SFTP Needs Assessment

- Planned Growth
- Existing and Future Transportation Conditions
  - Aspirational Scenarios: “What would it take to...”
    - Achieve a state of good repair
    - Reduce greenhouse gas emissions to 50% below 1990 levels
    - 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
Aspirational Scenario Analysis: “What Would it Take...”?
We set a performance target that maps to each goal and asked what would it take to achieve:

- Strengthen the city’s regional competitiveness
- Create a more livable city
- Provide world-class service
- Ensure a healthy environment
We set a performance target that maps to each goal and asked what would it take to achieve:

What would it take ... 

... to accommodate growth with no change in commute times

... to achieve a state of good repair

... to get approximately 50% below 1990 greenhouse gas emissions

... to achieve a non-auto mode share above 50%
4 different scenarios of transportation investment that optimize the metrics selected for our 4 goals areas...

**Baseline/State of Good Repair**
- State of Good Repair costs/investments for existing (2011) assets & service
- Includes projects that are already committed or in the funding/delivery pipeline

**Economic Competitiveness**
- Key metric: no change in commute travel time to San Francisco
  - Focus on transit/auto improvements and policies
  - 3 investment scenarios developed, plus regional pricing scenarios
  - Other metrics include delay, changes in total # of trips, etc

**Livability**
- Key metric: more walking, biking, and transit trips than car trips
  - Citywide pedestrian improvements
  - Citywide cycletrack network
  - Partial removal of Central Freeway & 280
  - Other metrics include transit crowding, equity, etc

**Healthy Environment**
- Key metric: ~50% reduction in greenhouse gas emissions (per voter & Board mandate)
  - Citywide cycletrack network
  - Demand management strategies including: required/bundled transit passes
  - Robust electric vehicle penetration
What would it take to achieve a State of Good Repair?

Including local streets and roads, street structures, transit capital rehabilitation, and transit operations and maintenance.
Plan Bay Area RTP/SCS Approach to State of Good Repair (SOGR) and Operations and Maintenance (O&M)

Maintain today’s roadway and bridge pavement/structural conditions

Fully fund transit vehicles and 70% of “critical” transit capital infrastructure (overhead wires, rail track, etc.)

Fully fund transit operations at today’s transit service levels

Note: MTC was able to achieve these goals through the use of new discretionary funding sources (regional gas tax, new bridge toll, “anticipated unspecified” funds)
The cost to maintain streets and transit at today’s levels of repair and operation is $3.7 billion through 2040. This cost exceeds our expected discretionary revenues of $3.14 billion.

Why does not forecast SF sufficient revenues to meet Plan Bay Area policy targets? – lack of clarity about the region’s proposed allocation of discretionary revenue by operator and municipality.

Transit – Capital only includes SFMTA and Caltrain (SF share) needs to achieve RTP/SCS goal of 70% of “critical” transit capital infrastructure.

<table>
<thead>
<tr>
<th>Cost to Maintain Current SOGR/O&amp;M Level</th>
<th>Expected Revenue</th>
<th>Shortfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Streets and Roads - System Preservation</td>
<td>$3.263 billion</td>
<td>$2.299 billion</td>
</tr>
<tr>
<td>Local Streets and Roads - Operations/Routine Maintenance</td>
<td>$2.84 billion</td>
<td>$2.84 billion</td>
</tr>
<tr>
<td>Transit - Operations</td>
<td>$35.6 billion</td>
<td>$35.5 billion</td>
</tr>
<tr>
<td>Transit – Capital</td>
<td>$8.11 billion</td>
<td>$5.47 billion</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$3.735 billion</td>
</tr>
</tbody>
</table>
## Local Streets and Roads SOGR Needs v. Revenues through 2040

<table>
<thead>
<tr>
<th>TOTAL NEED</th>
<th>Maintain current pavement conditions and routine maintenance levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6.1 billion</td>
<td></td>
</tr>
<tr>
<td>Local Streets &amp; Roads (LS&amp;R) System Preservation (SP) and Operations/Routine Maintenance (O/RM) need</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL REVENUES expected ($2.29 billion for SP and $2.84 billion for O/RM)</th>
<th>$5.1 billion</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>TOTAL SHORTFALL to maintain today’s pavement conditions</th>
<th>$965 million</th>
</tr>
</thead>
</table>

| Total LS&R SP and O/RM revenue shortfall to achieve an ideal PCI of 75 | $2.48 billion |

