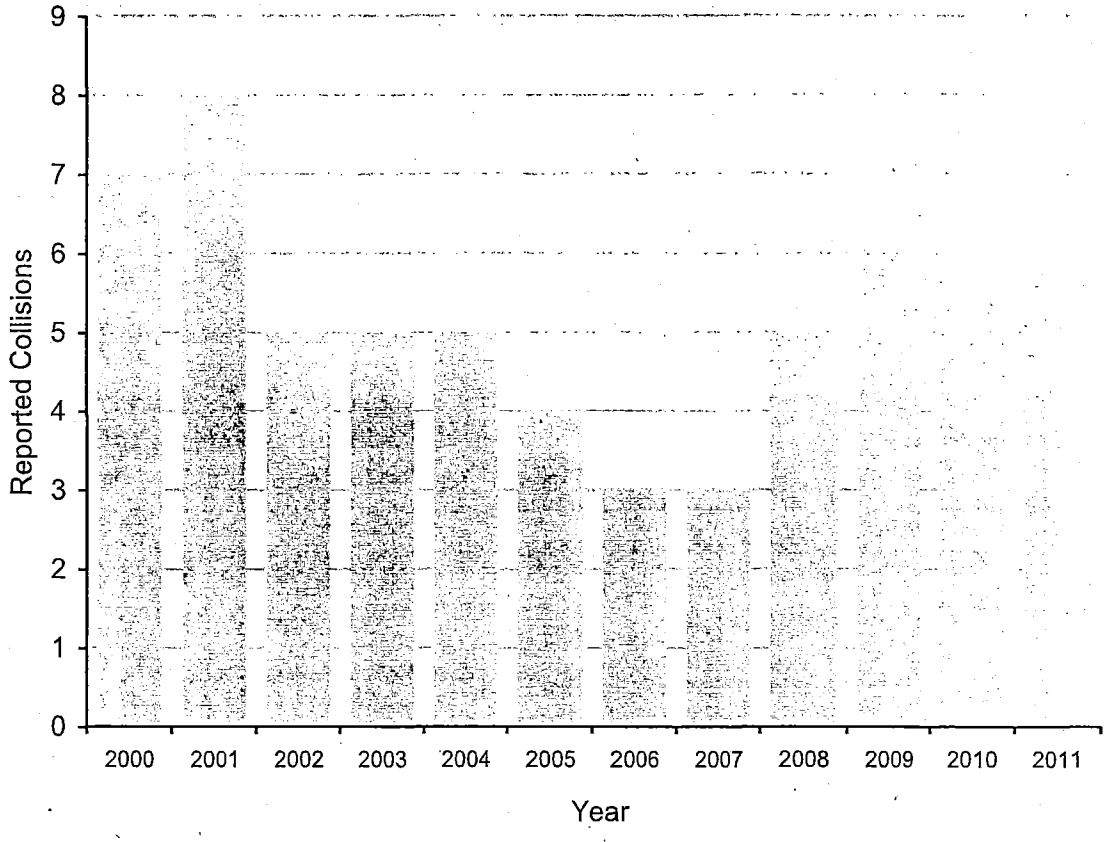


Figure 8: Duboce Avenue and Valencia Street, Injury Collisions (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	7	8	5	5	5	4	3	3	5	6	6	6

13th Street and South Van Ness Avenue

2009-2011 injury collisions: 18

Primary Pattern: None

Engineering Changes: Since the closure of the Central Freeway in 1996 various traffic changes have been made here including revised traffic lanes, new left turn and right turn signalization for 13th Street, and longer yellow and all-red clearance signal phases. SFMTA modified the traffic signal timing in December 2007 to reduce the signal's total cycle length after the opening of Octavia Boulevard. In 2008 SFMTA installed pedestrian countdown signals crossing 13th Street. Intersection will be reviewed in 2012 for additional signal timing changes.

Collision Trend: Total increased in 2010 to 9 reported injury collisions, but then dropped to a ten year low of 4 injury collisions in 2011.

FIGURE 9
13th Street and South Van Ness Avenue,
Injury Collisions (2000-2011)

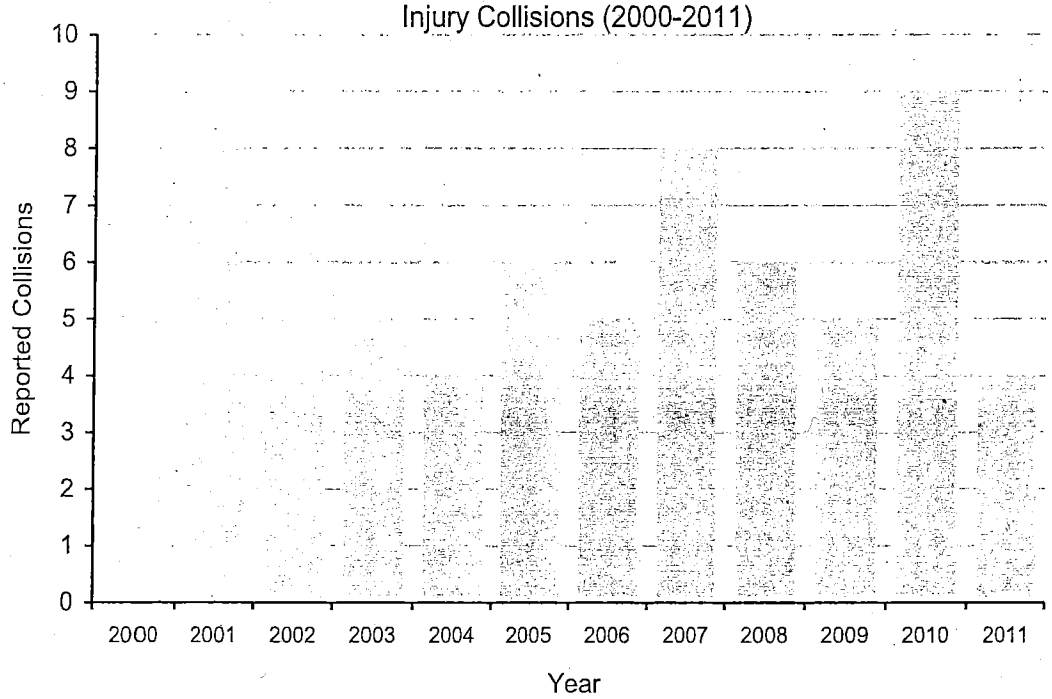


Figure 9: 13th Street and South Van Ness Avenue, Injury Collisions (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	7	8	5	5	4	6	5	8	6	5	9	4

16th Street and Potrero Avenue

2009-2011 injury collisions: 16

Primary Pattern: None

Engineering Changes: Intersection received major signal upgrade in 2005, including new pedestrian and overhead signals. Potrero Avenue from 17th to Division Streets was redesigned in 2011 with the addition of bicycle lanes, new left turn lanes, and removal of two of the six through traffic lanes. Signal timing was adjusted on October of 2010.

Collision Trend: Collision totals steadily increased since 2006, with a high of 9 injury collisions in 2009. Collision totals have dropped since 2009, however, with 2011 recording two injury collisions.

FIGURE 10
16th Street and Potrero Avenue,
Injury Collisions (2000-2011)

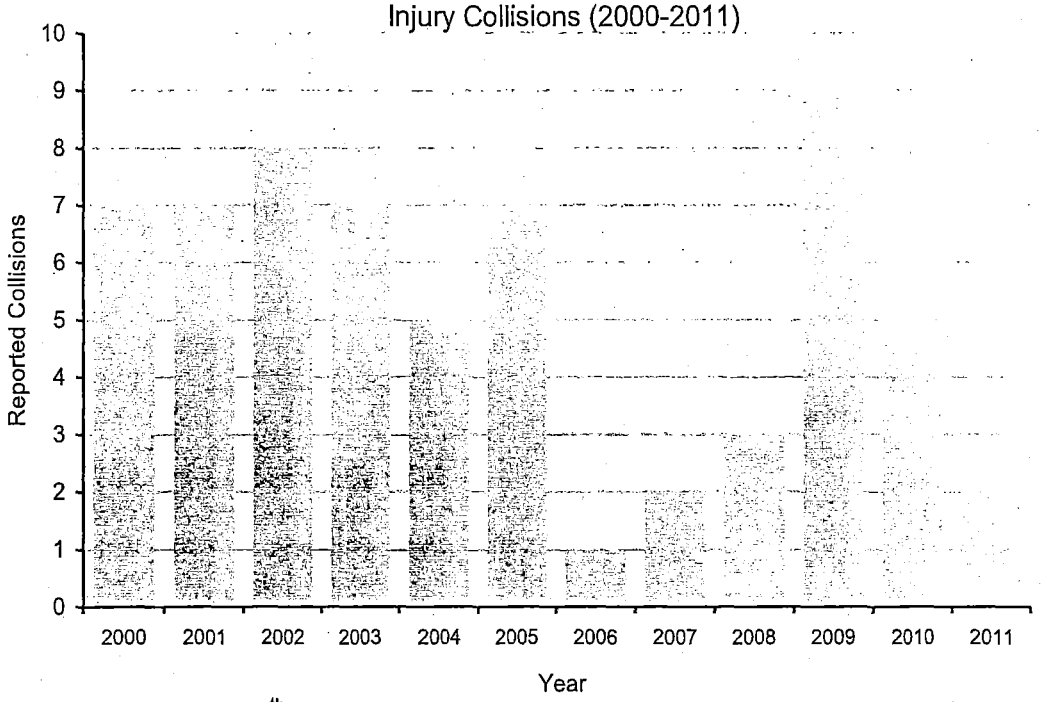


Figure 10: 16th Street and Potrero Avenue, Injury Collisions (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	7	7	8	7	5	7	1	2	3	9	5	2

Hayes Street and Van Ness Avenue

2009-2011 injury collisions: 16

Primary Pattern: Left turn collisions

Engineering Changes: SFMTA adjusted traffic signal timing in 2010 to increase duration of all-red clearance phase. In 2011 Hayes Street was redesigned to be two-way west of Van Ness Avenue. Intersection will be significantly redesigned as part of the Van Ness Avenue Bus Rapid Transit project. Changes will include installation of pedestrian signals and possible changes to Van Ness Avenue left turn controls.

Collision Trend: 2009 had the highest collision total in ten years, but totals declined in 2010 and 2011.

FIGURE 11
Hayes St and Van Ness Avenue, Injury Collisions (2000-2011)

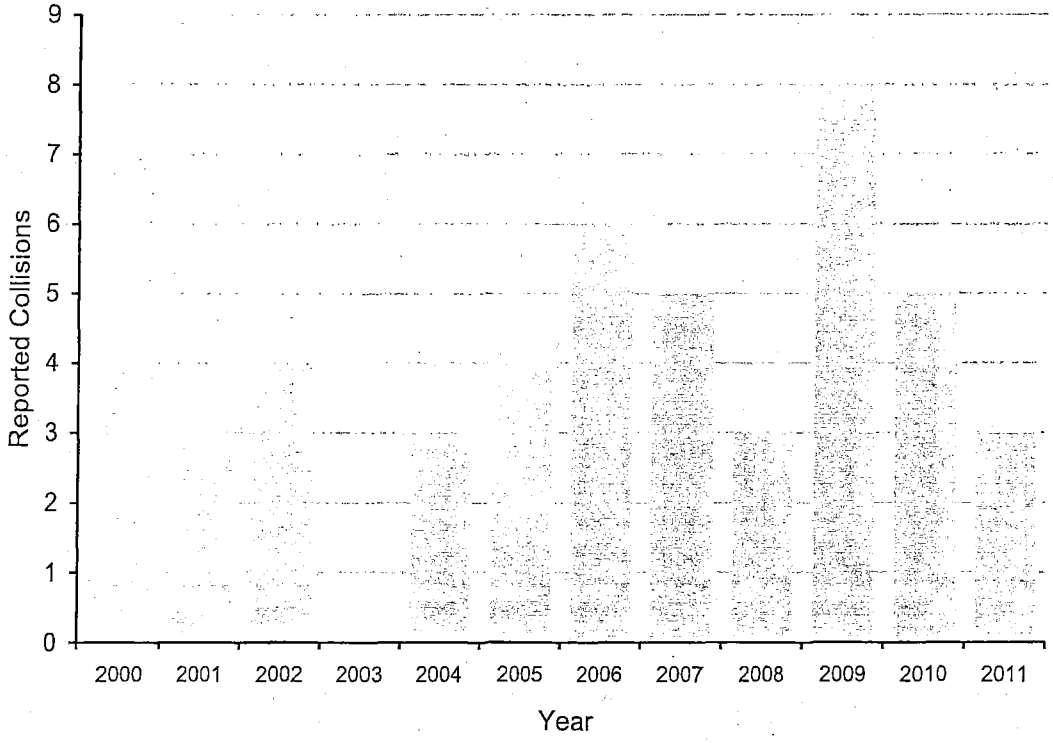


Figure 11: Hayes Street and Van Ness Avenue, Injury Collisions (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	7	3	4	0	3	4	6	5	3	8	5	3

PART 4: PEDESTRIAN AND BICYCLE COLLISIONS

Approximately a fourth of San Francisco's injury collisions involve pedestrians. Pedestrian collisions have remained a relatively constant 25 percent of total injury collisions in San Francisco over the past ten years (Figure 12). That is, pedestrian collisions appear to be decreasing or increasing in proportion to the changes in overall collision totals.

