WALKFIRST

San Francisco Pedestrian Safety Capital Improvement Program:

A Step Towards Vision Zero

March 5, 2014

The First Steps

IN APRIL 2013, MAYOR LEE ISSUED THE PEDESTRIAN STRATEGY WHICH DIRECTED CITY DEPARTMENTS TO IMPLEMENT SOLUTIONS THAT WOULD REDUCE SERIOUS OR FATAL PEDESTRIAN INJURIES BY 25 PERCENT BY 2016 AND BY 50 PERCENT BY 2021, INCREASE THE WALKABILITY OF SAN FRANCISCO AND MAKE ALL NEIGHBORHOODS SAFER FOR PEOPLE WALKING. AS PART OF THIS EFFORT, WALKFIRST WAS INITIATED TO PRIORITIZE CAPITAL IMPROVEMENTS NEEDED OVER THE NEXT 5 YEARS TO MAKE SAN FRANCISCO A SAFER PLACE TO WALK.

WalkFirst proposes this Pedestrian Safety Capital Improvement Program (CIP), a set of projects and programs that San Francisco will implement over the next five years to help achieve these goals. Projects address pedestrian safety issues on the City's High Injury Network, streets and intersections that represent just six percent of San Francisco's street miles but account for 60 percent of severe and fatal injuries. These programs and projects further support the recently San Francisco Municipal Transportation Agency-adopted "Vision Zero" – a vision of zero traffic deaths by 2024 which builds on the Mayor's commitment to build safer, more walkable streets for everyone.

The WalkFirst Pedestrian Safety CIP anticipates $50 million of targeted funding over the next five fiscal years. This amount defines how many WalkFirst recommendations can be pursued, and estimates will evolve as new funding sources are made available or anticipated sources are not realized.

While $50 million can fund many pedestrian improvements and will help the City achieve some of the Mayor's Pedestrian Strategy goals, this amount does not cover the entire set of projects identified through the WalkFirst planning process. The fiscally constrained WalkFirst CIP prioritizes projects at locations with a strong history of severe and fatal injuries and projects that can be implemented with available funding sources.

$50M

Estimated available over next five fiscal years

$240M

Needed to implement all WalkFirst projects and programs

Outreach Highlights

From November 2013 to February 2014, over 3,700 people visited the WalkFirst website and 400 more provided direct feedback through focus groups and an online survey to share their thoughts about the pedestrian improvements that they would like to see the City implement.

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.

In general, San Franciscans want:

- Locations with seniors, children, and people with disabilities to be prioritized for safety improvements
- Solutions that recognize the diversity of neighborhoods and have community support
- Complex intersections to be made safer and less confusing for people who walk

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

75%

of respondents would support a ballot measure if it included increased funding for pedestrian safety

Data Analysis

Health researchers, planners and engineers looked at five years of police collision data, existing evidence, and surrounding land use and environmental data. These were used to develop profiles – patterns of frequently occurring collision types – to guide the recommendations for each intersection.

What we learned from pedestrian safety data

Findings showed that:

We're a Walkable City.
All trips in San Francisco begin and end with walking.

17%

And walking is the primary mode for 17% of all trips.

Each year in San Francisco,

100
Severely Injured or Killed

At least
800
Injured

5x
Seniors have a higher fatal injury rate than younger adults

Seniors are particularly vulnerable.

6% = 60%
Streets — Severe and fatal Injuries

Pedestrian injuries/death are concentrated in specific areas.

64%
motorists at fault

Motorists often are not yielding to pedestrians, Failure to yield accounts for 41% of the 64% total.

Left turns disproportionately contribute to injuries.

28%

Left turns were the movement preceding collision in 28% of injuries

High vehicle speeds kill.

50% fatalities at **40** mph **vs.** **10%** fatalities at **25** mph

$15M
annual medical costs related to ped injuries

Medical costs alone are very high.

