San Francisco Transportation Plan Update

PART 2.2: Needs Assessment (continued)

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
  - 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…”?

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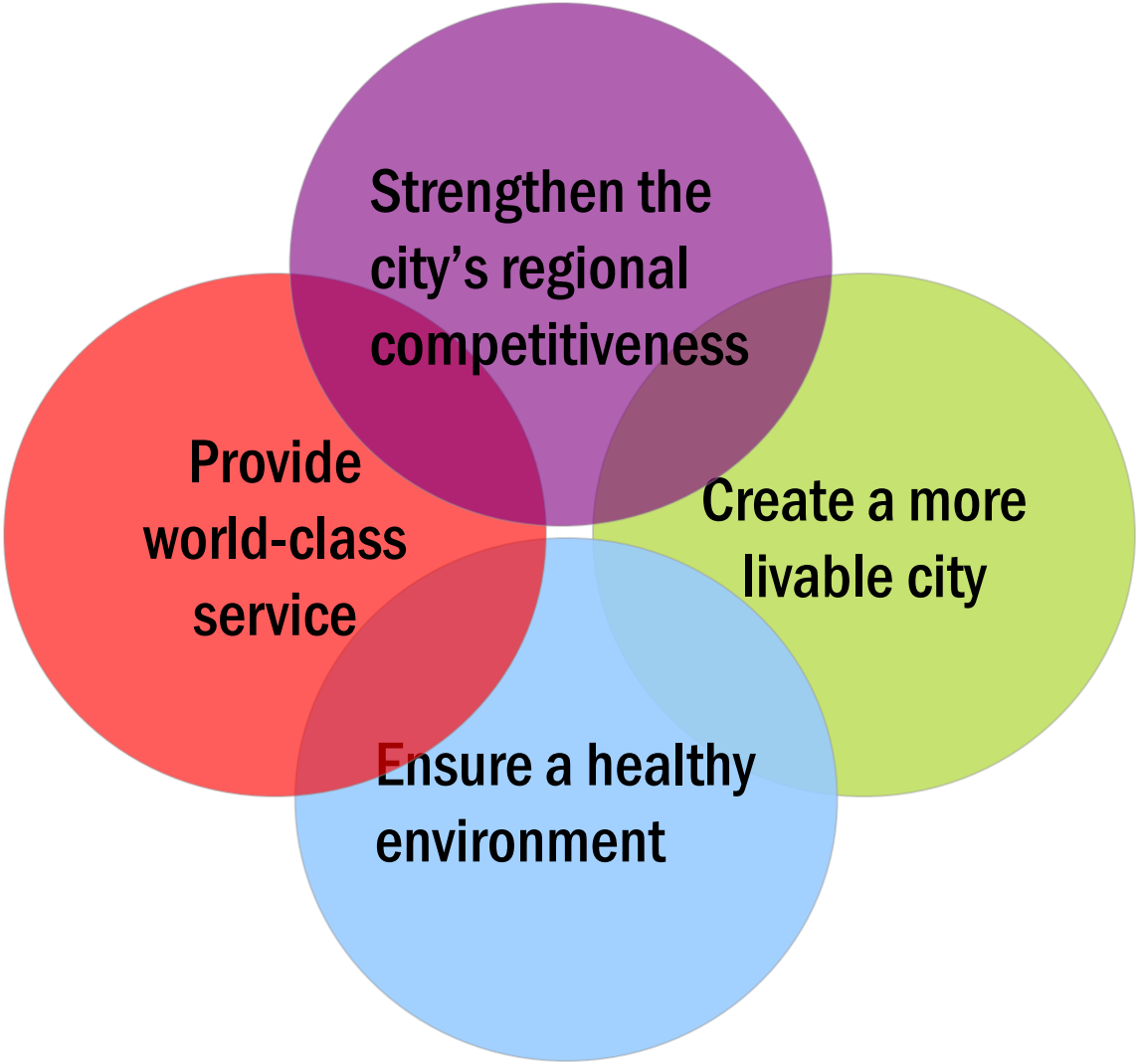
We set a performance target that maps to each goal and asked what would it take to achieve