Injury collisions involving bicycles, however, have increased as a share of the City's reported injury total. From 2000 to 2004, ten percent of collisions involved a person riding a bicycle. Eleven years later that percentage has doubled to 21 percent as bicycle collisions have increased while other types of collisions have not.

FIGURE 12 - San Francisco Pedestrian and Bicycle Injury Collisions by Percentage of Year's Total (2000-2011)

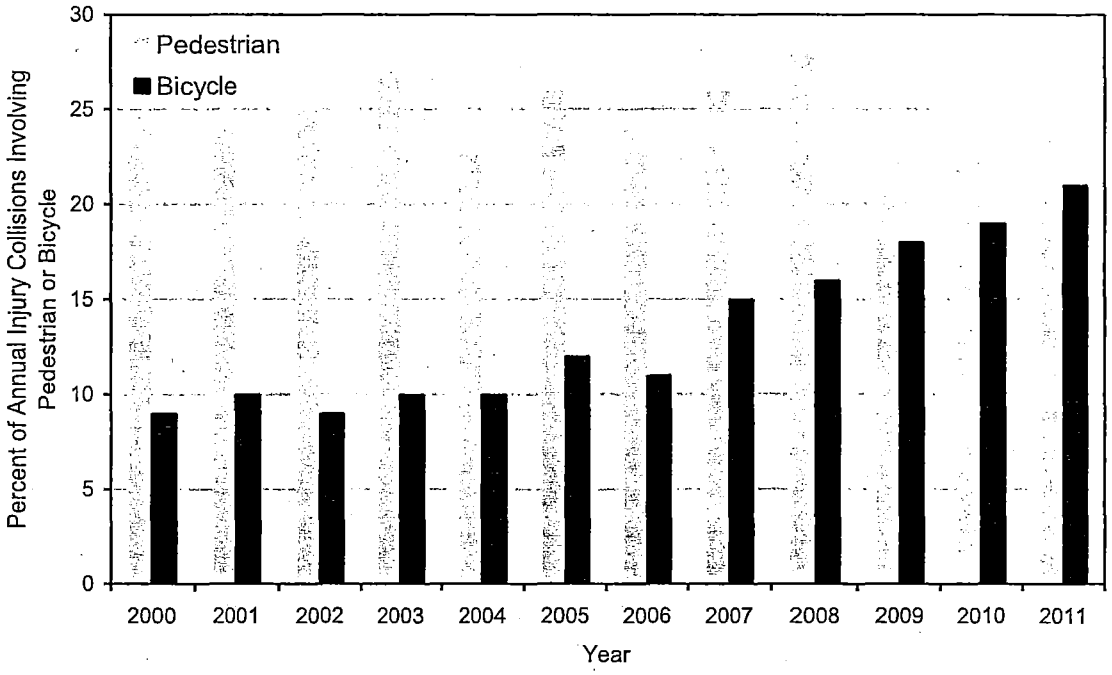


Figure 12: San Francisco Pedestrian and Bicycle Injury Collisions By Percentage of Year's Total Injury Collisions (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total Injury	4,182	3,917	3,777	3,511	3,038	3,227	2,869	3,021	3,010	2,877	3,081	3,111
Pedestrian %	24	24	25	27	23	26	24	26	28	24	25	27
Bicycle %	9	10	9	10	10	12	11	15	16	18	19	21

Pedestrian Collisions

The 2011 total of 844 injury collisions involving a pedestrian is up 8 percent from the 784 injury collisions reported in 2010 (Figure 13). Up to 2004 pedestrian collisions continued a steady decline from the over 1,000 incidents that were recorded annually in the 1990's. Since 2004 pedestrian injury collisions have been relatively unchanged. Though 2009 recorded the lowest San Francisco pedestrian injury total in the past decades, collisions in 2010-2011 unfortunately increased.

FIGURE 13
San Francisco Injury Collisions Involving Pedestrians
(2000-2011)

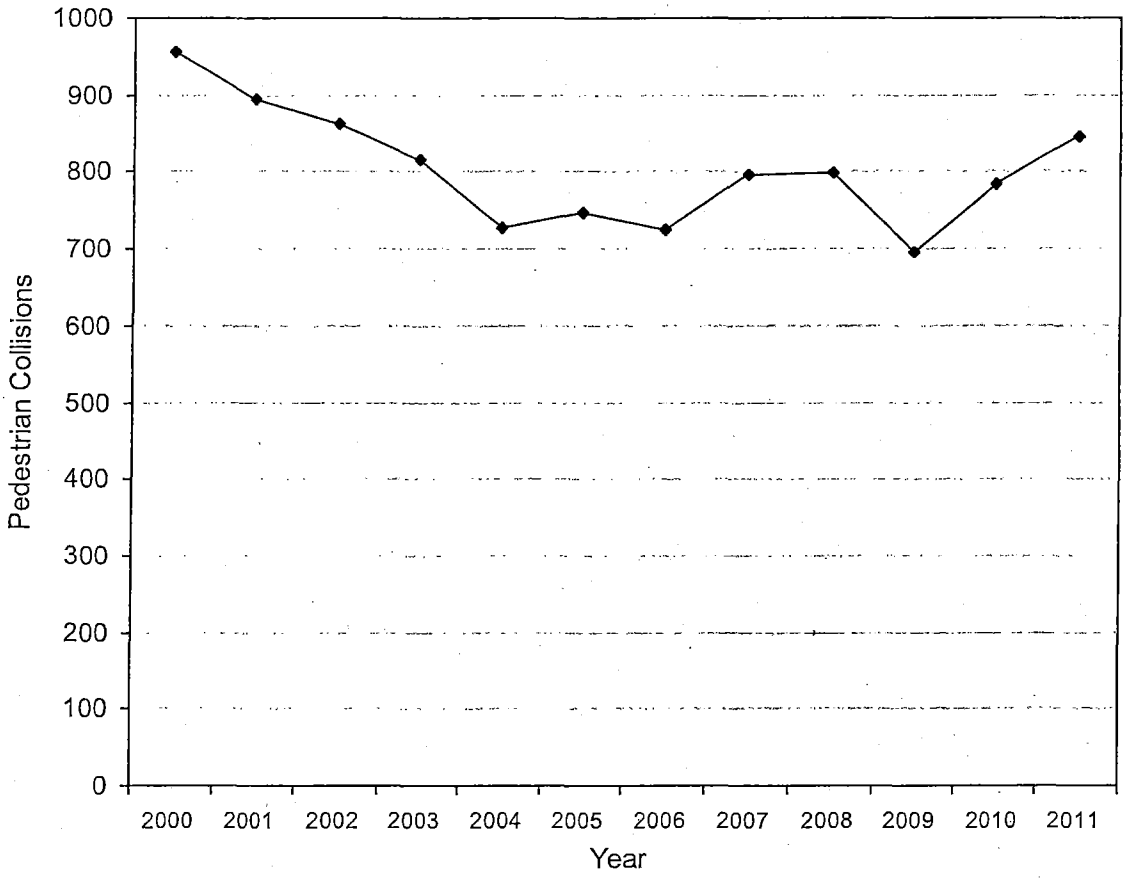


Figure 13: San Francisco Injury Collisions Involving Pedestrians (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	955	895	862	815	727	747	726	796	799	695	784	844

The number of fatal collisions involving a pedestrian was 17 in 2011, up from the 14 reported in 2010 (Figure 14). More than half of San Francisco's fatal collisions involve pedestrians. The recent trend among pedestrian fatal collisions appears to be slightly down, with the four lowest annual totals reported after 2004. The City, however, has yet to average less than one pedestrian fatality a month in any one year.

FIGURE 14
San Francisco Pedestrian Fatal Collision Totals (2000-2011)

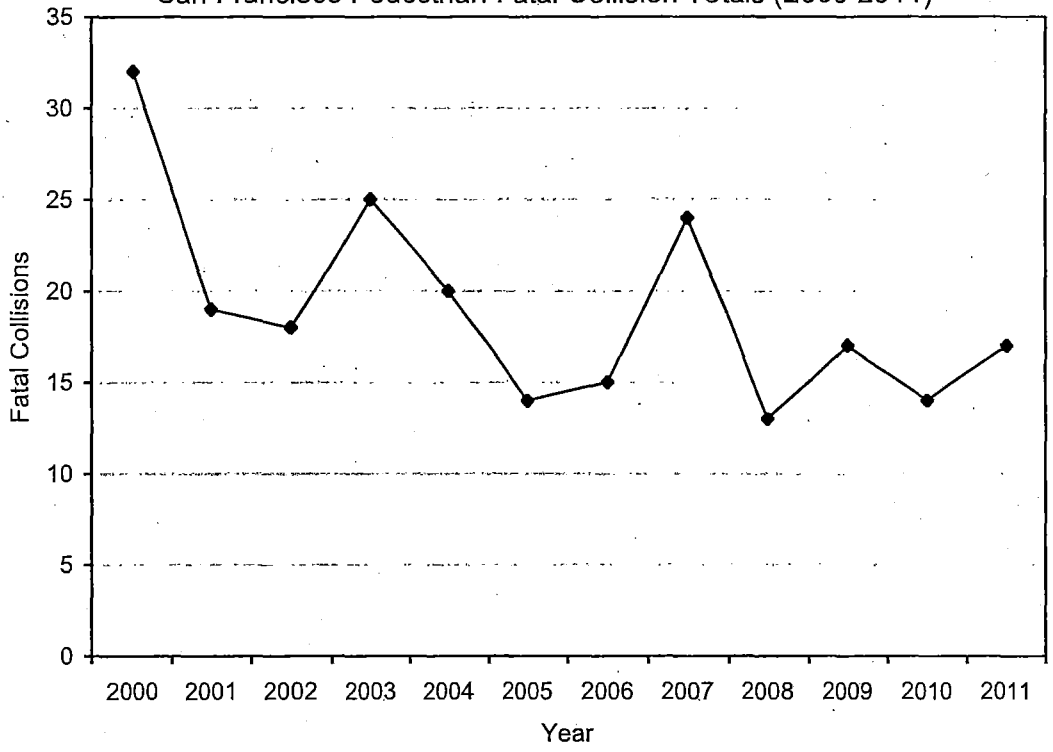


Figure 14: San Francisco Fatal Collision Totals (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	32	19	18	25	20	14	15	24	13	17	14	17

Tables 5 and 6 summarize which specific California Vehicle Code (CVC) sections are the most likely primary cause of a pedestrian collision. Table 5 shows the violations when the pedestrian is listed as party one, or generally the party most at fault according to the collision report. Table 6 shows the violation types when the pedestrian was not party one, meaning another party was most likely at fault. About two-thirds of collisions are the fault of the vehicle driver according to the SFPD collision reports. The most

common violation cause (41 percent) was CVC 22950(A), the section that makes it illegal for someone driving a vehicle not to yield to a pedestrian crossing at a crosswalk. This could happen when motorists are making left or right turns at intersections, or when a vehicle fails to yield at a crosswalk when going straight.

Many collisions can be the result of more than one violation factor and conditions not readily apparent at the scene, but typically the SFPD will determine through witness and party statements the most likely cause of the collision.

Table 5 – 2011 Most Common Vehicle-Pedestrian Injury Collision Factors by California Vehicle Code Violation Section when Pedestrian Could be at Fault

CVC Section	General Description of CVC Violation	
21954(A)	Failure to yield right-of-way outside crosswalk	96
21955	Crossing between signalized intersections	66
21950(B)	Failure to watch for cross traffic at crosswalk	36
21453(D)	Violation of signal red light	33
21456(B)	Disobedience of pedestrian signal indications	15
21956	Pedestrian walking on roadway	7
Other		18
TOTAL		271

Table 6 – 2011 Most Common Vehicle-Pedestrian Injury Collision Factors by California Vehicle Code Violation Section when Motorist Could be at Fault

CVC Section	General Description of CVC Violation	
21950(A)	Failure to yield to pedestrian at a crosswalk	343
22350	Driving at unsafe speed given conditions of roadway	59
22106	Unsafe maneuver or backing after being parked	43
21453(A)	Violation of signal red light	28
22450	Failure to stop at a STOP sign limit line	8
21952	Failing to yield to pedestrians when driving over sidewalk	8
21950(C)	Failure to exercise due care for pedestrian at crosswalk	6
22107	Changing lanes/ turning unsafely or without signaling	6
21756(A)	Failure to yield to pedestrians exiting a streetcar or bus	5
21451(A)	Failure to yield to pedestrians on green signal light	5
21951	Overtaking a vehicle that is yielding to a pedestrian	4
21663	Driving on sidewalk	3
21954(B)	Not exercising due care for pedestrian outside crosswalk	3
Other		52
TOTAL		573

Table 7 shows highest injury vehicle-pedestrian collision locations for the three-year period 2009-2011. Golden Gate Avenue and Jones Street, as well as 6th Street and Howard Street, are both locations were SFMTA has undertaken measures in the past to improve pedestrian safety conditions, including signal timing and lane control changes. The former top location for pedestrian injury collisions, 6th and Market streets, recorded four pedestrian injury collisions during this three-year period, an improvement over previous three-year totals. Additional focus is being given to making improvements on the small percentage of city streets where the majority of injury collisions occur.

TABLE 7
Three Year Highest Injury Vehicle-Pedestrian Collision Intersections
Intersections with seven or more collisions resulting in injury, 2009-2011

Street A	Street B	2009-2011 Injury Collisions
Golden Gate Ave	Jones Street	9
6th Street	Howard Street	8
7th Street	Mission Street	7

At the citywide level, SFMTA has implemented a variety of measures to improve pedestrian safety, including installing new pedestrian signs, crosswalk markings, parking prohibitions, signal timing settings, countdown pedestrian signals, audible signals, traffic regulations, speed regulation changes, road diets, and traffic calming measures. General signal upgrades also benefit pedestrians by installing pedestrian signals at intersections where these devices are not present and by improving the visibility of signal indications to motorists.