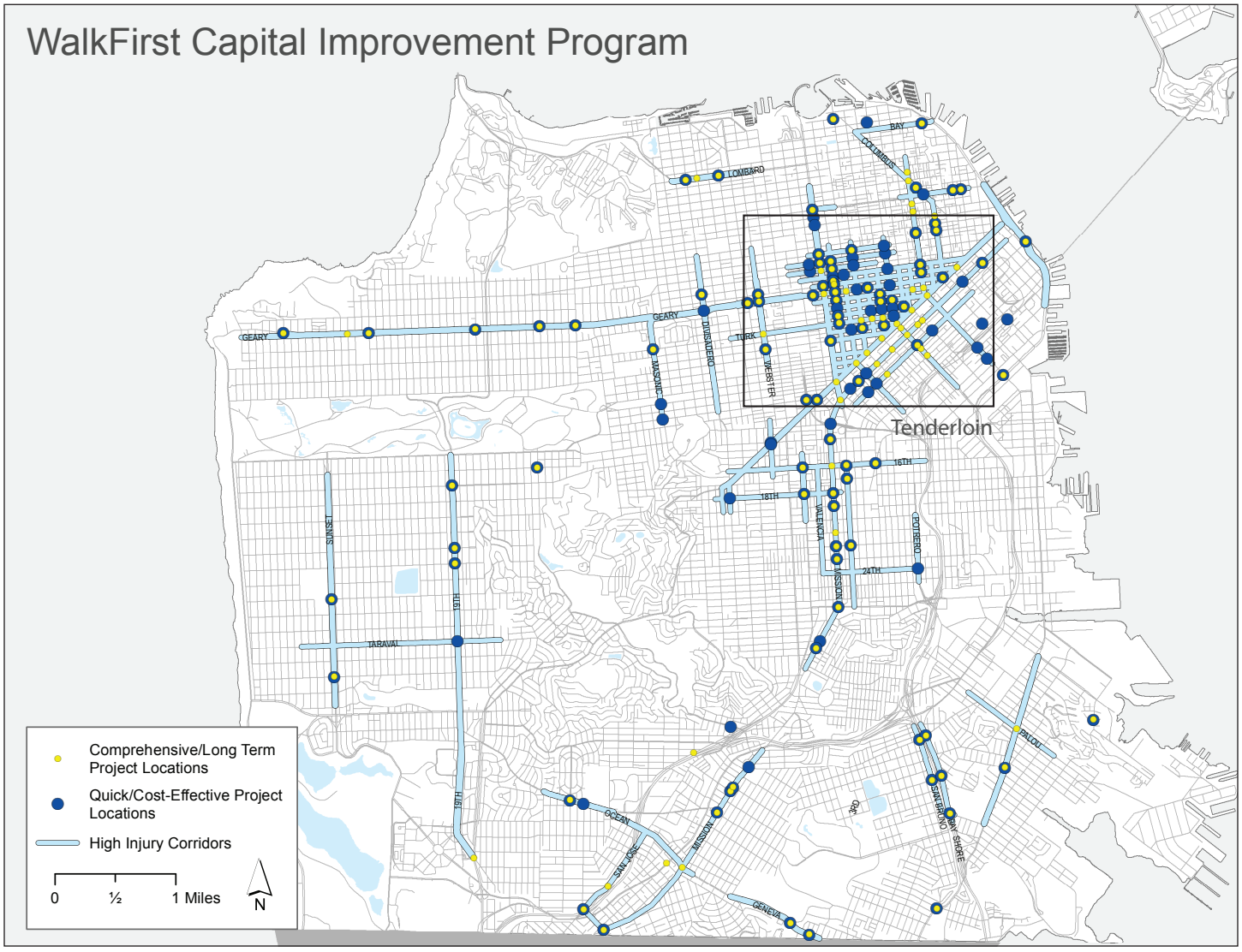
$564M

Total annual health- related economic costs are much higher.

