San Francisco Transportation Plan Update

PART 2: Needs Assessment

Spring 2013

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SFTP Needs Assessment

- Planned Growth
- Existing and Future Transportation Conditions
- Aspirational Scenarios: “What would it take to...”
  - Achieve a state of good repair
  - Get to approximately 50% below 1990 greenhouse gas emissions
  - Achieve a non-auto mode share above 50%
  - Accommodate population/employment growth with no change in commute
- Focused Sector Analyses
  - Visitor Trips
  - Goods Movement Trips
  - School Trips
- SoMa Core Circulation Analysis
- Institutional Challenges
Planned Growth
Our growth and transportation challenge
Planned growth through 2040

San Francisco Growth in Plan Bay Area:
- 92,000 housing units
- 101,000 new households
- 191,000 new workers
Existing/Future Transportation Conditions
## Needs Assessment Framework

### Transportation System Performance
- Total tripmaking
- Mode share
- Person miles over vehicle miles traveled (PMT/VMT)
- Transit:Auto Travel Time Ratio

### Economic Competitiveness
- Congested Streets
- Motorized Travel Time
- Peak:Off-peak Drive Travel Time
- Goods movement and visitor trip needs

### Healthy Environment
- Vehicle miles traveled
- Greenhouse gas emissions
- Active Transportation (walking & biking) Trips

### Livability
- Transit trips requiring transfer
- Non-auto mode share
- Average trip-length
- School trip needs

### State of Good Repair
- Crowded Transit Lines
- Pavement Condition Index
- Transit Reliability
- Structural Sufficiency

### Equity

### Public Input
Expect over 5 million trips to/from/within SF by 2040
33% more trips than today

**Total Trips To, From, and Within SF by Mode**

- **Auto**: 603,400
- **Transit**: 278,600
- **Bike**: 39,600
- **Ped**: 328,600

Projected growth in car trips is 40% MORE than current daily Golden Gate and Bay Bridge crossings

Source: SF-CHAMP 4.3
Current Conditions: Trips To, From, and Within SF

Car trips dominate SF’s transportation network today

2012: Distribution of Trips by Mode
(2012 Mode Share)¹

- Auto: 53%
- Walk: 25%
- Transit: 20%
- Bike: 2%

Some promising changes over past 10 yrs
- 50% growth in bike mode share²
- Growth in car-sharing, shuttles, other TDM

But similar problems persist
- Pedestrian safety
- Transit reliability
- Transit crowding
- Congestion

¹ Source: SF-CHAMP 4.3
² Source: Census Transportation Planning Package, 2000-2010
Projected Tripmaking To, From, and Within SF
Current trends will bring minor changes overall

2040 Distribution of Trips by Mode
(2040 Mode Share)

- Bike, 2%
- Walk, 25%
- Transit, 21%
- Auto, 52%

Percent Growth in Total Trips by Mode (2012-2040)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>30%</td>
</tr>
<tr>
<td>Transit</td>
<td>36%</td>
</tr>
<tr>
<td>Walk</td>
<td>35%</td>
</tr>
<tr>
<td>Bike</td>
<td>55%</td>
</tr>
</tbody>
</table>

Source: SF-CHAMP 4.3
Growth in Daily Regional Transit Trips to/from SF
Similar to trends previously seen

- Largest growth in transit trip-making from the Southeast, but not surprising given land use developments, Downtown Extension, etc.
- Growth in East Bay trip-making still challenging, given crowding we already see today

Source: SF-CHAMP 4.3
Change in Regional Vehicle Miles Traveled (2012-40)
Eastern Neighborhoods Drive VMT To and From SF

Legend
- Orange: Difference in VMT (top three quintiles of pairs), 2012-2040
- Yellow: Difference in Total VMT Generation (internal and external), 2012-2040

Source: SF CHAMP 4.3
Change in Local Vehicle Miles Traveled (2012-40)
Again, Eastern Neighborhoods Drive Growth in Local VMT

Legend
- Difference in VMT (top three quintiles of pairs), 2012-2040
- Difference in Total VMT Generation (internal and external), 2012-2040

Source: SF CHAMP 4.3
Total Household Vehicle Miles Traveled (2040)

Outlying Neighborhoods Show Highest VMT

Legend
- Parks and Open Space

2040: VMT from Households
- 0.1 - 1,000
- 1,000.1 - 2,500
- 2,500.1 - 5,000
- 5,000.1 - 7,500
- 7,500.1 - 10,000
- 10,000.1 - 12,500
- 12,500.1 - 15,000
- 15,000.1 - 20,000
- 20,000.1 and more

Source: SF-CHAMP 4.3
Vehicle Miles Traveled Per Household Auto (2040)
Generally, Outlying Neighborhoods, Particularly in the Southeast, Have Highest VMT
Vehicle Miles Traveled to Workplaces (2040)
Eastern Neighborhoods See Most Commute VMT

Legend
- Parks and Open Space
- 2040: VMT to Workplaces
  - Less than 500 VMT
  - 500.1 - 1,500
  - 1,500.1 - 2,000
  - 2,000.1 - 2,500
  - 2,500.1 - 3,000
  - 3,000.1 - 5,000
  - 5,000.1 - 10,000
  - 10,000.1 - 15,000
  - 15,000.1 and more

Source: SF-CHAMP 4.3
Transit Crowding with 40% more trips, expect more crowding by 2040

Transit Routes at or over Capacity, 2012

Transit Routes at or over Capacity, 2040

At/nearing Capacity
Over Capacity

Source: SF-CHAMP 4.3
Transit Crowding by Operator
Muni is largest operator, and experiences greatest increase → 5x more!!