Bicycle-Involved Collision Totals

There were 630 injury collisions in 2011 involving a bicycle as a party, up 5 percent from the 599 total recorded in 2010. The 2011 injury collision total is the highest in the past ten years. Bicycle-involved collisions have been steadily increasing since 2002 (Figure 12). While the exact reasons for this increase are not known, it has coincided with a statistically significant increase in the number of bicyclists riding on various city streets, as measured by annual counts taken by the SFMTA. Table 8 suggests there may be some relationship between the increases in recorded bicycle activity and resulting bicycle-involved collisions. The "safety in numbers" effect of decreasing collisions as bicycle riding becomes more prevalent does not appear to be the case so far in San Francisco.

Until 2009 the City was under an injunction preventing any bicycle-related infrastructure changes from taking place prior to the completion of extensive environmental analysis. The SFMTA is now making significant upgrades along many important bicycle routes.

TABLE 8
2006 and 2011 Bicycle Sample Counts[1] and Bicycle Involved Injury Collisions

	2006	2011	Percentage Increase
Bicycle Counts	4,862	8,314	71%
Bicycle Collisions	343	630	84%

FIGURE 15
San Francisco Injury Collisions Involving Bicycles
(2000-2011)

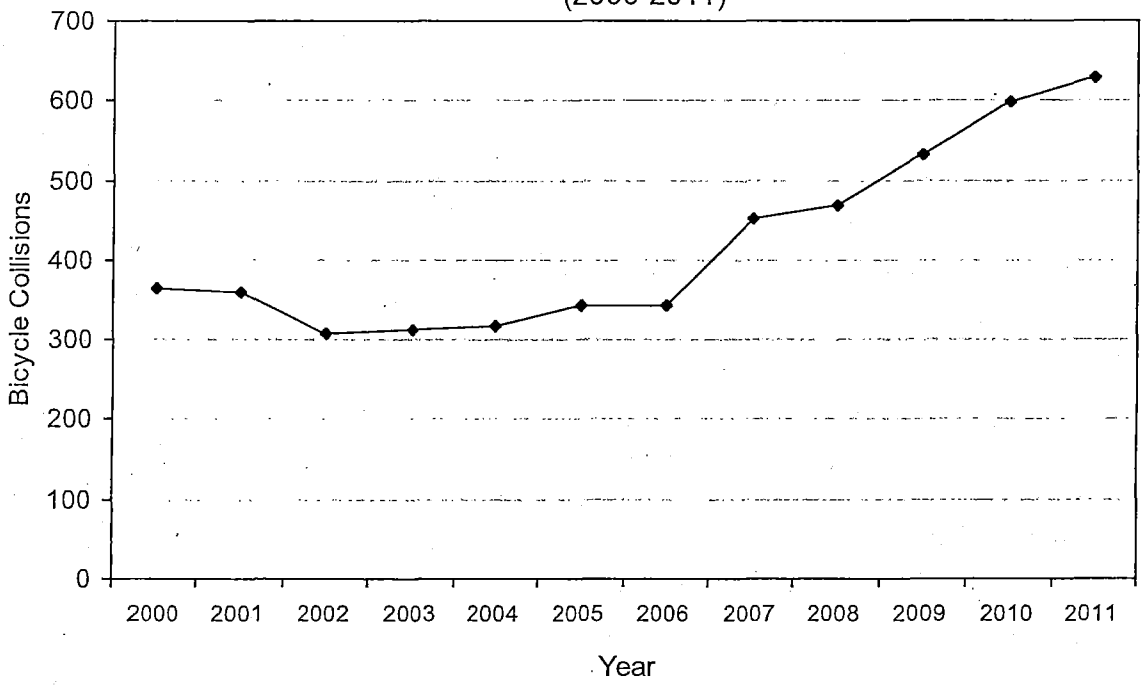


Figure 15: San Francisco Injury Collisions Involving Bicycles (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	364	360	307	311	316	343	343	451	468	531	599	630

[1] *2011 SFMTA Bicycle Count Report*, page 9.

Table 9 summarizes fatal bicycle collision totals for 2002-2011. 2011 saw the highest fatal collisions involving bicycles in the past ten years. Two of the collisions involved a bicycle colliding with a pedestrian, with one of them resulting in a pedestrian fatality (The Embarcadero at Mission Street).

TABLE 9 - Fatal Collisions Involving Bicycles, 2002-2011

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Fatal Collisions	1	1	1	2	2	1	3	1	1	4

Tables 10 list collision types for collisions in which a bicycle was involved. Table 11 shows how a majority of bicycle-involved collisions occur at intersections.

TABLE 10
2010 Non-Fatal Injury Motor Vehicle-Bicycle Collisions by Collision Types

Type	Collisions	Percent
Broadside (Right-Angle)	207	41%
Sideswipe	121	24%
Rear-End	30	6%
Head On	28	5%
Other	117	23%

TABLE 11
2010 Non-Fatal Injury Bicycle Collisions by Location

Cause	Collisions	Percent
Intersection	361	60%
Non-Intersection	238	40%

Table 12 – 2011 Most Common Vehicle-Bicycle Injury Collision Factors by California Vehicle Code Violation Section when Bicycle Rider Could be at Fault

CVC Section	General Description of CVC Violation	
22350	Driving at unsafe speed given conditions of roadway	100
22450	Failure to stop at a STOP sign limit line	34
21453(A)	Violation of signal red light	32
21650.1	Failure to operate in same direction as other vehicles	26
22107	Changing lanes/turning unsafely or without signaling	13
21804	Failure to yield to cross traffic from driveway or alley	12
21658	Unsafe lane change	10
21755	Unsafe passing or overtaking of another vehicle	9
21201(D)	Insufficient lights or reflectors on bicycle	6
21657	Driving the wrong way on a one-way street	5
21950(A)	Failure to yield to pedestrian at a crosswalk	5
Unknown		19
Other Code		54
TOTAL		325

Table 13 – 2011 Most Common Vehicle-Bicycle Injury Collision Factors by California Vehicle Code Violation Section when Motorist Could be at Fault

CVC Section	General Description of CVC Violation	
22107	Changing lanes/ turning unsafely or without signaling	52
22517	Unsafe opening of vehicle door	49
21801	Failure to yield right-of-way when making left or U-turn	45
22350	Driving at unsafe speed given conditions of roadway	20
22106	Unsafe maneuver or backing after being parked	13
21802	Failure to yield after coming to a stop at a STOP sign	11
21658	Unsafe lane change	10
22101(D)	Disobedience to posted turn restriction signs	8
21451(A)	Failure to yield to pedestrians on green signal light	6
21804	Failure to yield to cross traffic from driveway or alley	6
22102	Failure to make safe U-turn in business district	6
21453(A)	Violation of signal red light	6
21750	Unsafe overtaking or passing maneuver to the left	5
22100(A)	Failure to make right turn as close as practical to curb	5
22450	Failure to stop at a STOP sign limit line	5
Unknown		15
Other Code		43
TOTAL		305

Tables 12 and 13 summarize which specific California Vehicle Code sections are the most likely primary cause of a collision that involved a bicycle. Table 12 shows the violations when the bicycle is listed as party one, or generally the party at fault according to the collision report. Table 13 shows the violation types when the bicycle was not party one, meaning another party was most likely at fault.

Fault for collisions seems to be evenly split among bicycle riders and motorists according to the SFPD collision reports. The most common violation cause by the bicyclist was unsafe speed (16 percent of total), and on the part of motorists it was not signaling a turn (8 percent of total). The second most common collision cause on the part of motorists involved not checking for bicycles before opening a door (8 percent of total) closely followed by failure to yield right of way when making a turn (8 percent of total). The second and third most common collision cause on the part of bicycle riders was violation of traffic control devices such as STOP signs and traffic signals (10 percent of total).

Table 14 is a list of the highest bicycle injury intersections for the last three years on record. The top two locations, Market Street at Octavia Boulevard and Fell Street at Masonic Avenue, have been previously discussed. SFMTA made bicycle lane striping changes on Market Street at Valencia Street in 2011 to reduce the likelihood of Market Street right-turn hook collisions. Polk and Ellis Streets will be reviewed by SFMTA staff.

TABLE 14
Highest "Motor Vehicle Involved with Bicycle" Injury Collision Intersections
7 or more injury reported collisions 2009-2011

Street A	Street B	2009-2011 Injury Collisions
Market Street	Octavia Boulevard	21
Market Street	Valencia Street	13
Fell Street	Masonic Avenue	12
Duboce Avenue	Valencia Street	8
Polk Street	Ellis Street	7

Bicycle-Pedestrian Collisions by Area

Table 15 summarizes percentage of citywide collisions being reported for each Board of Supervisors district. There are a higher proportion of overall, pedestrian, and bicycle collisions occurring in District 6. District 3 also had higher percentages of pedestrian collisions, and District 5 a higher percentage of bicycle collisions. While this is consistent with these districts having relatively higher pedestrian and bicycle activity, it also indicates a need to prioritize improvements in the northeast quadrant of the city for these modes.

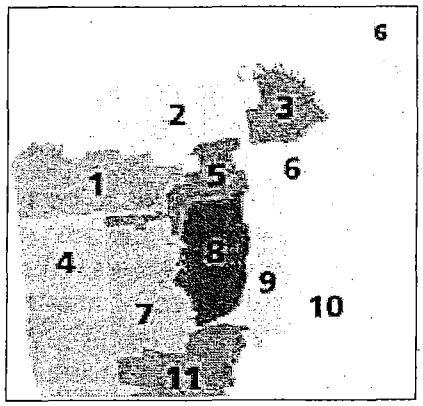


TABLE 15
Citywide Five Year (2007-2011) Reported Collision Distribution
By Board of Supervisor Districts
(Totals and percentages exceed 100 percent due to collisions on district borders)

District	Percent of Overall Total	Percent of Pedestrian Total	Percent of Bicycle Total
1	1,993 / 9%	304 / 8%	222 / 9%
2	1,858 / 8%	330 / 8%	132 / 5%
3	2,310 / 11%	649 / 17%	290 / 11%
4	1,151 / 5%	214 / 5%	85 / 3%
5	2,371 / 11 %	362 / 9%	347 / 14%
6	5,881 / 27 %	1,218 / 31%	999 / 39%
7	1,695 / 7 %	285 / 7%	105 / 4%
8	1,705 / 7 %	233 / 6%	290 / 11%
9	1,817 / 8 %	274 / 7%	224 / 9%
10	2,366 / 11 %	263 / 7%	157 / 6%
11	1,598 / 7 %	285 / 7%	90 / 4%
TOTAL	21,921	3,920	2,539

Bicycle-Pedestrian Collisions

In 2010 there were 19 reported injury collisions between bicycles and pedestrians and no fatalities. In 2011 that figure rose to 31 injury collisions, one bicycle fatality and one pedestrian fatality. The 31 bicycle-pedestrian collisions constitute about 4 percent of injury pedestrian collisions and 5 percent of injury bicycle collisions reported in 2011.

PART 5: MUNICIPAL RAILWAY COLLISIONS

The source of the collision data for this section is the SFMTA's TransitSafe database. This database includes all SFMTA-reported incidents involving Muni vehicles regardless of whether an SFPD collision report was filed. Table 16 provides a summary of the collision totals from 2006 to 2011 by degree of severity. Injury collisions have dropped by almost 50 percent in five years. A number of factors are helping improve safety, including improved motoring of incidents and training.

TABLE 16
Muni Reported Fatal and Injury Collisions (2006-2011)

	2006	2007	2008	2009	2010	2011
Fatal	4	8	5	2	3	3
Non-Fatal Injury	191	197	179	136	131	100
TOTAL	195	205	184	138	134	103

Table 17 summarizes injury and fatal collisions between Muni and pedestrians. The data is divided into rail and bus modes. The trend for 2011 was positive, with an overall decline in incidents relative to previous annual totals.

TABLE 17
Muni Reported Bus and Rail Collisions Involving Pedestrians (2006-2011)

	2006	2007	2008	2009	2010	2011
Bus-Pedestrian Fatal	2	4	1	0	1	2
Bus-Ped Non-Fatal Injury	31	34	37	27	28	16
Rail-Pedestrian Fatal	1	3	3	2	1	1
Rail-Ped Non-Fatal Injury	13	17	18	8	14	13
TOTAL	47	58	59	37	44	32

PART 6: OTHER MOTOR VEHICLE INVOLVED COLLISIONS

Table 18 has annual total of reported injury collisions involving taxis according to SFPD statistics. The 228 injury collisions reported in 2011 constitutes about 7 percent of the total citywide injury collisions.

TABLE 18
Taxi Involved Injury Collisions (2007-2011)

	2007	2008	2009	2010	2011
Injury Collisions	211	214	224	219	228

Figure 16 shows collision trends for collisions where one of the vehicles was a motorcycle. Collisions reached their lowest levels in 2004-2006, with a recent up trend.

