Plan Bay Area: the San Francisco Transportation Perspective

SPUR Brownbag

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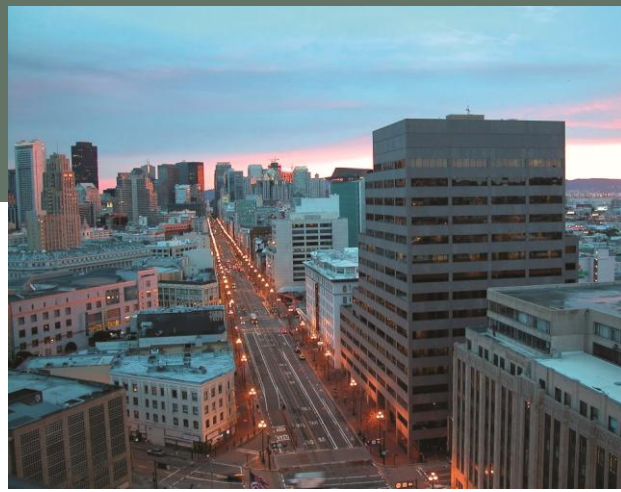
April , 2013

There's a lot to like...



- SF projects named 7 of 13 high-performers in region
- Downtown Extension of Caltrain, Van Ness Bus Rapid Transit named regional New and Small Starts priorities
- OBAG program links affordable housing plans and production with greater levels of transportation $ for first time
- Transit Performance Initiative created, $500 million in strategic investments to improve transit in urban core

	PROJECT	Quantitative Benefit/Cost ratio	Qualitative (out of 10)
1	**BART Metro Program**	> 60	8.5
2	**Treasure Island Congestion Pricing**	59	4.0
3	**Congestion Pricing Cordon Pilot**	45	6.0
4	AC Transit Grant—MacArthur BRT	18	5.5
5	Freeway Performance Initiative	16	4.0
6	ITS Improvements in San Mateo Co.	16	4.0
7	ITS Improvements in Santa Clara Co.	16	4.0
8	Irvington BART Station	12	5.5
9	**SFMTA Transit Effectiveness Project**	11	7.5
10	**Caltrain Electrification and six trains per hour service**	5	7.5
11	BART to San Jose, Phase 2	5	7.0
12	**Van Ness Avenue BRT**	6	6.5
13	**Better Market Street**	6	6.0

Source: Metropolitan Transportation Commission

… yet challenges remain

Maintenance and operations shortfall…

	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**

...yet challenges remain

Worsening transit crowding (2012-2040)