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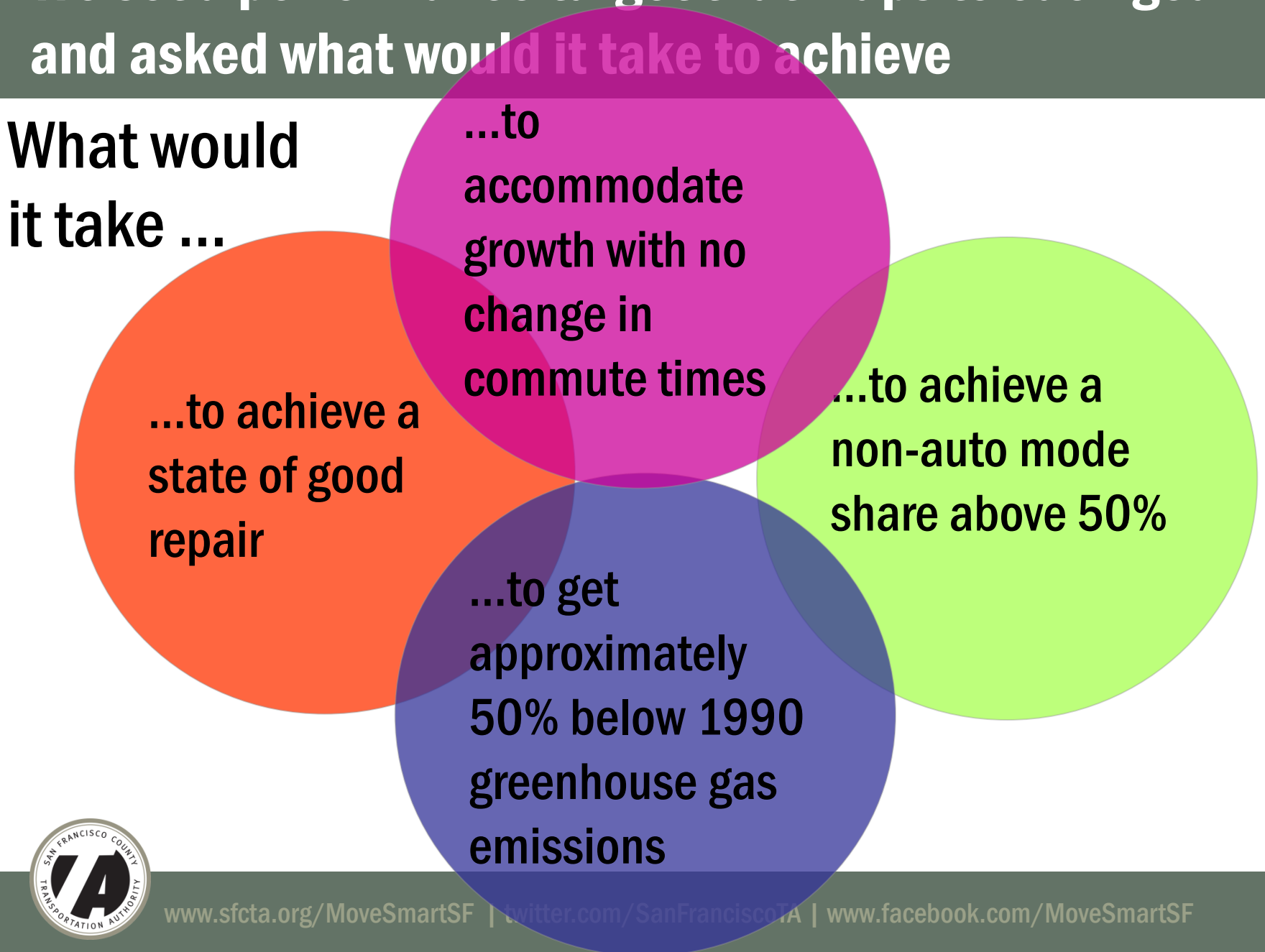


4 different scenarios of transportation investment that optimize the metrics selected for our 4 goals areas…