FIGURE 16
San Francisco Injury Collisions Involving Motorcycles
(2000-2011)

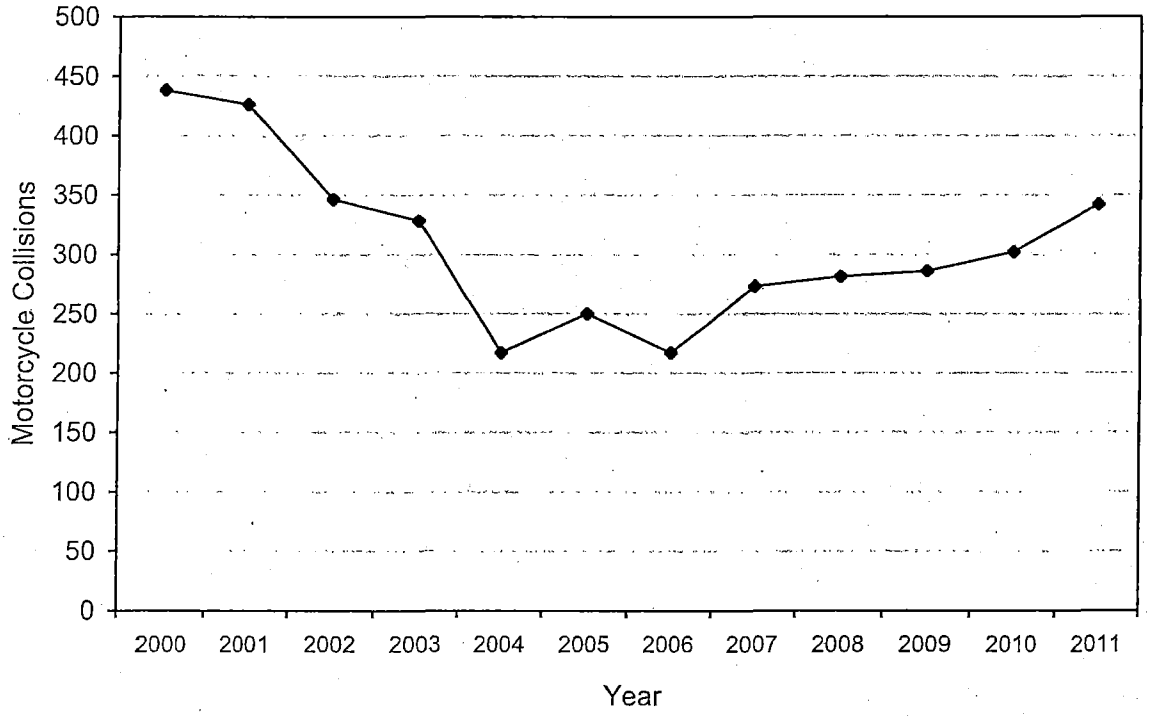


Figure 16: San Francisco Injury Collisions Involving Motorcycles (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	438	426	346	328	217	250	217	273	281	286	302	342

Figure 17 shows collision trends for collisions where a motor vehicle was involved with another motor vehicle. Collisions reached their lowest recorded levels in 2009-2011 after a steady decline in the past two decades. Vehicle on vehicle collisions are down more than 50 percent from the levels recorded in the late 1990s.

FIGURE 17
San Francisco Injury Collisions Motor Vehicle with Motor Vehicle
(2000-2011)

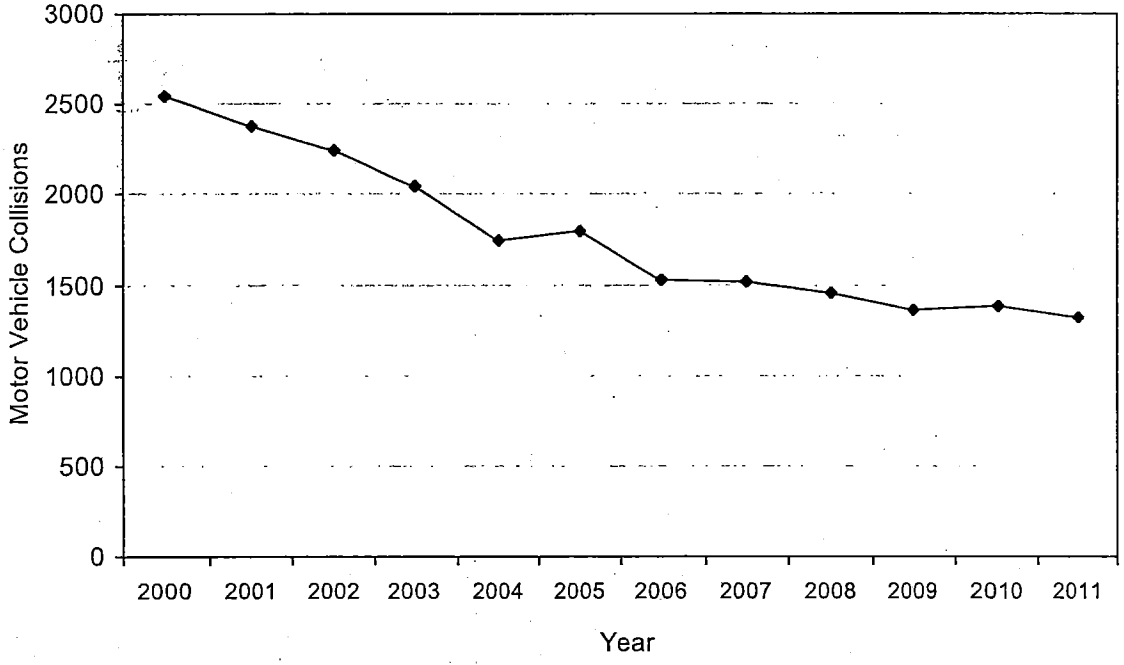


Figure 17: San Francisco Injury Collisions, Motor Vehicle-Motor Vehicle (2000-2011)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	2547	2379	2238	2043	1747	1799	1527	1518	1453	1357	1377	1321

PART 7: COLLISIONS AT LOCATIONS WITHOUT A TRAFFIC SIGNAL

Due to their higher traffic volumes, the intersections with the highest collision totals in the City are signalized. Mitigation measures for lower volume intersections are generally different than those for signalized intersections. They can include installation of additional STOP signs, new traffic signals, new traffic regulations, or parking restrictions. Table 19 includes the highest reported collision intersections for the five year period ending in the first quarter of 2011. Table 20 does the same for pedestrian collisions. A majority of these intersections are funded to receive new traffic signals, or had traffic signals recently completed.

TABLE 19
Highest Five-Year Reported Collisions at Unsignalized Intersections (2007-2011)
Intersections with 11 or more reported collisions

TOTAL	INTERSECTION	NOTE
15	John Muir Dr at Lake Merced Blvd	To be signalized (under design)
13	San Jose Ave at Liebig St	Caltrans street redesign (2012)
13	Cayuga Ave at Geneva Ave	To be signalized (under design)
13	16th St at Capp St	To be signalized (under design)
12	Sunset Blvd at Ulloa St	To be signalized (under design)
12	6th St at Minna St	To be signalized (under design)
11	Grove St at Divisadero St	Signalized (completed 2012)
11	16th St at Rhode Island St	Signalized (completed 2012)

TABLE 20
Highest Five-Year Pedestrian Collisions at Unsignalized Intersections (2007-2011)
Intersections with 4 or more reported collisions

TOTAL	INTERSECTION	NOTE
5	Geneva Ave at London St	Added red zones, new crosswalk markings, advance yield lines (2011)
5	Webster St at O'Farrell St	All-way STOP, reviewed in 2011
5	6th St at Jessie St	Added red zones, under review for further changes
4	Sunset Blvd at Ulloa St	To be signalized (under design)
4	Cayuga Ave at Geneva Ave	To be signalized (under design)
4	Grove St at Divisadero St	Signalized (completed 2012)
4	18th St at Collingwood St	Added red zones at intersection (2010)
4	16th St at Capp St	To be signalized (under design)
4	6th St at Stevenson St	Added red zones, under review for further changes
4	Powell St at Washington St	To be signalized (under design)

PART 8: SAFER STREETS FOR SAN FRANCISCO

Below we highlight a few of the on-going SFMTA Sustainable Streets Division safety initiatives.

Regular Collision Totals Review. Since the mid 1990's transportation engineering staff has analyzed highest collision locations to determine possible mitigation measures and to prioritize capital investments. Collision analysis software and electronic mapping systems are used to identify higher collision locations and review specific collision patterns. SFMTA staff also reviews hundreds of safety improvement suggestions submitted by the public every year.

New Signals and Signal Upgrades. In 1989 San Francisco voters approved a half-cent transportation sales tax which included funding for traffic signal improvements like overhead mast arm signals or new traffic signals at the highest collision intersections. South of Market streets like Bryant, Folsom, Harrison and Howard saw their collision totals drop by 40 to 60 percent in the late 1990's after new pedestrian and larger, more visible overhead signals were installed, helping remove many South of Market intersections from annual highest collision lists. General traffic signal upgrades also benefit pedestrians by installing pedestrian signals at intersections where these devices are not present and by improving the visibility of signal indications to motorists.

Pedestrian Countdown Signals. San Francisco was the first major city to replace all its existing pedestrian signals citywide with LED units that had a countdown display. The positive results from these deployment efforts in the past decade led the federal government to consider requiring these devices at all signals. The SFMTA continues to work on installing countdown units at older signals that lack them (about 30 percent of the city's 1,200 signalized intersections).

Pedestrian Safety. At the citywide level, SFMTA has implemented a variety of measures to improve pedestrian safety, including installing new pedestrian safety signs, improved crosswalk markings, leading pedestrian signal intervals, pedestrian only signal phases, STOP signs, audible pedestrian signals, red zones to improve sight distances, and traffic calming improvements such as sidewalk extensions. SFMTA the co-chairs the Pedestrian Safety Task Force and works with local and citywide groups such as the Pedestrian Safety Advisory Committee, Walk San Francisco, and the Senior Action Network on identification of problems and possible improvements.

Educational and Enforcement Efforts. SFMTA works with the Department of Public Health and the San Francisco Police Department on a variety of coordinated safety and enforcement campaigns. Current initiatives include a concentrated enforcement effort

along the highest pedestrian injury corridors in the City.

Bicycle Safety. San Francisco is now implementing major bicycle improvements on key routes across the city following completion of the City's Bicycle Plan and the lifting of a legal injunction. San Francisco is also testing innovative bicycle facility treatments that include additional markings, delineators, and green color to enhance their effectiveness. Bicycle projects such as bicycle lanes can also have beneficial effects to pedestrians when they reduce the number of motor vehicle lanes that pedestrians have to cross or when they provide an additional buffer between motor vehicles and sidewalks. Reversing the recent increase in bicycle collisions will remain a major area of focus in the coming years.

Signal Timing Changes. SFMTA transportation engineers are continually updating signal timing settings. Currently signals are being adjusted to provide pedestrians time to cross the street at a walking rate of 3.5 feet per second. The previous walking rate in state and federal guidelines was 4 feet per second. SFMTA is also revising signals to provide additional all-red clearance phases, brief periods when signal approaches are red in all directions. This treatment can reduce certain types of collisions such as broadsides.

Traffic Calming Programs. The past two decades have seen the development of new and more robust traffic calming programs in San Francisco. Traffic calming is a community-driven process in which residents work with city staff to identify measures to increase safety for all road users by installing roadway features to reduce vehicle speeds and cut through traffic and increase pedestrian visibility. These programs have leveraged local, state, and federal funds to implement a variety of street improvement projects, from traffic calming projects on major arterials (such as road diets) to the installation of speed humps on lower volume residential streets. Currently the SFMTA is evaluating how to use limited traffic calming funds to improve pedestrian safety along major arterials.

School Safety Program and Crossing Guards. SFMTA has staff dedicated to work on school-related safety initiatives. These include the review of specific school-related safety and parking complaints, working with school staff on traffic safety concerns, and the proactive installation of fluorescent-yellow green school signs and yellow ladder-type crosswalks around all active school crossings. Safe Routes to School grants have funded major improvements near schools such as sidewalk extensions. On a typical school day over 140 SFMTA School Crossing Guards assist school children crossing major intersections.

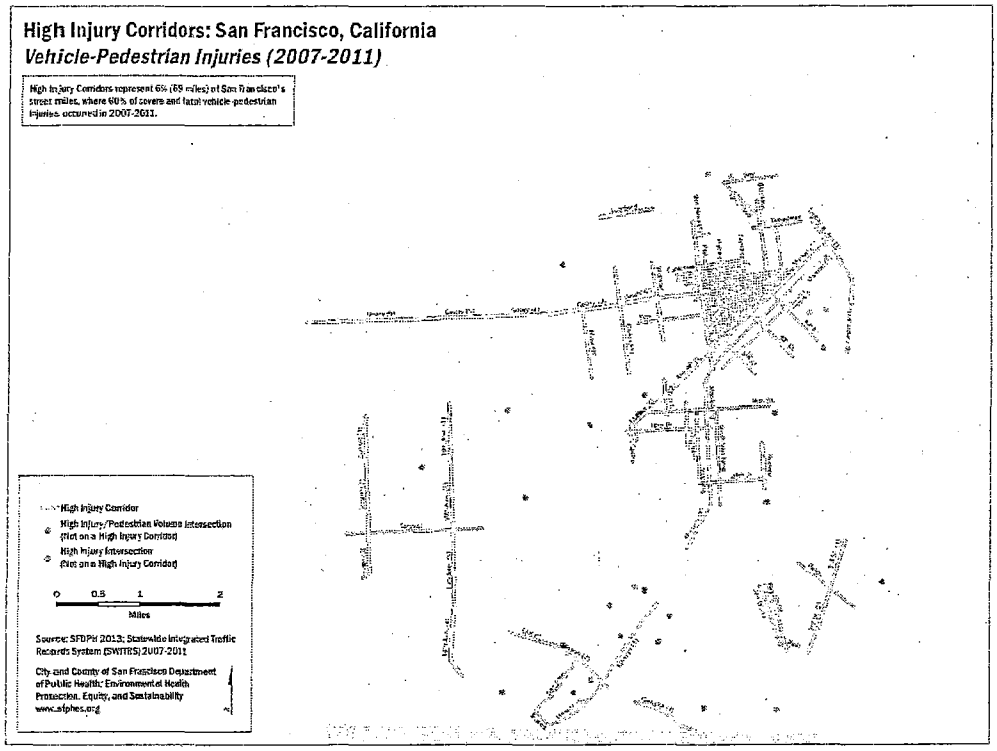
There is much work that remains to be done. Concerted action to make San Francisco's streets safer will be required until there are no collisions to report.

