Making the Case for Complete Streets

Using the Urban Street Design Guide

March 13, 2014
Downtown 1-Way Street
Downtown 2-Way Street
Downtown Thoroughfare
Neighborhood Main Street
Neighborhood Street
Yield Street
Boulevard

Residential Boulevard
Transit Corridor
Green Alley
Commercial Alley
Residential Shared Street
Commercial Shared Street
What are Street Types?

- Freeway
- Urban Arterial
- Collector
- Local

Map showing types of streets with examples.
Access vs. Mobility

Figure II.4
Relationship of functionally Classified Systems in Serving Traffic Mobility and Land Access

Figure II.3
Schematic of a Portion of an Urban Street Network

Legend:
- Arterial street
- Collector street
- Commercial
- Public
The National Highway System
Urban Street Types

- Alley
- Boulevard
- Downtown Street
- Neighborhood Street
- Transit Corridor
Context/Land Use

Downtown 1-Way Street  Residential Boulevard
Downtown 2-Way Street  Transit Corridor
Downtown Thoroughfare  Green Alley
Neighborhood Main Street  Commercial Alley
Neighborhood Street  Residential Shared Street
Yield Street  Commercial Shared Street
Boulevard  

Usage Characteristic/Mode

- Downtown 1-Way Street
- Downtown 2-Way Street
- Downtown Thoroughfare
- Neighborhood Main Street
- Neighborhood Street
- Yield Street
- Boulevard
- Residential Boulevard
- Transit Corridor
- Green Alley
- Commercial Alley
- Residential Shared Street
- Commercial Shared Street
Size/Class/Configuration

Downtown 1-Way Street
Downtown 2-Way Street
Downtown Thoroughfare
Neighborhood Main Street
Neighborhood Street
Yield Street
Boulevard

Residential Boulevard
Transit Corridor
Green Alley
Commercial Alley
Residential Shared Street
Commercial Shared Street
Context is Critical

Street design should both respond to and influence the desired character of the public realm.
SAN FRANCISCO STREETS
From the Better Streets Plan

Parkways
Park Edge
Boulevards
Ceremonial (Civic Streets)
Commercial Throughways
Downtown Commercial
Downtown Residential
Neighborhood Commercial
Residential Throughway
Mixed Use
Industrial
Shared Public Ways
Paseo
Alleys
1-way Downtown Street
Elements Used
- Offset Bus Lanes
- 10-foot lanes
- Protected Bike Lanes
- Pedestrian Safety Islands

Credit: NYC DOT
Residential Boulevard
Elements Used

- Protected Bike Lanes (Median)
- 10-ft. lanes
- Interim Public Plazas

Credit: NYC DOT
Downtown Thoroughfare *Before*
Downtown Thoroughfare After
Downtown Thoroughfare
Transit Corridor Option
**Street Design Elements**

- **Lane Width**
  - Sidewalks
  - Curb Extensions
  - Gateway
  - Pinchpoint
  - Chicane
  - Bus Bulbs

- **Vertical Speed Control Elements**
  - Speed Hump
  - Speed Table
  - Speed Cushion

- **Transit Streets**
  - Dedicated Curbside/Offset Bus Lanes
  - Dedicated Median Bus Lanes
  - Contra-Flow Bus Lanes
  - Bus Stops

- **Stormwater Management**
  - Bioswales
  - Flow-Through Planters
  - Pervious Strips
  - Pervious Pavement

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*Image of a bicycle lane with a sidewalk and a curb extension.*
Lane width should be evaluated within the overall assemblage of the street.
Wider travel lanes are correlated with higher vehicle speeds.

"As the width of the lane increased, the speed on the roadway increased... When lane widths are 1 m (3.3 ft) greater, speeds are predicted to be 15 km/h (9.4 mph) faster."

Sidewalks: The City at Eye-Level
Activating the curb
Parklets
Temporary Street Closures
Interim Public Plazas
## INTERIM DESIGN STRATEGIES

<table>
<thead>
<tr>
<th>Year</th>
<th>CONVENTIONAL PROJECT DEVELOPMENT</th>
<th>PHASED/INTERIM DESIGN STRATEGY</th>
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<tbody>
<tr>
<td>Year 1</td>
<td>Concept</td>
<td>Concept</td>
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<tr>
<td></td>
<td>Plan/Outreach</td>
<td>Plan/Outreach</td>
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<tr>
<td>Year 2</td>
<td></td>
<td>Interim Installation</td>
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<td>Impacts Analysis</td>
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<tr>
<td>Year 3</td>
<td>Design</td>
<td>Design</td>
</tr>
<tr>
<td>Year 4</td>
<td></td>
<td></td>
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<tr>
<td>Year 5</td>
<td>Construction</td>
<td>Construction</td>
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</tbody>
</table>
Long design & approval process

Credit: Mike Flynn, NYC DOT

Street Trees & GreenStreets: Parks

Street Planning, Scope Design, Operations & Maintenance: DOT

(Some) Street Design & Construction: EDC

Final Design, Agency Alignment & Construction: DDC

Utilities: Various private companies & contractors

Vaults & some Sidewalks: DOB

Street Cleaning: DOS

Land Use & Urban Design: DCP

Special Furniture & Upkeep: BIDs

Sewers & Drains: DEP

Other Reviews & Approvals: Design Comm’n, Landmarks Comm’n, OMB

Image: SF Better Streets Plan
Pros
• Design in real time
• Realize project benefits now
• Evaluate and improve rather than spend then correct
• Build a constituency
• Build more, cheaper, faster