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

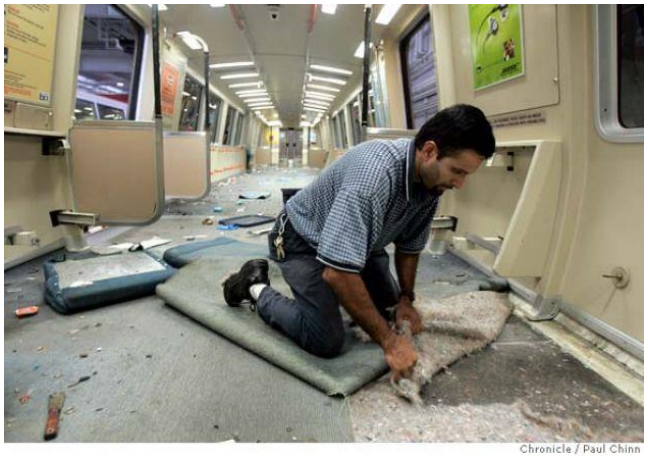
Plan Bay Area RTP/SCS Approach to State of Good Repair (SOGR) and Operations and Maintenance (O&M)

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)



Chronicle / Paul Chinn

Overview of SOGR and O&M need vs. revenue

	Cost to Maintain Current SOGR/O&M Level	Expected Revenue	Shortfall
Local Streets and Roads - System Preservation	$3.263 billion	$2.299 billion	$0.965 billion
Local Streets and Roads - Operations/Routine Maintenance	$2.84 billion	$2.84 billion	$0.00
Transit - Operations	$35.6 billion	$35.5 billion	$0.12 billion
Transit – Capital	$8.11 billion	$5.47 billion	$2.64 billion
Total			$3.735 billion

- **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**

Local Streets and Roads SOGR Needs v. Revenues through 2040

$6.1 billion	TOTAL NEED Local Streets & Roads (LS&R) System Preservation (SP) and Operations/Routine Maintenance (O/RM) need	Maintain current pavement conditions and routine maintenance levels
	$3.26 billion	System Preservation need: Cost to maintain existing pavement conditions
	$2.84 billion	Operations/Routine Maintenance need: Maintain existing levels of pothole repair, street sweeping, etc.
$5.1 billion	TOTAL REVENUES expected (**$2.29 billion** for SP and **$2.84 billion** for O/RM)	
$965 million	TOTAL SHORTFALL to maintain today's pavement conditions	
$2.48 billion	Total LS&R SP and O/RM revenue shortfall to achieve an ideal PCI of **75**	

MTC/DPW

- **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**

Transit O&M Needs v. Revenues through 2040

Cost (SF share)	Operator	Comment
$26.58 billion	SFMTA Muni	Shortfall: $0.12billion
$5.33 billion	BART	No shortfall
$0.748 billion	Caltrain	No shortfall
$1.34 billion	GGBHTD	GGT operating shortfall does not have an SF share

$27.76[1] billion	TOTAL COST to maintain existing operating levels through 2040
$26.46 billion	TOTAL REVEUE 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

Transit Capital Needs v. Revenues through 2040

Operator	Cost of Transit Vehicles	Cost of "critical" transit capital (70%)	Expected Revenue – Vehicles	Expected Revenue – Capital	Shortfall
SFMTA	$4.024 billion	$3.54 billion	$4.024 billion	$1.030 billion	$2.51 billion
BART	$4.97 billion	$5.59 billion	-	-	N/A
GGBHTD	$0.678 billion	$0.10 billion	-	-	N/A
Caltrain[1]	$0.266 billion	$0.28 billion	$0.266 billion	$0.153 billion	$0.13 billion
Total					$2.64 billion