IDENTIFYING HIGH PEDESTRIAN INJURY CORRIDORS FOR TARGETED SAFETY IMPROVEMENTS

A METHODOLOGY FOR SAN FRANCISCO, CALIFORNIA
2013 UPDATE

San Francisco Department of Public Health, Program on Health, Equity and Sustainability
in collaboration with the
San Francisco Municipal Transportation Agency, Livable Streets Program

Summary: *This document is an update to the High Pedestrian Injury Corridor methodology initially released by the San Francisco Department of Public Health in 2011. This report builds on that original analysis and describes the steps taken by SFDPH in collaboration with the San Francisco Municipal Transportation Agency's Livable Streets Subdivision to: 1) identify new high injury corridors and extensions; 2) expand the analysis to include identifying intersections not on high injury corridors that have a high absolute number or estimated rate of pedestrian injuries / estimated pedestrian volume; 3) summarize corridor patterns with respect to equity concerns; and 4) summarize associated injury statistics.*



A link to an interactive version of the above map is available here: http://www.sfphes.org/elements/21-elements/transportation/137-pedestrian-safety

Background

In April 2013, Mayor Edwin M. Lee launched San Francisco's Pedestrian Strategy to increase walkability around the City and make all neighborhoods safe for pedestrians, setting forth actionable recommendations to reduce serious or fatal pedestrian injuries by 25% by 2016 and by 50% by 2021. The Strategy describes actions needed to realize this ambitious goal initially set forth in *Executive Directive 10-03: Pedestrian Safety In San Francisco* issued by then Mayor Gavin Newsom in December 2010. The following methodology was first developed in 2011 by the San Francisco Department of Public Health's Program on Health, Equity and Sustainability (SFDPH) as the lead of the Citywide Pedestrian Safety Task Force's Data Subcommittee to inform targeted injury reduction efforts focused on corridors with higher densities of vehicle-pedestrian injuries (high-injury corridors, or HICs).

Corridor-level and area-level analysis is necessary for efficient and effective pedestrian injury prevention.[1,2,3] Prioritization based on high injury intersections alone typically identifies and addresses only a very small overall proportion of vehicle-pedestrian collision injuries. For example, for a given year the top 10 intersections with the highest numbers of pedestrian injuries in San Francisco account for <3% of the total pedestrian injuries. Furthermore, because pedestrian injuries are relatively rare events at an individual intersection, there can be a high degree of variability at individual intersections from year-to-year. However, when analyzing aggregated injury data over a few years, there are evident corridor- and area-level patterns of injury that represent a much larger share of injuries. The concentration of pedestrian injury collisions along corridors and in areas represents the aggregation of established environmental-level risk factors including pedestrian activity, traffic volumes and traffic speeds. Interventions targeting areas and corridors can address the factors contributing to injuries at multiple streets and intersections.

This document is an update to "Identifying High Injury Density Corridors and Areas for Targeted Safety Improvements to Reduce Severe and Fatal Pedestrian Injuries: A Methodology," initially released by the SFDPH in 2011 utilizing vehicle-pedestrian injury data from 2005-2009. This report builds on that original analysis and describes the steps taken by SFDPH in collaboration with the San Francisco Municipal Transportation Agency's Livable Streets Subdivision (SFMTA) to:
1) identify new HICs and HIC extensions;
2) expand the analysis to include intersections not on HICs with high absolute numbers or estimated rates of pedestrian injuries relative to estimated pedestrian volume;
3) summarize corridor patterns with respect to equity issues based on the Metropolitan Transportation Commission's "Communities of Concern" definition; and
4) summarize injury statistics on HICs and identified intersections.

Methods

I. Summary of Original Analysis (Released in 2011)

SFDPH used data for 2005-2009 (the most recent annual data available at the time) from the Statewide Integrated Traffic Records System (SWITRS), managed by the California Highway Patrol, for the original analysis.[a] We included all pedestrian injuries resulting from a collision between a vehicle and a pedestrian, for a total of 3,883 pedestrian injuries (383 of which were severe) and 97 fatalities (n=16 pedestrian injuries, including n=2 severe/fatal, were not able to be geocoded and were thus excluded from the analysis). For this analysis, we weighted severe and fatal injuries – a focus of prevention efforts as described in the Executive Directive - by multiplying those counts times

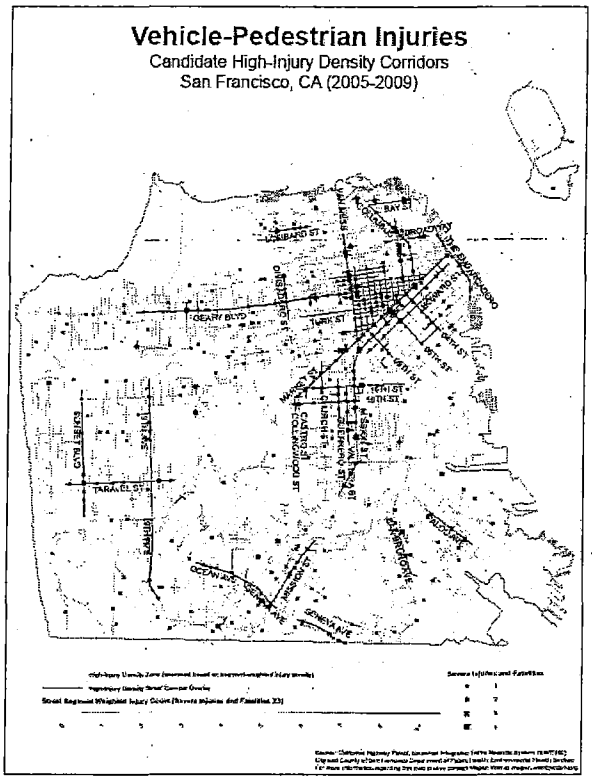
[a] More information regarding SWITRS and how to access this data available at: http://iswitrs.chp.ca.gov/Reports/jsp/userLogin.jsp.

3, consistent with previous studies in San Francisco, while complaints of pain and visible injury were assigned a count of 1.[4]

We then used ArcGIS mapping software to map pedestrian injury counts to street segments by aggregating weighted injury counts at intersections (initially assigned to intersections based on primary and secondary streets in SWITRS) and then assigning them to their adjoining street segments. (Note that this approach results in injuries being counted on each of the streets that intersect at that intersection.) The total number of weighted collisions from all adjoining intersections was summed for each street segment.

We identified potential high injury density corridors, which were defined by first identifying street segments with weighted counts ≥9 and then assessing whether there was a linear pattern of higher injury counts proximate to those segments and following the street network to identify high injury corridors. A strength of this corridor approach is that it can be used to inform targeted interventions to factors common along a corridor contributing to higher numbers of injuries, while accounting for some of the year-to-year random variability in injury occurrence at specific locations. We determined the initial cut-point of weighted counts ≥9 based on the distribution of the data; this cut-point also includes intersection-level hotspots with three or more severe/fatal collisions in the 5-year period. We used a kernel density geoprocessing tool that takes into account the area density of the mapped, weighted injuries to add a "high injury density zone" to the map which served as a qualitative check that we were capturing area-level concentrations of injury. **The identified corridors in blue in Map 1 represent 5% of San Francisco's street miles, and include 55% of all severe and fatal injuries and 51% of total –vehicle pedestrian injuries in the five-year period.**

Map 1. Original High Injury Corridors, 2005-2009 SWITRS Data



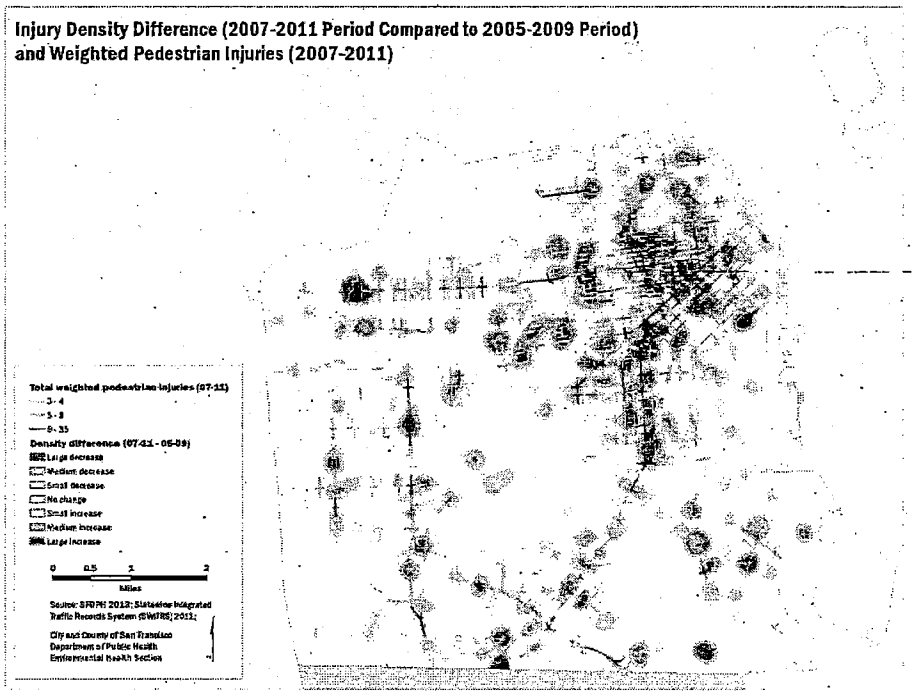
II. 2013 High-Injury Corridor (HIC) Update

Given the subsequent release of 2010-2011 data and a capital improvements prioritization process for pedestrian safety underway in 2013, SFDPH collaborated with SFMTA to update the high injury corridor methods to ensure that the latest data would inform City investments.

As in the original methodology, we downloaded and geocoded all pedestrian injuries resulting from a collision between a vehicle and a pedestrian[b] from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) for the 2005-2011 time period. With the additional two years of data we had a total of 5,452 pedestrian injuries, out of which 127 were fatalities (n=48 pedestrian injuries, including n=4 severe/fatal, were not able to be geocoded and were thus excluded from the analysis). Severe and fatal injuries were again weighted more heavily by multiplying those counts by 3 for the weighted total number of injuries. We then used ArcGIS mapping software to assign and map weighted total pedestrian injury counts to street segments by aggregating injury counts to intersections based on primary and secondary streets in SWITRS and then assigning those counts to each of their adjoining street segments. We then conducted the following steps.

1) **Identify new HICs and HIC extensions:** We identified new HICs and HIC extensions by assessing both absolute changes in injury density from 2005-2009 compared to 2007-2011 as well as segment-level weight injury counts for 2007-2011, as depicted in the following Map 2.

Map 2

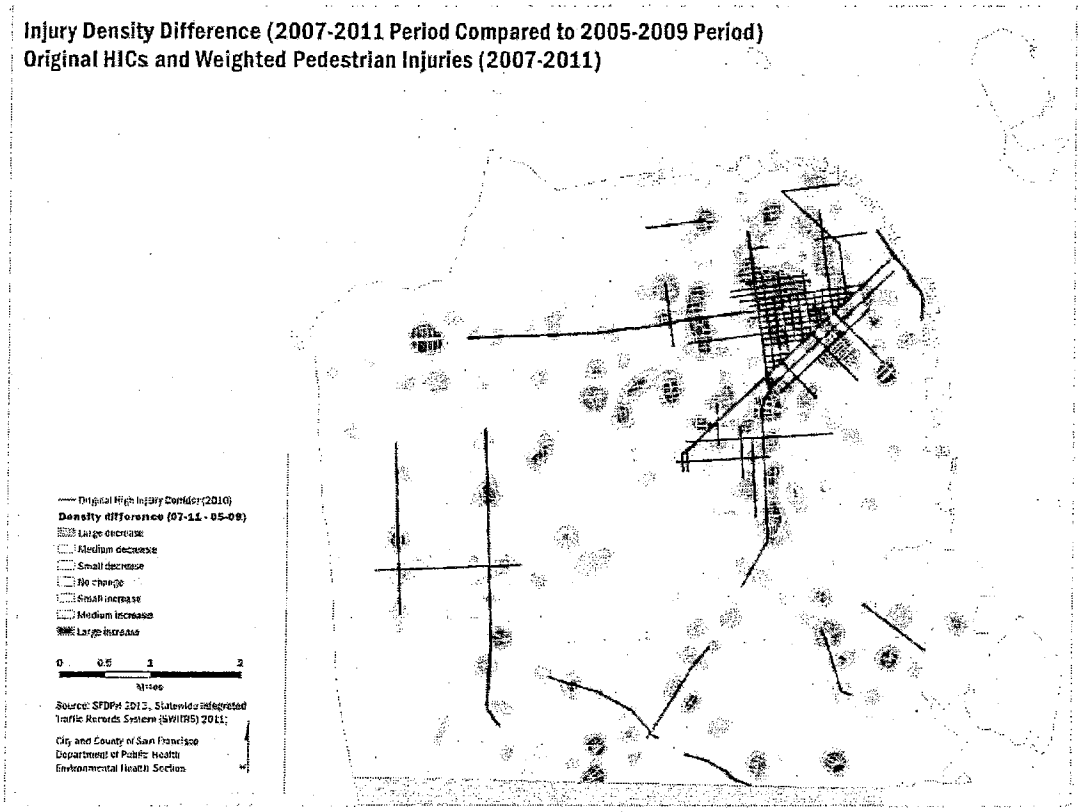


[b] Collisions between a motor vehicle and a pedestrian account for 97% of pedestrian injuries and 99% of pedestrian fatalities in San Francisco.