**Injury statistics based on analysis of California Highway Patrol SWITRS data, 2007-2011, by SFDPH.*

WalkFirst Funded Projects

This map shows where pedestrian safety projects will be implemented over the next five years. Some of these are already underway or will be implemented through on-going related programs. Example locations are potential near-term projects that are informed by the data collection and analysis performed through WalkFirst. As previously stated, there is a far greater need than identified funding availability, with an additional $50M needed to fully implement all recommended WalkFirst improvements.



EXAMPLE LOCATION
23rd Street at Mission Street

COLLISION PROFILES
Vehicle Red Light Running
Pedestrian Outside Crosswalk
Vehicle Unsafe Speed

POTENTIAL COUNTERMEASURES*
Enforcement
Radar Speed Display Signs
Speed Tables

EXAMPLE LOCATION
Mission Street at Excelsior Avenue

COLLISION PROFILES
Vehicle Right Turns
Vehicle Left Turns

POTENTIAL COUNTERMEASURES*
Leading Pedestrian Interval
Turn Prohibitions
Temporary Bulbouts

EXAMPLE LOCATION
Kearny Street at Sacramento Street

COLLISION PROFILES
Vehicle Right Turns

POTENTIAL COUNTERMEASURES*
Leading Pedestrian Interval
Temporary Bulbout

 ** This is the result of our preliminary analysis. As the design phase progresses, alternative measures may be implemented.*

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

EXAMPLE LOCATION
19th Avenue at Judah Street

COLLISION PROFILES
Vehicle Right Turns
Vehicle Unsafe Speed

POTENTIAL COUNTERMEASURES*
No Right Turn on Red
Signal Timing Changes
Advance Stop Bars

EXAMPLE LOCATION
Golden Gate Avenue at Hyde Street

COLLISION PROFILES
Vehicle Left Turns
Seniors Involved in Collisions

POTENTIAL COUNTERMEASURES*
Turn Prohibitions
Signal Timing Changes
Leading Pedestrian Intervals

EXAMPLE LOCATION
30th Avenue at Geary Boulevard

COLLISION PROFILES
Vehicle Unsafe Speed
Children Involved in Collisions

POTENTIAL COUNTERMEASURES*
Pedestrian Countdown Signals
Radar Speed Display Signs
Leading Pedestrian Interval

WalkFirst Countermeasures

Various pedestrian safety countermeasures will be installed to improve pedestrian safety. WalkFirst Countermeasures describe the proposed application and implementation for different engineering solutions for pedestrian safety. Below are potential solutions that will be implemented as part of the WalkFirst CIP projects, listed by most frequently proposed to be implemented.

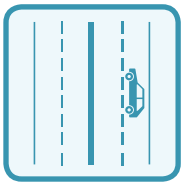
Quick / Cost-Effective Improvements

Advance Stop or Yield Lines / Red Visibility Curbs

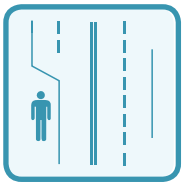
Continental Crosswalks

Leading Pedestrian Intervals

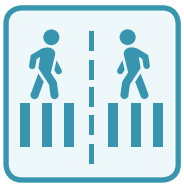
Turn Prohibitions



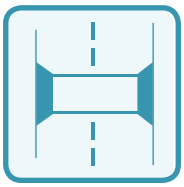
Reduced Lane Widths



Temporary Corner Bulbs & Chokers

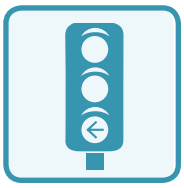


Pedestrian Scrambles

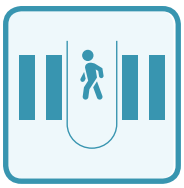


Speed Humps

Signal Timing Changes



Protected Left Turns



Temporary Pedestrian Refuge Islands

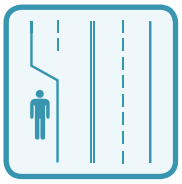
FISCAL YEAR*	% OF WALKFIRST 5-YEAR CIP SPENT
Year 1: July 2014 – June 2015	12%
Year 2: July 2015 – June 2016	30%
Year 3: July 2016 – June 2017	24%
Year 4: July 2017 – June 2018	19%
Year 5: July 2018 – June 2019	15%

The WalkFirst Capital Improvement Program will be implemented over five years, starting with the quickest and most inexpensive improvements and progressing to more permanent solutions.