- In the RTP/SCS MTC was able to meet the total need by allocating discretionary funds to pavement repair
- However, this is not the only strategy to achieve the goal of maintaining pavement; for example, SF could also shift resources from O/RM to SP based on our local priorities

Source: MTC/DPW

$6.1 billion

System Preservation need:
Cost to maintain existing pavement conditions

System Preservation need:
Cost to maintain existing pavement conditions

Operations/Routine Maintenance need:
Maintain existing levels of pothole repair, street sweeping, etc.
Transit O&M Needs v. Revenues through 2040

<table>
<thead>
<tr>
<th>Cost (SF share)</th>
<th>Operator</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>$26.58 billion</td>
<td>SFMTA Muni</td>
<td>Shortfall: $0.12 billion</td>
</tr>
<tr>
<td>$5.33 billion</td>
<td>BART</td>
<td>No shortfall</td>
</tr>
<tr>
<td>$0.748 billion</td>
<td>Caltrain</td>
<td>No shortfall</td>
</tr>
<tr>
<td>$1.34 billion</td>
<td>GGBHTD</td>
<td>GGT operating shortfall does not have an SF share</td>
</tr>
</tbody>
</table>

$27.76\textsuperscript{1} billion

TOTAL COST to maintain existing operating levels through 2040

$26.46 billion

TOTAL REVENUE expected

$1.18 billion

MINUS assumption of 5% cost savings

$0.12 billion

Muni O&M revenue gap

- Cost table shows the total cost to maintain today’s transit service levels.
- In the RTP/SCS MTC was able to maintain current O&M levels through the use discretionary funds and assumption that operators implement recommended cost saving strategies.
- Funding the SF share of Caltrain operations is the subject of ongoing City discussions.

Sources: MTC/SFMTA/regional transit operators

www.sfcta.org/MoveSmartSF | twitter.com/SanFranciscoTA | www.facebook.com/MoveSmartSF
## Transit Capital Needs v. Revenues through 2040

<table>
<thead>
<tr>
<th>Operator</th>
<th>Cost of Transit Vehicles</th>
<th>Cost of “critical” transit capital (70%)</th>
<th>Expected Revenue – Vehicles</th>
<th>Expected Revenue – Capital</th>
<th>Shortfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFMTA</td>
<td>$4.024 billion</td>
<td>$3.54 billion</td>
<td>$4.024 billion</td>
<td>$1.030 billion</td>
<td>$2.51 billion</td>
</tr>
<tr>
<td>BART</td>
<td>$4.97 billion</td>
<td>$5.59 billion</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
</tr>
<tr>
<td>GGBHTD</td>
<td>$0.678 billion</td>
<td>$0.10 billion</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
</tr>
<tr>
<td>Caltrain¹</td>
<td>$0.266 billion</td>
<td>$0.28 billion</td>
<td>$0.266 billion</td>
<td>$0.153 billion</td>
<td>$0.13 billion</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>$4.024 billion</td>
<td>$1.183 billion</td>
<td><strong>$2.64 billion</strong></td>
</tr>
</tbody>
</table>

### RTP/SCS Goal:
- Fully fund revenue vehicles and 70% of “critical” transit capital infrastructure
- Fully fund operating needs for existing transit service levels
- We have a great deal of uncertainty here due to the use of discretionary revenues in the RTP/SCS process to close funding shortfalls
- For the purposes of this assessment we are not expecting SF to have a discretionary share of the BART and GGBHTD capital need – BART and GGBHTD shortfalls will be addressed at a regional/partner level

¹ SF share

Source: MTC

[www.sfcta.org/MoveSmartSF](http://www.sfcta.org/MoveSmartSF) | [twitter.com/SanFranciscoTA](https://twitter.com/SanFranciscoTA) | [www.facebook.com/MoveSmartSF](https://www.facebook.com/MoveSmartSF)
Next Steps

Our goal in the SFTP is to:

- Recommended approaches to filling the shortfalls in existing street repair and maintenance, and transit service levels
- Further strengthen transit capital asset management
- Investigate potential cost saving strategies (beyond the MTC Transit Sustainability Project)
- Examine new revenue options and their possible uses in a vision scenario
What Would it Take to Achieve a Non-Auto Mode Share Above 50%?