For the injury density comparison, the data was split into two overlapping groups of 5-year periods to account for the small sample of size of injuries occurring per year and associated issues with respect to random variation and regression to the mean. We created two density rasters of weighted total pedestrian injuries geocoded to nearest intersection from 2005-2009 and 2007-2011 using the kernel density geoprocessing tool with a quarter mile search radius. A quarter mile search radius was used as a conservative estimate of the distance pedestrians would walk from an origin to their destination.[5] We then used the Map Algebra geoprocessing tool to create rasters depicting the difference in injury density between the 2007-2011 and 2005-2009 periods. Areas on the map above shown in blue show the areas of greatest reduction between the two time periods while areas in red showed the largest increase in the total weighted number of pedestrian injuries from the earlier (2005-2009) to the later (2007-2011) period. Notably, despite injury reductions, all previously identified HICs remain HICs in the updated analysis as later detailed in the summary statistics.

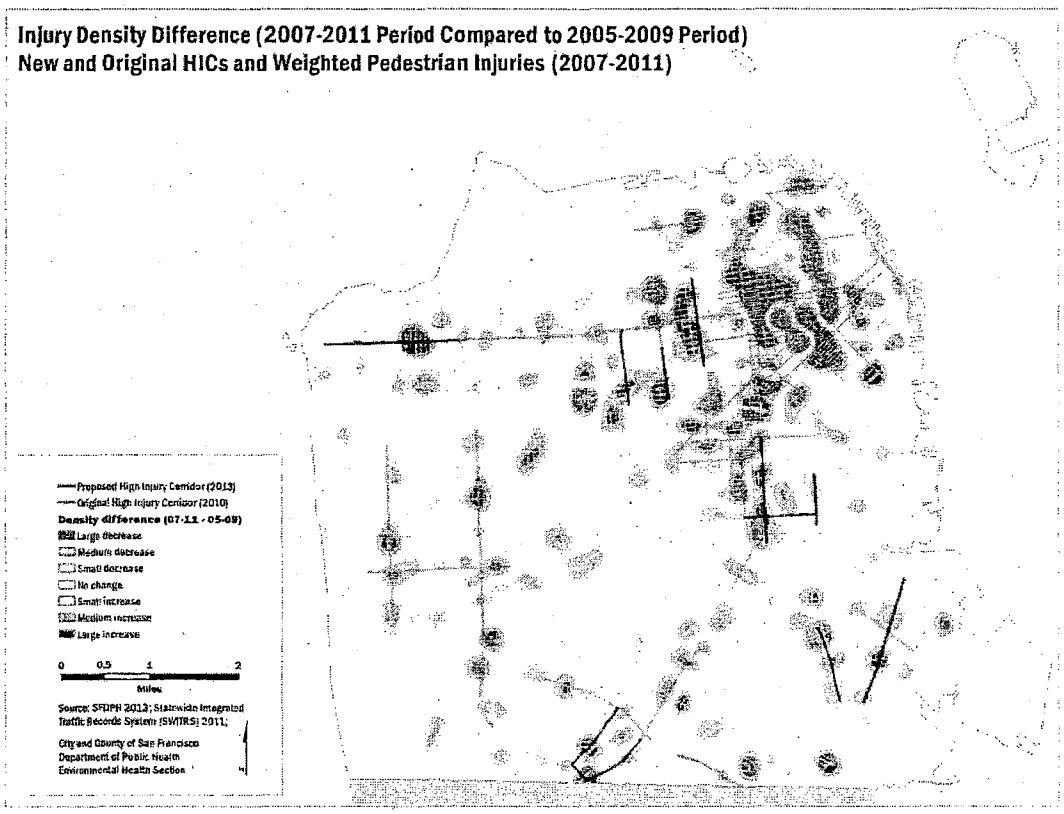
We then overlaid the difference map with the original HICs (shown in black) in Map 3.

Map 3



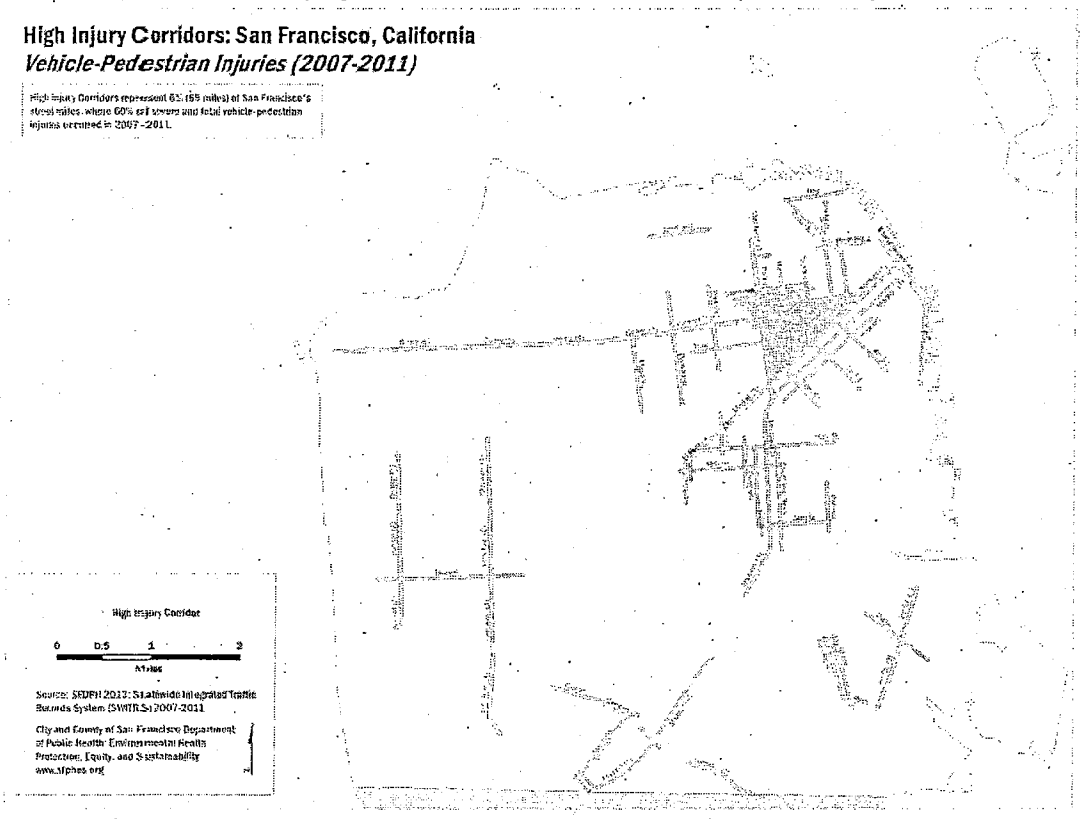
We visually examined the absolute street segment total weighted injury counts in 2007-2011 alongside the areas of greatest increase to identify new HICs or HIC extensions, which are depicted in black in Map 4. As in the original analysis, we identified street segments with weighted counts ≥ 9 and then assessed linear patterns of higher injury counts proximate to those segments and following the street network to identify new HICs or HIC extensions.

Map 4


Injury Density Difference (2007-2011 Period Compared to 2005-2009 Period)
New and Original HICs and Weighted Pedestrian Injuries (2007-2011)
Proposed High Injury Corridor (2013)
Original High Injury Corridor (2010)
Density difference (07-11 - 05-09)
Large decrease
Medium decrease
Small decrease
No change
Small increase
Medium increase
Large increase
0 0.5 1 2
Miles
Source: SFDPH 2013; Statewide Integrated Traffic Records System (SWITRS) 2011;
City and County of San Francisco
Department of Public Health
Environmental Health Section

Map 5 is the updated map of HICs. ***The updated map identifies 6% of San Francisco's street length (69 miles) that account for 60% of severe and fatal pedestrian injuries and 55% of total vehicle-pedestrian injuries in 2007-2011.***

Map 5. Updated High Injury Corridors, San Francisco, CA (2007-2011)



2) **Expand the analysis to identify intersections not on HICs that have a high number or estimated rate of pedestrian injuries (*injuries/estimated pedestrian volume*):** Despite the high efficiency and utility of corridor analysis, there are some pedestrian safety concerns that are likely more isolated to a particular intersection and intersection-specific factors. We thus identified intersections for further study by SFMTA to understand factors unique to those locations that could inform pro-active pedestrian safety improvements. We used data from 2005-2011 for this intersection level analysis to address issues of random variation and regression to the mean given the smaller number of injury counts inherent to intersection-specific analysis. Pedestrian injuries resulting from a collision with a vehicle were geocoded to the nearest intersection for the analysis.

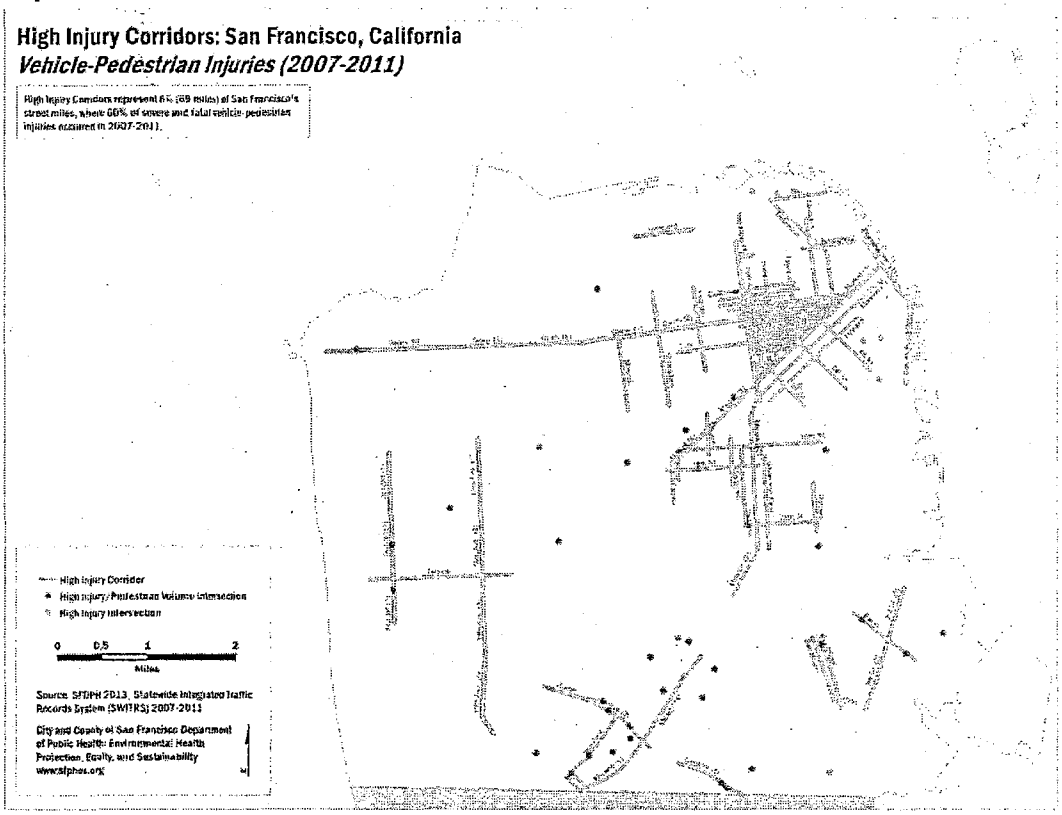
High Injury / Pedestrian Volume Intersections (HIPIs): We identified locations with a relatively high rate of (pedestrian injuries/pedestrian volumes), using pedestrian volumes estimated from a pedestrian volume model developed for San Francisco.[6] The HIPIs identified have a weighted total pedestrian injury count >=4 and a pedestrian crossing risk (weighted total pedestrian injuries / pedestrian volume) >= 3 injuries annually per 1 million walk trips (intersections in the 97th percentile and higher of all intersections with an estimated pedestrian crossing risk, utilizing injury data from 2005-2011). This approach identified 31 HIPI intersections, which represent intersections with relatively higher numbers of pedestrian injuries and relatively higher associated pedestrian crossing risks in areas with relatively lower

pedestrian crossings, and are represented in tan on Map 6. The 18 HIPIs not on high injury corridors are of particular interest for further study to understand intersection-specific factors contributing to relatively higher pedestrian crossing risk and injury, and are listed in the first eighteen rows of Table 2.

High Injury Intersections (HIIs) – Not on HICs: We also identified intersections with a relatively higher number of pedestrian injuries that were not located on HICs. We reviewed the distribution of the injury data at the intersection level and selected intersections with a total of 9 or more weighted total pedestrian injuries from 2005-2011 that were not on HICs. Of the 139 intersections with a total of 9 or more weighted injuries, 129 (93%) were already identified as located on HICs leaving 10 additional high injury intersections, detailed in orange in Map 6 and listed in Table 3.