- **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**

Source: MTC

[1] SF share

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%

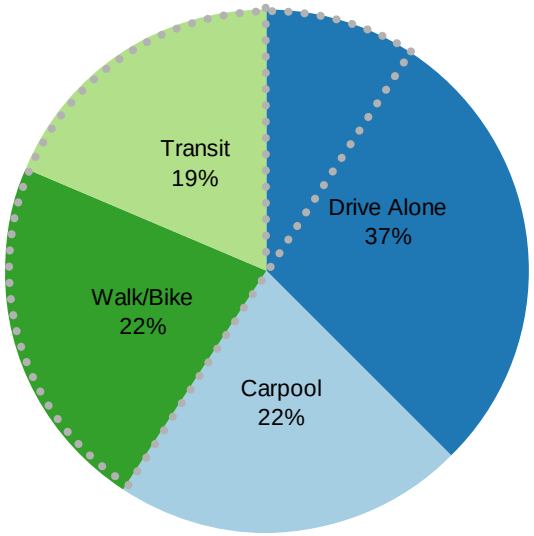
- New Transit Station
- Increased Frequency and/or Capacity
- Transit Signal Priority
- Bus Rapid Transit
- New Transit Route
- New Ferry Route
- Livable Street Project
- Bicycle Infrastructure Enhancements
- New Roadway

Note: Analysis is from Spring 2011, Baseline has been updated to new 2040 land use since this time

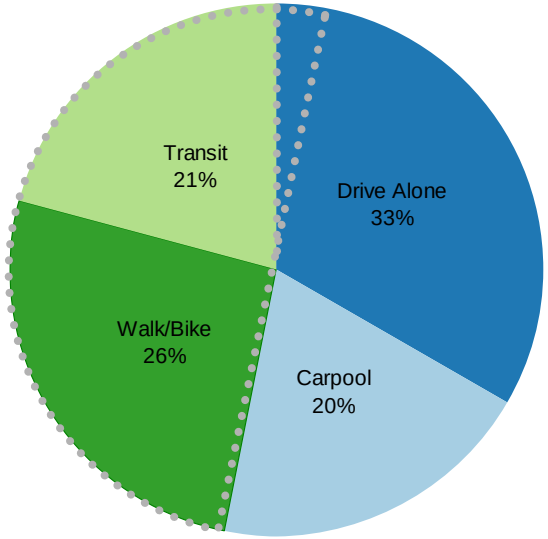
- Citywide pedestrian improvements
- 125 miles of cycletracks
- Central Freeway & partial 280 demolition

The result? A 6% shift in non-auto mode share!

2035 Baseline Scenario:
41% Non-Auto
59% Auto



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 CO_2 emissions to ~50% of 1990 levels?

- New or Consolidated Transit Station
- Bus Rapid Transit
- Increased Frequency and/or Capacity
- New Ferry Route
- New Roadway
- New Transit Route
- Transit Signal Priority
- Pedestrian Infrastructure
- Bicycle Infrastructure Enhancements
- Transit Infrastructure
- Congestion Pricing