Cons
• Pilot projects can be removed
• Aesthetic quality often lower
• Potential absence of capital funds for improvement.
• Can look shabby if poorly maintained
David Vega-Barachowitz
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Designing Cities Initiative
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Making the Case

May 13, 2013
More Streetscape Projects Citywide

Jane Warner Plaza – 2008

Jane Warner Plaza - 2010
Elements of Streetscape Improvements

curb ramps
bike lanes
plazas
SFPlanning
parklets
medians
bulb-outs
sidewalk widening
road diet
SFPUC
SFPUC
lighting
SFMTA
SFMTA
landscaping
art
SFMTA
SFMTA
SFMTA
SFPUC
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SFPUC
SFPUC
Typical SFMTA Project Metrics

- Collisions
- Vehicle Speeds
- Mode Share/Volumes
- Transit Delay
- Intercept Surveys
- …and more…

Pedestrian Volume by Time of Day
Counts taken on JFK Drive at 8th Ave

<table>
<thead>
<tr>
<th>Time of Day</th>
<th>Before (January 2012)</th>
<th>After (January 2013)</th>
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<tbody>
<tr>
<td>Weekday AM</td>
<td>361</td>
<td>449</td>
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<tr>
<td>Weekday PM</td>
<td>789</td>
<td>804</td>
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<tr>
<td>Weekday Total</td>
<td>1150</td>
<td>1253</td>
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2010 Mode Split

2018 Mode Split Potential
Promote the numbers
1. Do these projects affect business?
Intercept Surveys

Mode Choice
- Walk 55%
- Drive 17%
- Transit 21%
- Bicycle 7%

Average Spending per Week

- Bicycle: $80.00
- Car: $60.00
- Foot: $120.00
- Transit: $140.00
Economic Study

Background:
• Commissioned by SFMTA in 2013
• Conducted by Fall Line Analytics/David Latterman
• Recent NYC Study

Purpose:
• Evaluate Past Projects
• Establish Methodology
Eight Streetscape Projects

- Valencia Road Diet – 1999
- Polk Street Road Diet – 2000
- Lower Polk Streetscape Improvements – 2009
- Jane Warner Plaza (Castro Commons) – 2010
- Divisadero Streetscape Improvement Project – 2010
- Valencia Streetscape Improvement Project – 2010
- Leland Avenue Streetscape Project – 2010
- Powell Street Promenade – 2011
Data Source: Retail Sales Tax Data

- 8 streetscape projects
- 6 neighborhoods
- 1 city
- 13 comparison streets
- 4 years (1 before, 3 after)

$5 billion worth of tax receipts reviewed!
Key Findings

Seven of the eight study streets performed as well as or better than the surrounding neighborhood for the three years after construction.

Difference in rate of growth of retail sales taxes between Study Street and Neighborhood (3 year average)

- Valencia 1999: 1.9%
- Polk 2000: 6.7%
- Polk 2009: 0.0%
- Divisadero 2009: -5.3%
- Castro 2010: 19.0%
- Valencia 2010: 12.5%
- Leland 2010: 2.2%
- Powell 2011: 7.4%
Key Findings

Average growth of retail sales tax receipts on study streets relative to their surrounding neighborhoods: **4.8%**
Key Findings

1 year time from project completion before study streets begin to outpace neighborhoods
Valencia Streetscape Project - 2010

Retail Sales Tax Growth
Valencia and Comparison Sites

Percent change from baseline

- Valencia Street
- Mission Street
- Neighborhood
- San Francisco

2009 2010 2011 2012

0% 10% 20% 30% 40% 50%
Jane Warner Plaza - 2010

Retail Sales Tax Growth
Jane Warner Plaza and Comparison Sites

Percent change from baseline
2. What messages resonate?
Drivers, Pedestrians, and Bicyclists in California Want Complete Streets

Rebecca L. Sanders, PhD, MCP
UC Berkeley Safe Transportation Research & Education Center
Transportation Research Board, Session 836
January 15, 2014
Riders say they feel better physically and mentally even if they only ride instead of drive every now and then. The added exercise has a multitude of health benefits – better weight, blood pressure, and insulin levels; decreased risk of obesity and breast cancer. The stats bear out that the **health benefits of cycling outweigh the risks by a factor of 20 to one**. It’s a social activity. All that, and it can save you and your family a lot of money. It’s a simple way to transform your life.
The rate at which the number of cars on the road is increasing is not sustainable. If we do nothing, we’ll have a million more cars in our city in the next 10 years – which will not only affect our roads and commute time, but parking within the city as well. Whether you ride or not, helping more people cycle is critical because it will affect us all sooner than later. Supporting bikes and bike infrastructure is simply better for us all.
Bicycling gives you a different perspective on your city. Riders say they enjoy seeing more, experiencing more, stopping more to ‘smell the roses’. It shrinks the city while simultaneously expanding it (if you bike, you get a better understanding of how to maneuver the city, while seeing things you never would have in a car). It creates a more connected city which is an intangible benefit to biking around town that doesn’t often get talked about, but is one of the key reasons bicyclists love it.
3. What about safety?
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 Severe 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% vs. 10% fatalities at 40 mph 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.
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
**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
- Leading Pedestrian Intervals
- Reduced Lane Widths
- Pedestrian Scrambles
- Signal Timing Changes
- Temporary Pedestrian Refuge Islands

- Continental Crosswalks
- Turn Prohibitions
- Temporary Corner Bulbs & Chokers
- Speed Humps
- Protected Left Turns
6th/Howard After
6th/Market After