**Annual costs are based on estimated project start years, but some projects will take multiple years to implement*

Comprehensive / Longer-Term Improvements

Speed Tables & Raised Crosswalks



Corner Bulbs & Chokers

Pedestrian Detection

Radar Speed Display Signs / Portable Speed Trailers

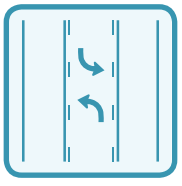
Marking Unmarked Crosswalks

Pedestrian Warning Signs

Pedestrian Countdown Signals

Flashing Beacons (RRFB's & HAWKs)

Roadway Safety Lighting



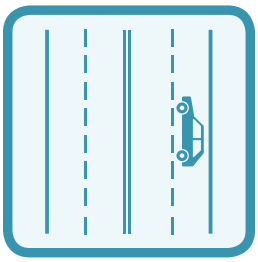
Road Diets

New Midblock Crosswalks

Pedestrian Refuge Islands

WalkFirst Programs

The WalkFirst Pedestrian Safety CIP will complement targeted infrastructure projects with a set of citywide pedestrian safety programs.



Selected Corridor Planning & Design

Study two corridors on the WalkFirst network for pedestrian safety improvements at a corridor level. In addition to intersection-specific treatments, recommendations may include corridor speed control measures, enhanced midblock crossings, and reallocation of street space to calm traffic and enhance pedestrian and bicycle access.

COST:
$1.9M

TIMEFRAME:
Years 1-5

Enforcement

Increase enforcement to improve pedestrian safety, including establishment of citation diversion program, use of LIDAR speed enforcement, and installation of automated speed enforcement at 10 locations per year for five years (pending state legislation).

COST:
$1.2M

TIMEFRAME:
Years 1-5

Automated Speed Enforcement Legislation

Research and analysis to inform the discussion of legislative change to permit the implementation of automated speed enforcement in California.

COST:
$40K

TIMEFRAME:
Years 1-2

Education Campaigns

Roll out citywide pedestrian and motorist education campaign to increase effectiveness of WalkFirst infrastructure improvements, including awareness efforts and multimedia behavioral change program.

COST:
$1.9M

TIMEFRAME:
Years 1-5

Radar Speed Display Signs

Install 15 radar speed display signs that will be deployed in the first year of the program. This item provides for the purchase and installation of 10 radar speed display signs each year thereafter.

COST:
$1.9M

TIMEFRAME:
Years 1-5

Signal Retiming Program

Adjust signal timing to accommodate slower walking speeds at 20 targeted locations per year for five years.

COST:
$550K

TIMEFRAME:
Years 1-5

Flashing Beacon Program

Install 15 flashing beacons (three per year for five years) at targeted locations throughout the city.

COST:
$300K

TIMEFRAME:
Years 1-5

Daylighting Program

Prohibit parking in advance of crosswalks to increase pedestrian visibility (daylighting) at 25 targeted locations per year for five years.

COST:
$300K

TIMEFRAME:
Years 1-5

Pedestrian Detection Pilot

Implement pedestrian detection to extend crossing times at six targeted locations.

COST:
$40K

TIMEFRAME:
Year 1

WalkFirst is a collaborative effort of the Office of the Controller, the San Francisco Municipal Transportation Agency, the San Francisco Planning Department, and the San Francisco Department of Public Health. The project was funded by Prop K Sales Tax administered by the San Francisco County Transportation Authority. The Director's Working Group guided this effort and the team thanks them for their on-going support.

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