At/nearing Capacity

Over Capacity

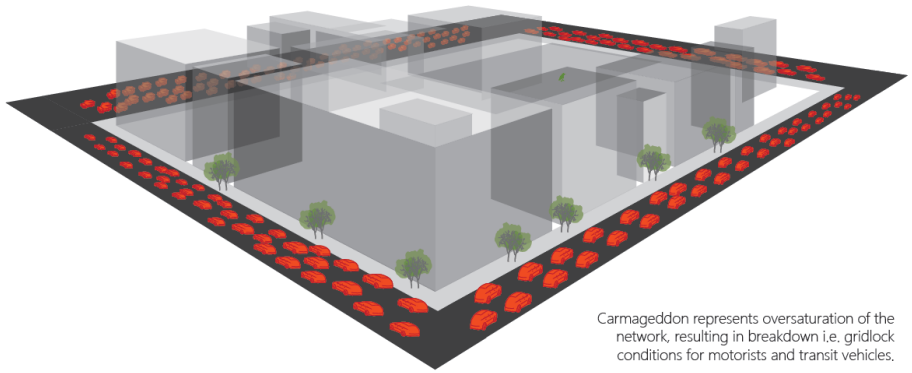
urce: SF CHAMP 4.3

...yet challenges remain

Peak hour auto congestion, and its impacts on transit

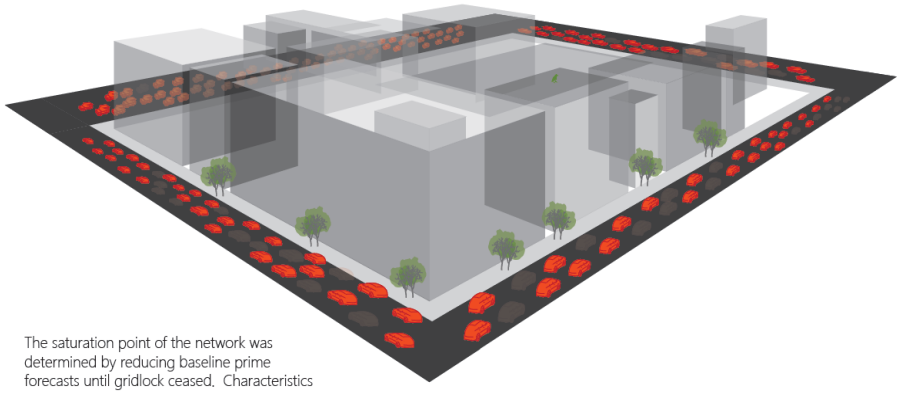
27% reduction in PM peak SoMa private vehicle traffic needed to maintain a "saturated" network

Gridlock



Carmageddon represents oversaturation of the network, resulting in breakdown i.e. gridlock conditions for motorists and transit vehicles.

Saturated



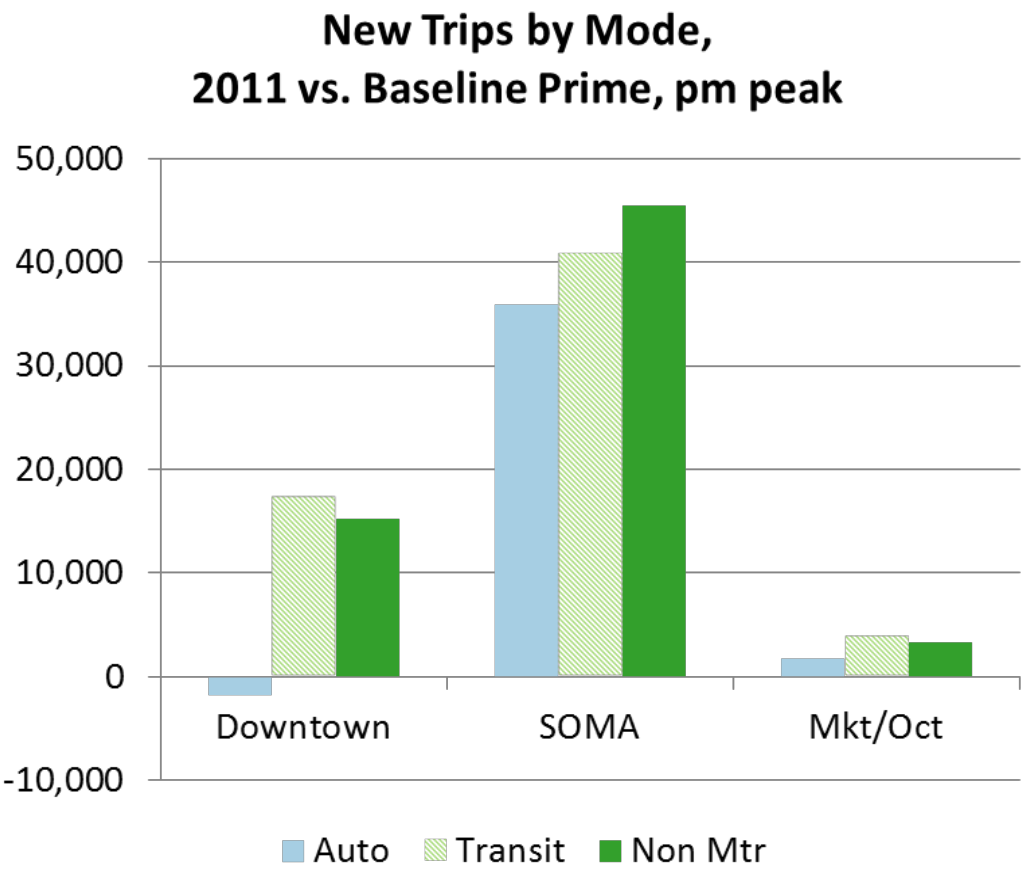
The saturation point of the network was determined by reducing baseline prime forecasts until gridlock ceased. Characteristics of the saturated network are long delays, high v/c ratios, poor progression, and queues that often extend to adjacent intersections.