When you include these intersections, the updated map accounts for 62% of severe and fatal pedestrian injuries and 56% of total vehicle-pedestrian injuries in 2007-2011.

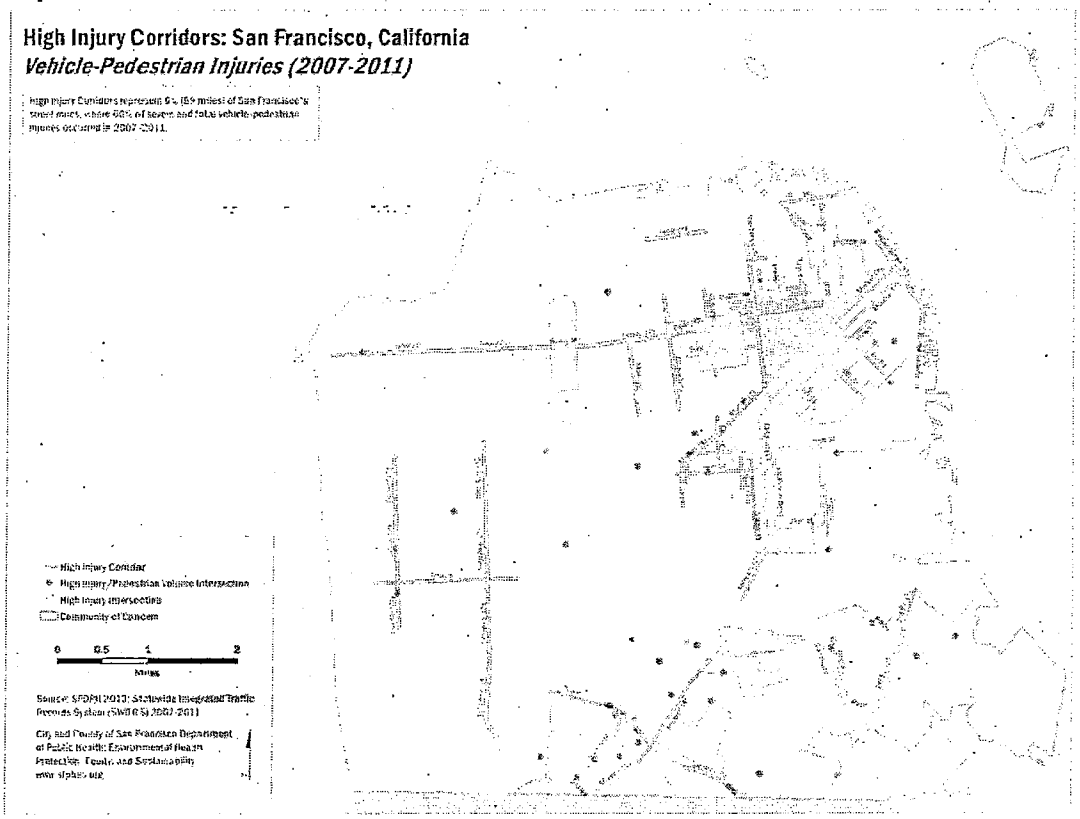
Map 6



3) **Summarize corridor patterns with respect to equity issues based on the Metropolitan Transportation Commission's (MTC) "Communities of Concern" definition:** We also assessed the distribution of HICs in San Francisco with respect to the MTC's Communities of Concern – which are communities with concentrated vulnerability factors based on income, race, language, disability and/or age.[7] Notably, this methodological update increases the street miles and intersections in these communities.

Pedestrian injuries are disproportionately concentrated in San Francisco's most vulnerable communities. Map 7 depicts the HICs, along with the HIPIs and the HIIs, with MTC Communities of Concern boundaries. ***While only 28% of San Francisco's streets are located in Communities of Concern, half of high injury corridors are located in those same communities where 46% of pedestrian injuries and 43% of severe and fatal injuries occurred in 2007-2011.*** This finding is consistent with a previous analysis conducted by SFDPH that found higher rates of severe and fatal injuries per street mile in areas with more community members who are seniors, low-income, disabled, and non-English speaking.[8] Targeting pedestrian safety improvements to HICs in communities where they are disproportionately concentrated can help address those disparities and protect our most vulnerable residents who are dependent on walking for transportation.

Map 7



4) **Summarize injury statistics on HICs and identified intersections:** Table 1 is a summary of the updated injury statistics on HICs for 2007-2011. Vehicle-pedestrian injury statistics are summarized in three ways:
   a) severe and fatal injuries per 100 miles of street length;
   b) total injuries per 100 miles;
   c) total weighted injuries per 100 miles (weights severe/fatal injuries x3).

Statistics are standardized per 100 miles of street length to allow for comparison of corridors of different lengths. One way to interpret the statistics presented is: "If X street were 100 miles long, we would expect an average of Y injuries on that street each year." Please note that no HICs were dropped from the HIC category for this update based on this analysis given the relatively short time period (two years) since the original HICs were identified. SFDPH will monitor changes in HIC statistics on an annual basis and will work with SFMTA approximately

every two years to update the HIC corridor designation while updating this methodology using the most recent injury data to inform targeted capital improvements and other safety initiatives.

Tables 2 and 3 summarize the HIPIs and HIIs and their associated statistics for 2005-2011, respectively.

Table 1. High Injury Corridor Annual Injury Statistics Per 100 Street Miles: Pedestrians Injured in Motor Vehicle Collisions, San Francisco, CA (2007-2011)

Street*	Cross Street (1)	Cross Street (2)	High Injury Corridor Length (Miles)	Severe/Fatal Injuries Per 100 Miles Per Year	Total Injuries Per 100 Miles Per Year	Total Weighted Injuries Per 100 Miles Per Year
San Francisco	*n/a*	*n/a*	*1116.5*	*8.4*	*70.6*	*87.5*
All HICs	*n/a*	*n/a*	*69.1*	*81.3*	*631.8*	*794.5*
04TH	MARKET	BLUXOME	0.8	128.2	1000.0	1256.4
06TH	MARKET	BRANNAN	0.7	444.4	2555.6	3444.4
09TH	MARKET	MCLEA	0.6	35.7	1214.3	1285.7
16TH	SAN BRUNO	CASTRO	1.6	85.9	871.2	1042.9
18TH	CAPP	DIAMOND	1.0	115.4	884.6	1115.4
19TH (1)	LINCOLN	ORTEGA	0.9	173.9	565.2	913.0
19TH (2)	ORTEGA	VICENTE	0.9	44.0	637.4	725.3
19TH (3)	VICENTE	WINSTON	0.7	54.1	324.3	432.4
19TH (4)	WINSTON	JUNIPERO SERRA	0.7	81.1	324.3	486.5
24th	VALENCIA	POTRERO	0.8	25.3	1038.0	1088.6
3rd (1)	EVANS	PALOU	0.6	62.5	593.8	718.8
3rd (2)	PALOU	CAROL	0.6	31.3	500.0	562.5
BAY	THE EMBARCADERO	COLUMBUS	0.6	62.5	562.5	687.5
BAYSHORE	AUGUSTA	WHEAT	0.9	70.3	327.8	468.4
BROADWAY	FRONT	POWELL	0.8	131.6	1000.0	1263.2
BUSH	JONES	OCTAVIA	0.7	109.6	739.7	958.9
CALIFORNIA	CUSHMAN	FRANKLIN	0.7	147.1	882.4	1176.5
CASTRO	17TH	19TH	0.2	173.9	2000.0	2347.8
CHURCH	HERMANN	CHULA	0.5	42.6	1021.3	1106.4
COLLINGWOOD	MARKET	19TH	0.2	0.0	600.0	600.0
COLUMBUS	BAY	KEARNY	0.9	114.9	942.5	1172.4
CYRIL MAGNIN	OFARRELL	MARKET	0.2	470.6	3647.1	4588.2
DIVISADERO	CLAY	TURK	0.7	54.8	547.9	657.5
DR CARLTON B GOODLETT (POLK)	MCALLISTER	GROVE	0.1	0.0	833.3	833.3
EDDY	CYRIL MAGNIN	VAN NESS	0.7	58.8	1558.8	1676.5
ELLIS	MARKET/STOCKTON	VAN NESS	0.8	95.2	1333.3	1523.8
FELL	MARKET/POLK	VAN NESS	0.1	0.0	1090.9	1090.9
GEARY (1)	MARKET	LAGUNA	1.4	100.0	1085.7	1285.7
GEARY (2)	LAGUNA	DIVISADERO	0.9	69.8	581.4	720.9

GEARY (3)	DIVISADERO	COOK	1.1	35.1	368.4	438.6
GEARY (4)	COOK	09TH	0.9	111.1	777.8	1000.0
GEARY (5)	09TH	22ND	0.8	98.8	814.8	1012.3
GEARY (6)	22ND	48TH	1.7	97.0	387.9	581.8
GENEVA (1)	SANTOS	MOSCOW	0.8	142.9	285.7	571.4
GENEVA (2)	PARIS	OCEAN	0.9	88.9	933.3	1111.1
GOLDEN GATE	MARKET/TAYLOR	VAN NESS	0.6	321.4	2071.4	2714.3
GRANT	SUTTER	MARKET/OFARRELL	0.2	95.2	761.9	952.4
GROVE	MARKET/HYDE	VAN NESS	0.3	206.9	1241.4	1655.2
GUERRERO	15TH	20TH	0.6	107.1	642.9	857.1
HAYES	MARKET	VAN NESS	0.2	0.0	400.0	400.0
HOWARD	NEW MONTGOMERY	LAFAYETTE	1.3	59.7	1029.9	1149.3
HYDE	SACRAMENTO	MARKET/GROVE	0.9	172.0	1569.9	1914.0
JONES	SUTTER	MARKET	0.5	188.7	2528.3	2905.7
KEARNY	PACIFIC	MARKET	0.7	151.5	1878.8	2181.8
LARKIN	SUTTER	MARKET	0.7	109.6	1424.7	1643.8
LEAVENWORTH	SUTTER	MCALLISTER	0.5	153.8	1346.2	1653.8
LOMBARD	BUCHANAN	RICHARDSON	0.7	202.9	898.6	1304.3
MARKET (1)	STEUART	04TH/STOCKTON/ELLIS	0.9	114.9	1287.4	1517.2
MARKET (2)	04TH/STOCKTON/ELLIS	10TH/POLK/FELL	0.9	263.7	2109.9	2637.4
MARKET (3)	10TH/POLK/FELL	DUBOCE/BUCHANAN	0.7	144.9	869.6	1159.4
MARKET (4)	DUBOCE/BUCHANAN	COLLINGWOOD	0.8	77.9	909.1	1064.9
MASON	SUTTER	MARKET/TURK	0.4	150.0	1350.0	1650.0
MASONIC	GEARY	HAIGHT	0.9	116.8	607.2	840.8
MCALLISTER	MARKET	VAN NESS	0.5	42.6	766.0	851.1
MISSION (1)	SPEAR	08TH	1.5	189.2	1094.6	1473.0
MISSION (2)	08TH	20TH	1.4	152.8	1291.7	1597.2
MISSION (3)	20TH	SANTA MARINA	1.3	183.2	961.8	1328.2
MISSION (4)	TRUMBULL	NIAGARA	1.3	111.1	952.4	1174.6
MISSION (5)	NIAGRA	SICKLES	0.8	25.6	641.0	692.3
OCEAN	GENEVA	ASHTON	0.6	193.5	871.0	1258.1
OFARRELL	MARKET/GRANT	FRANKLIN	1.0	138.6	1366.3	1643.6
PALOU	RANKIN	JENNINGS	0.9	45.5	409.1	500.0
PAUL	SAN BRUNO	WHEAT	0.1	0.0	909.1	909.1
PINE	MASON	OCTAVIA	0.9	89.9	921.3	1101.1
POLK	SACRAMENTO	MARKET/FELL	0.9	279.6	1677.4	2236.6

POST	MARKET	FRANKLIN	1.2	84.7	661.0	830.5
POTRERO	20TH	25TH	0.6	0.0	714.3	714.3
POWELL	SUTTER	ELLIS	0.3	0.0	2230.8	2230.8
SAN BRUNO	GAVEN	PAUL	0.7	108.1	567.6	783.8
SAN JOSE	GENEVA	SICKLES	0.8	75.9	481.0	632.9
SICKLES	PLYMOUTH	MISSION	0.2	333.3	1166.7	1833.3
SOUTH VAN NESS	MARKET	12TH	0.2	476.2	1904.8	2857.1
SOUTH VAN NESS (2)	16TH	CESAR CHAVEZ	1.2	51.1	596.4	698.6
STOCKTON	GREENWICH	MARKET	1.3	134.3	1283.6	1552.2
SUNSET (1)	IRVING	NORIEGA	0.7	30.3	212.1	272.7
SUNSET (2)	NORIEGA	SANTIAGO	0.7	90.9	424.2	606.1
SUNSET (3)	SANTIAGO	YORBA	0.6	93.8	593.8	781.3
SUTTER	MARKET	GOUGH	1.4	72.5	1000.0	1144.9
TARAVAL	FUNSTON	41ST	1.7	24.2	606.1	654.5
TAYLOR	SACRAMENTO	MARKET/GOLDEN GATE	0.7	246.6	2520.5	3013.7
THE EMBARCADERO (1)	BROADWAY	HOWARD	0.6	65.6	229.5	360.7
THE EMBARCADERO (2)	HOWARD	BRANNAN	0.6	64.5	258.1	387.1
TURK	MARKET	PIERCE	1.5	95.2	884.4	1074.8
VALENCIA	16TH	24TH	0.9	44.9	337.1	427.0
VAN NESS (1)	UNION	POST	0.9	292.1	1078.7	1662.9
VAN NESS (2)	POST	MARKET	0.8	168.7	1012.0	1349.4
WEBSTER	CLAY	GROVE	1.0	119.7	738.1	977.5