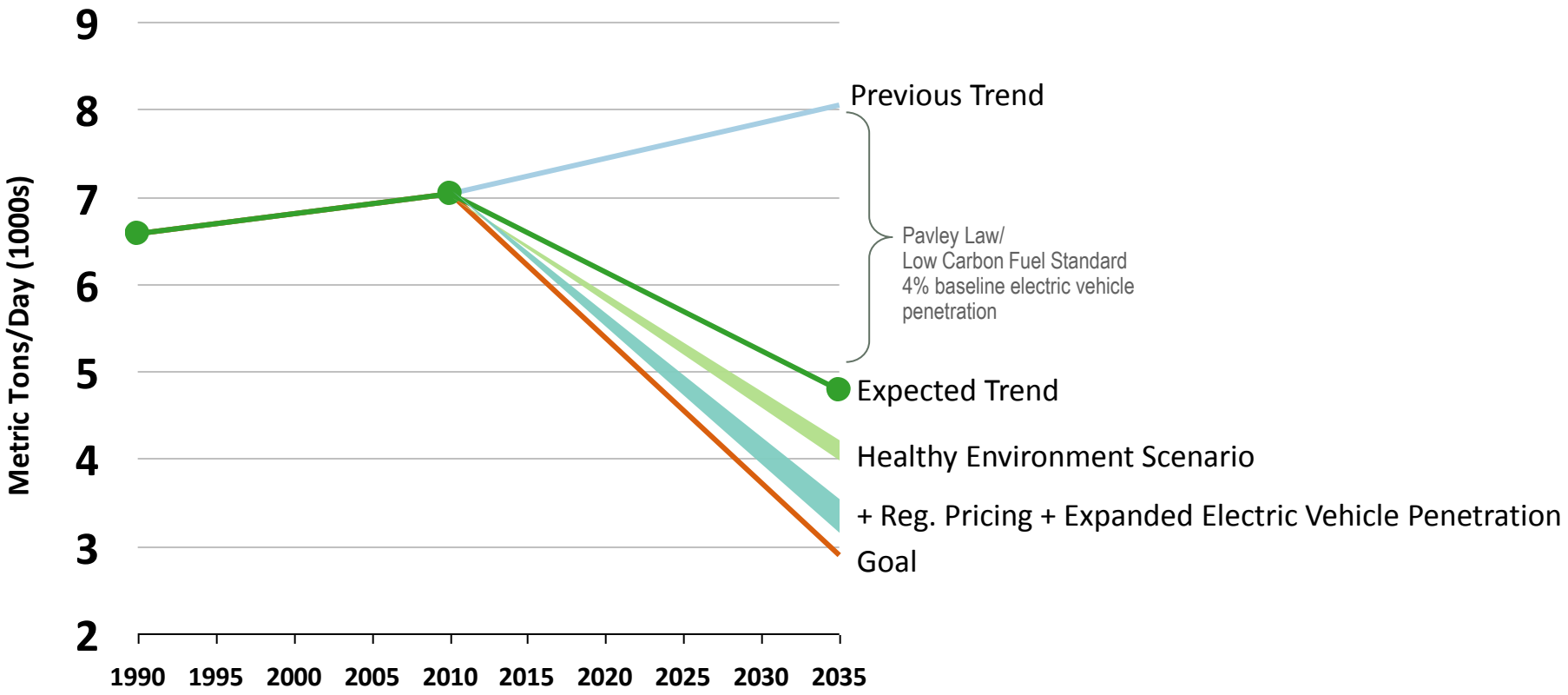
- Expanded transportation demand management programs
- Citywide cycletrack network
- Robust electric vehicle penetration

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)



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Source: SF CHAMP 4.1 Draft SCS, SFCTA, 2011

What would it take to maintain our commute time competitiveness

New or Consolidated Transit Station
Bus Rapid Transit
Increased Frequency and/or Capacity
New Ferry Route
New Roadway
New Transit Route
Transit Signal Priority
High Occupancy Toll Lane
Bicycle Infrastructure Enhancements
Congestion Pricing

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.

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

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.

The red numbers mean the performance metric **is not** achieved

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

	Today (2010)	Expected Trend 2035	Econ Comp 2035	Econ Comp + Parking Pricing	Healthy Environ't 2035	Healthy Environ't + Reg'l Road Pricing	Livability 2035
Commute Travel Time to SF (minutes)							
No increase from 2010 (0%)	40	+5%	0%	0%	0%	-22%	+3%
Greenhouse Gas Emissions (daily metric tons for SF destination trips)							
City's target: 50% below 1990 2,900 daily metric tons	7,000				4,100	3,400	4,300
Non-Auto Mode Share (percent of trips by transit, walking, and biking to, from, and within SF)							
More walking, biking, transit trips than car trips (>50%)	40%	41%	44%	45%	45%	50%	47%*

*could achieve goal with moderate to aggressive pricing strategies

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Goal	Today (2010)	Expected Trend 2035	Econ Comp 2035	Econ Comp + Parking Pricing	Healthy Environ't 2035	Healthy Environ't + Reg'l Road Pricing	Livability 2035
Commute Travel Time to SF (minutes)							
No increase from 2010 (0%)	40	+5%	0%	0%	0%	-22%	+3%
Greenhouse Gas Emissions (daily metric tons for SF destination trips)							
City's target: 50% below 1990 2,900 daily metric tons	7,000	4,700	4,300	4,200	4,100	3,400	4,300
Non-Auto Mode Share (percent of trips by transit, walking, and biking to, from, and within SF)							
More walking, biking, transit trips than car trips (>50%)	40%	41%	44%	45%	45%	50%	47%*

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