Person Hours Travelled in Crowded Conditions (2012, a.m.)

Person Hours Travelled in Crowded Conditions (2040, a.m.)

Source: SF-CHAMP 4.3
Transit Crowding: expect large increases
66% more time spent in overcrowded lines, 3.5x more time in crowded lines

AM Transit Crowding: Person Hours Travelled in Crowded Conditions on All Transit Lines touching SF

Source: SF-CHAMP 4.3
2.5% of all trips are made by bike today

- 75,000 daily bike trips
- 77% of bike trips 3 miles or less today
- While 34% of San Franciscans report biking at least once/week, roughly 2/3 never bike

Source: SFMTA 2012
Bike trip-making goals

- Core Bicycle Areas in 2010 already have a 7% bike mode share
- In the future, 58% of automobile trips < 3 miles, suggesting how we might reach SFMTA bicycle goals:
  - 9% mode share: requires converting ¼ of all short auto trips to biking

Source: SFMTA 2012
Projected: Auto Trip Lengths (2040)

Number of Auto Trips Within SF, By Length

- ~950,000 auto trips within comfortable biking distance
- 58% of all local auto trips are 3 miles or shorter

Source: SF-CHAMP 4.3
Projected: Transit Trip Lengths (2040)

Number of Transit Trips Within SF, By Length

- 50% of all local transit trips are 3 miles or shorter

~380,000 transit trips within comfortable biking distance

Source: SF-CHAMP 4.3
Instances of bike crashes rising in proportion to increase in bike activity

Consistent collision rate since 2006

Source: SFMTA 2012
Bike network needs – network fragmentation
Bike network needs – SFMTA Bicycle Strategy

- Improve quality and density of system, including
  - Enhance connections along the waterfront and coast
  - Close network gaps
  - Provide comfortable bike facilities in all neighborhoods

- More widespread bike parking facilities
  - Innovative uses of space to provide additional parking in the core
  - Achieve minimum bike parking coverage rates

- Programmatic supporting measures
  - Signal program can reduce conflicts, manage speeds
  - Promote and grow bikesharing
  - Continued education and outreach

Source: SFMTA 2012
Walking – Key walking streets

- Latest data indicates ped mode share today is 25%: meets MTA goal of 23%\(^1\)
- Average trip length: 1 mi.\(^2\)

Walking – Safety
Historical Trend and Target

- Consistent collision rate since 1990

Sources: Draft Pedestrian Strategy, 2010-2011 SFMTA Collision Report

Fatal/severe injuries reduction by 50% by 2021
Walking – Safety
Injury Density and Crossing Risk

- High-Injury Density Corridors: 5% of SF’s street miles bear 55% of all severe and fatal injuries and 51% of total pedestrian injuries

Pedestrian Crossing Risk by Intersection: Highlights SE part of San Francisco where the pedestrian volumes are low.

Source: San Francisco Pedestrian Volume Model.
Walking – Needs Infrastructure

- 44 miles in urgent need of safety and walking comfort treatments
- 800 intersections need additional pedestrian crossing time
- 13,000 curb ramps need to be upgraded in the next 10 years
- 85 closed crosswalks
- 184 signalized intersections need pedestrian signals at all four corners
- 44 schools ineligible for 15 mph speed signs, located on arterials; need alternate treatment

Sources: Draft Pedestrian Strategy, 2010-2011 SFMTA Collision Report
Walking – Needs
Non-Infrastructure

❖ Expand education /outreach:
  ❖ MTA to start comprehensive marketing program this year
  ❖ Expand school education program

❖ Increase enforcement hours (MTA aims to increase by 30% by FY 2021)

❖ Enhance evaluation/monitoring

❖ Better institutionalize pedestrian needs
  ❖ Citywide pedestrian capital project list
  ❖ Implement the Better Streets Plan, develop “complete streets”
  ❖ Improve project delivery process

Sources: Draft Pedestrian Strategy, 2010-2011 SFMTA Collision Report
Walking – Needs
High Priority Segments

Source: Draft Pedestrian Strategy.
Public perception of transportation system needs

“City Hall Must Tackle Muni's Problems.”
San Francisco Chronicle, December 27, 2012

“Muni fixes will be painful, but they are necessary.”
San Francisco Examiner, April 6, 2012

“I was waiting for it to be terrible," he said of Muni. "And it wasn't." – transit rider on the busiest weekend of the year in San Francisco
San Francisco Chronicle, October 6, 2012

“Should this culture of inefficiency be tolerated where improvements can be made?”
Adrienne Jan, SFSU student
San Francisco Chronicle, December 30, 2012

“When Muni melts down and people can't get where they're going in a timely manner, our entire city suffers.”
Sup. Scott Wiener
San Francisco Chronicle, January 14, 2013
Public perception of transportation system needs

- Support for projects to improve transit efficiency
- Demand for improvements to pedestrian safety, traffic calming
- Get back to the basics: O&M, Muni reliability
- Strong desire to improve cycling and walking conditions, traffic calming
- Desire for cost savings, faster project delivery