Table 2. High Injury / Pedestrian Volume Intersections (HIPIs): Using Estimated Pedestrian Volumes and Pedestrians Injured in Motor Vehicle Collisions, San Francisco, CA (2005-2011)

Street 1	Street 2	Street 3	On A High Injury Corridor?	Weighted Pedestrian Injury Count	Pedestrian Crossing Risk Per 1 millions walk trips annually
14TH ST	NOE ST	n/a	no	5	3
17TH ST	VERMONT ST	n/a	no	4	4
17TH ST	ROOSEVELT WAY	URANUS TER	no	4	4
25TH AVE	NORIEGA ST	n/a	no	5	3
ALEMANY BLVD	FOOTE AVE	n/a	no	4	3
ALEMANY BLVD	SAN JUAN AVE	n/a	no	5	4
ALEMANY BLVD	NIAGARA AVE	n/a	no	6	4
BAY SHORE BLVD	CESAR CHAVEZ ST	n/a	no	4	21
BOSWORTH ST	LYELL ST	n/a	no	5	4
BRIGHT ST	RANDOLPH ST	n/a	no	5	5
CIRCULAR AVE	BADEN ST	n/a	no	6	8
EXCELSIOR AVE	NAPLES ST	n/a	no	4	3
HOWTH ST	OCEAN AVE	n/a	no	4	3
LAGUNA HONDA BLVD	PLAZA ST	n/a	no	5	5
LOCUST ST	JACKSON ST	n/a	no	4	6
MIDDLE POINT RD	WEST POINT RD	n/a	no	5	6
SANTOS ST	SUNNYDALE AVE	n/a	no	6	3
SILVER AVE	EDINBURG ST	n/a	no	4	3
BAY SHORE BLVD	SILVER AVE	n/a	yes	16	6
BROOKDALE AVE	GENEVA AVE	n/a	yes	10	7
CARTER ST	GENEVA AVE	n/a	yes	4	6
CAYUGA AVE	GENEVA AVE	n/a	yes	7	5
FARALLONES ST	SAN JOSE AVE	n/a	yes	5	17
GEARY BLVD	POINT LOBOS AVE	42ND AVE	yes	7	4
I-280 S OFF RAMP	I-280 S ON RAMP	GENEVA AVE	yes	9	4
KEITH ST	PALOU AVE	n/a	yes	7	9
PLYMOUTH AVE	SAN JOSE AVE	SICKLES AVE	yes	8	5
QUINT ST	SILVER AVE	PALOU AVE	yes	6	4
SANCHEZ ST	18TH ST	n/a	yes	7	8
SUNSET BLVD	QUINTARA ST	n/a	yes	6	3
SUNSET BLVD	ULLOA ST	n/a	yes	7	4

Table 3. High Injury Intersections (HIIs) – Not on HICs: Weight Count of Pedestrians Injured in Motor Vehicle Collisions, San Francisco, CA (2005-2011)

Street 1	Street 2	Street 3	On A High Injury Corridor?	Weighted Pedestrian Injury Count
BEACH ST	HYDE ST	n/a	no	12
ARLETA AVE	BAY SHORE BLVD	SAN BRUNO AVE	no	12
07TH AVE	IRVING ST	n/a	no	10
OCTAVIA ST	HAIGHT ST	n/a	no	12
NORTH POINT ST	TAYLOR ST	n/a	no	9
02ND ST	BRYANT ST	n/a	no	9
03RD ST	HARRISON ST	n/a	no	9
08TH ST	FOLSOM ST	n/a	no	9
KING ST	04TH ST	n/a	no	9
BOSWORTH ST	DIAMOND ST	n/a	no	9

Please contact Megan Wier (megan.wier@sfdph.org) for more information regarding this methodology.

REFERENCES

[1] Morency P, Cloutier MS. 2006. From targeted "black spots" to area-wide pedestrian safety. *Injury Prevention* 12:360–364.

[2] Wier M, Weintraub J, Humphreys E, Seto E, Bhatia R. 2008. An area-level model of vehicle-pedestrian injury collisions with implications for land use and transportation planning. *Accident Analysis & Prevention* 41:137-145.

[3] Loukaitou-Sideris, A., Ligget, R., Sung, H.G., 2007. Death on the Crosswalk: A Study of Pedestrian-Automobile Collisions in Los Angeles. *Journal of Planning Education and Research* 26: 338-351.

[4] Ragland, David R, Markowitz, Frank, & MacLeod, Kara E. (2003). An Intensive Pedestrian Safety

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[6] Fehr and Peers, UC Berkeley SAFETrec. 2011. San Francisco Pedestrian Volume Model Report. San Francisco, CA.

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Evans, Derek

From: Martinsen, Janet [Janet.Martinsen@sfmta.com]
Sent: Thursday, February 27, 2014 4:34 PM
To: Evans, Derek
Cc: Robbins, Jerry
Subject: FW: Referral: BOS File No. 140047
Attachments: 2-4-14 Item 10 Vision Zero Resolution.pdf

Hi Derek

The MTA Board adopted Vision Zero on February 4, 2014.

It is resolution 14-024 as attached.

Janet L. Martinsen
Local Government Affairs Liaison
SFMTA
janet.martinsen@sfmta.com
415-701-4693w; 415-701-4737f
www.sfmta.com
Find us on:

From: Evans, Derek [mailto:derek.evans@sfgov.org]
Sent: Monday, February 24, 2014 2:04 PM
To: Kelly, Naomi; Reiskin, Ed; tilly.chang@sfcta.org; Garcia, Barbara; Suhr, Chief; Nuru, Mohammed
Cc: Martinsen, Janet; Breen, Kate; Boomer, Roberta; erika.cheng@sfcta.org; Chawla, Colleen; Wagner, Greg; Fountain, Christine; Monroe, John; Lee, Frank W
Subject: Referral: BOS File No. 140047

Good afternoon,

The Board of Supervisors Neighborhood Services and Safety Committee (NSS) received the following legislation, which is being referred to your department for informational purposes. This legislation is tentatively scheduled to be heard at the March 6, 2014, NSS regular meeting.

File No. 140047

Resolution urging the Mayor, the Chief of Police, and Director of the Municipal Transportation Agency to adopt a VISION ZERO Three Point Plan to expedite the goals of San Francisco's Pedestrian and Bicycle Strategies and implement an action plan to reduce traffic fatalities to zero in the next ten years through better engineering, education, and enforcement.

Please submit any comments or reports to the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

Regards,

Derek K. Evans
Assistant Committee Clerk
Board of Supervisors
1 Dr. Carlton B. Goodlett Place, City Hall, Room 244
San Francisco, CA 94102
Phone: (415) 554-7702 | Fax: (415) 554-5163
derek.evans@sfgov.org | www.sfbos.org

Complete a Board of Supervisors Customer Satisfaction form by clicking the link below.
http://www.sfbos.org/index.aspx?page=104

SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
BOARD OF DIRECTORS

RESOLUTION No. 14-024

WHEREAS, An average of approximately 3,150 people are injured and 31 die in traffic collisions each year in San Francisco; and,

WHEREAS, A high percentage of traffic injuries and fatalities involve people walking, riding a bicycle and other vulnerable users; and,

WHEREAS, The City of San Francisco adopted a Pedestrian Strategy in 2013 to reduce serious or fatal pedestrian injuries by 25 percent by 2016 and by 50 percent by 2021; and,

WHEREAS, The SFMTA 2013-2018 Strategic Plan aims to support San Francisco with excellent transportation choices, and create a safer transportation experience for everyone by making transit, walking, bicycling, taxi, rideshare, and carshare the preferred means of travel; and,

WHEREAS, Vision Zero provides a framework for reducing traffic deaths to zero through a combination of engineering measures, education, and enforcement practices; and,

WHEREAS, The SFMTA has convened a meeting of the "Large Vehicles and Safer Streets Working Group" to create a driver education and safety curriculum and will continue to lead this group to create programs to increase the safety of efficient goods and commuter movement by all large vehicles with the goal of implementing this training program by 2015; and,

WHEREAS, The SFMTA began working with other city agencies in the Fall of 2013 to more comprehensively analyze data sets to determine the locations and behaviors involving serious and fatal collisions with people who bike, and recommend appropriate interventions; and,

WHEREAS, Initiatives such as Walk First, the Traffic Calming Program, the Bicycle Strategy and the ongoing work of the Sustainable Streets Division of the SFMTA will continue to identify and implement projects and programs to improve traffic safety in San Francisco; now, therefore, be it

RESOLVED, That the San Francisco Municipal Transportation Agency Board of Directors adopts a vision of reducing traffic deaths to zero by the year 2024 through engineering measures, education, and enforcement practices and, be it

FURTHER RESOLVED, That the SFMTA Board of Directors supports a "crisis intervention" team, a collaboration of city agencies, which is tasked with analyzing data to determine the highest rate, number and/or severity of traffic collisions with people who bicycle and, be it

FURTHER RESOLVED, That the Board supports the implementation of at least 24 pedestrian and/or cyclist safety near-term projects over the next two years at locations established by the WalkFirst project and through analysis of the highest rate of traffic collisions involving bicyclists, and that these projects be analyzed to measure progress toward our goal of zero traffic fatalities by 2024.

FURTHER RESOLVED, That the SFMTA Board of Directors supports the work of the "Large Vehicles and Safer Streets Working Group", to create a mandatory driver safety curriculum for all San Francisco City and County employed drivers and drivers that contract with the City and County of San Francisco and identify actions, and departmental owners for implementing them, to increase the safety of efficient goods and commuter movement by all large vehicles with the goal of implementing this training program by 2015.

I certify that the foregoing resolution was adopted by the San Francisco Municipal Transportation Agency Board of Directors at its meeting of February 4, 2014.

R. Boomer

Secretary to the Board of Directors
San Francisco Municipal Transportation Agency

BOARD of SUPERVISORS

City Hall
1 Dr. Carlton B. Goodlett Place, Rm 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 554-5227

MEMORANDUM

TO: Naomi Kelly, City Administrator, City Administrator's Office
Ed Reiskin, Executive Director, Municipal Transportation Agency
Tilly Chang, Executive Director, Transportation Authority
Barbara Garcia, Director, Department of Public Health
Greg Suhr, Chief, Police Department
Mohammed Nuru, Director, Department of Public Works

FROM: Derek Evans, Assistant Committee Clerk

DATE: February 24, 2014

SUBJECT: LEGISLATION INTRODUCED

The Board of Supervisors Neighborhood Services and Safety Committee received the following legislation, which is being referred to your department for your information.

File No. 140047

Resolution urging the Mayor, the Chief of Police, and Director of the Municipal Transportation Agency to adopt a VISION ZERO Three Point Plan to expedite the goals of San Francisco's Pedestrian and Bicycle Strategies and implement an action plan to reduce traffic fatalities to zero in the next ten years through better engineering, education, and enforcement.

Please submit any comments or reports to the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

cc: Janet Martinsen, Municipal Transportation Agency
Kate Breen, Municipal Transportation Agency
Roberta Boomer, Municipal Transportation Agency
Erika Cheng, Transportation Authority
Greg Wagner, Department of Public Health
Colleen Chawla, Department of Public Health
Christine Fountain, Police Department
John Monroe, Police Commission
Frank Lee, Department of Public Works

Print Form

Introduction Form

By a Member of the Board of Supervisors or the Mayor

Time stamp
or meeting date

I hereby submit the following item for introduction (select only one):

☒ 1. For reference to Committee.
An ordinance, resolution, motion, or charter amendment.

☐ 2. Request for next printed agenda without reference to Committee.

☐ 3. Request for hearing on a subject matter at Committee.

☐ 4. Request for letter beginning "Supervisor _____ inquires"

☐ 5. City Attorney request.

☐ 6. Call File No. _____ from Committee.

☐ 7. Budget Analyst request (attach written motion).

☐ 8. Substitute Legislation File No. _____

☐ 9. Request for Closed Session (attach written motion).

☐ 10. Board to Sit as A Committee of the Whole.

☐ 11. Question(s) submitted for Mayoral Appearance before the BOS on _____

Please check the appropriate boxes. The proposed legislation should be forwarded to the following:

☐ Small Business Commission ☐ Youth Commission ☐ Ethics Commission

☐ Planning Commission ☐ Building Inspection Commission

Note: For the Imperative Agenda (a resolution not on the printed agenda), use a Imperative

Sponsor(s):

Supervisors Kim; Avalos, Yee

Subject:

Resolution Urging Mayor, Chief of Police and Director of the San Francisco Municipal Transportation Agency to Implement a VISION ZERO Three Point Plan: Engineering, Education and Enforcement

The text is listed below or attached:

Resolution urging the Mayor, the San Francisco Police Department and the San Francisco Municipal Transportation Agency (SFMTA) to adopt a VISION ZERO Three Point Plan to expedite the goals of San Francisco's Pedestrian & Bicycle Strategies and implement an action plan to reduce San Francisco's traffic fatalities to zero in the next ten years through better engineering, education and enforcement.

Signature of Sponsoring Supervisor: _____

For Clerk's Use Only:

140047