Baseline 2035

Livability

- Citywide pedestrian improvements
- 125 miles of cycletracks
- Central Freeway & partial 280 demolition

Note: Analysis is from Spring 2011, Baseline has been updated to new 2040 land use since this time.
The result? A 6% shift in non-auto mode share!

Livability Scenario:
- 47% Non-Auto
- 53% Auto

Change in Auto Person Trips Needed (relative to 2035 Baseline)
- To Achieve 30/30/40 goal: -905,000
- To Achieve 50% Goal: -429,000

- Road and parking pricing could produce additional 1-5% mode shift

Note: Analysis is from Spring 2011, Baseline has been updated to new 2040 land use since this time
What would it take to reduce SF’s CO₂ emissions to ~50% of 1990 levels?

Baseline 2035

- Expanded transportation demand management programs
- Citywide cycletrack network
- Robust electric vehicle penetration

Healthy Environment

Note: Analysis is from Spring 2011, Baseline has been updated to new 2040 land use since this time.
The result? We only get 30-40% of the way to the goal on our own, or 65-85% of the way there with more help from the region.

San Francisco GHG Emissions Trend vs. Goal
(on-road mobile, weekday)

Source: SF CHAMP 4.1 Draft SCS, SFCTA, 2011

Note: Analysis is from Spring 2011, Baseline has been updated to new 2040 land use since this time.
What would it take to maintain our commute time competitiveness

Note: Analysis is from Spring 2011, Baseline has been updated to new 2040 land use since this time
The result? We can achieve this metric with a set of projects that cost ~$5 billion.

<table>
<thead>
<tr>
<th></th>
<th>Today (2010)</th>
<th>Expected Trend 2035</th>
<th>Econ Comp 2035 Low</th>
<th>Econ Comp 2035 Med</th>
<th>Econ Comp 2035 Med +Regional Parking Pricing</th>
<th>Econ Comp 2035 High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average commute time to SF including non-motorized (minutes)</td>
<td>40</td>
<td>+5%</td>
<td>+3%</td>
<td>0%</td>
<td>0%</td>
<td>+3%</td>
</tr>
<tr>
<td>Cost (millions of $)</td>
<td>-</td>
<td>-</td>
<td>$2,000</td>
<td>$5,000</td>
<td>$5,000+</td>
<td>$20,000</td>
</tr>
<tr>
<td>Cost Effectiveness</td>
<td>-</td>
<td>-</td>
<td>High</td>
<td>Med</td>
<td>Med</td>
<td>Low</td>
</tr>
</tbody>
</table>

We can *almost* achieve it with a set of projects that cost ~2 bil
And here’s how all the scenarios compared against one another.

<table>
<thead>
<tr>
<th>Performance Metric</th>
<th>Today (2010)</th>
<th>Expected Trend 2035</th>
<th>Econ Comp 2035</th>
<th>Econ Comp + Parking Pricing</th>
<th>Healthy Environ’t 2035</th>
<th>Healthy Environ’t + Reg’l Road Pricing</th>
<th>Livability 2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commute Travel Time to SF (minutes)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No increase from 2010 (0%)</td>
<td>40</td>
<td>+5%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>-22%</td>
<td>+3%</td>
</tr>
<tr>
<td>Greenhouse Gas Emissions (daily metric tons for SF destination trips)</td>
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<td></td>
</tr>
<tr>
<td>City’s target: 50% below 1990 2,900 daily metric tons</td>
<td>7,000</td>
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<td></td>
<td></td>
<td>4,100</td>
<td>3,400</td>
<td>4,300</td>
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<td>Non-Auto Mode Share (percent of trips by transit, walking, and biking to, from, and within SF)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>More walking, biking, transit trips than car trips (&gt;50%)</td>
<td>40%</td>
<td>41%</td>
<td>44%</td>
<td>45%</td>
<td>45%</td>
<td>50%</td>
<td>47%*</td>
</tr>
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The red numbers mean the performance metric is **not** achieved.

The blue numbers mean the performance target is **achieved**.

*could achieve goal with moderate to aggressive pricing strategies
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