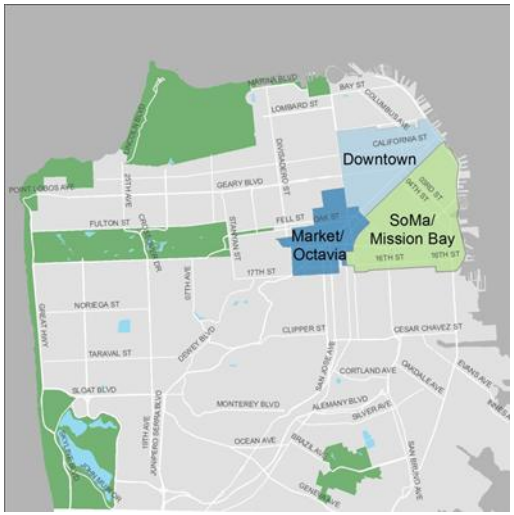
Source: SF-CHAMP 4.3 volumes for "Baseline Prime", SimTraffic Fehr + Peers, 2012

...yet challenges remain

More multi-modal conflicts at intersections

2011 vs. 2035 baseline with developments, pm peak

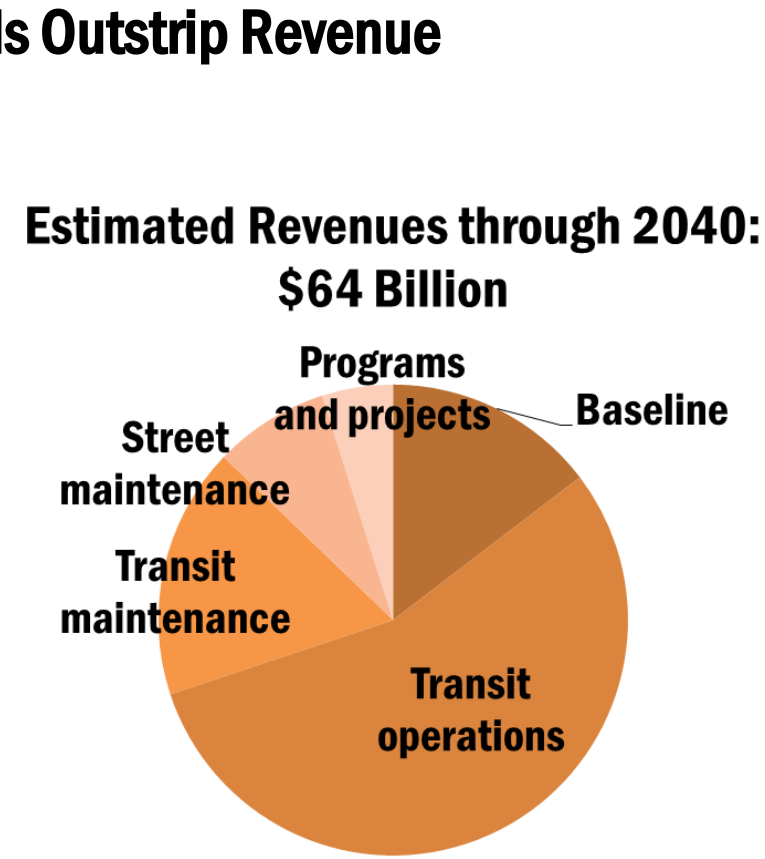


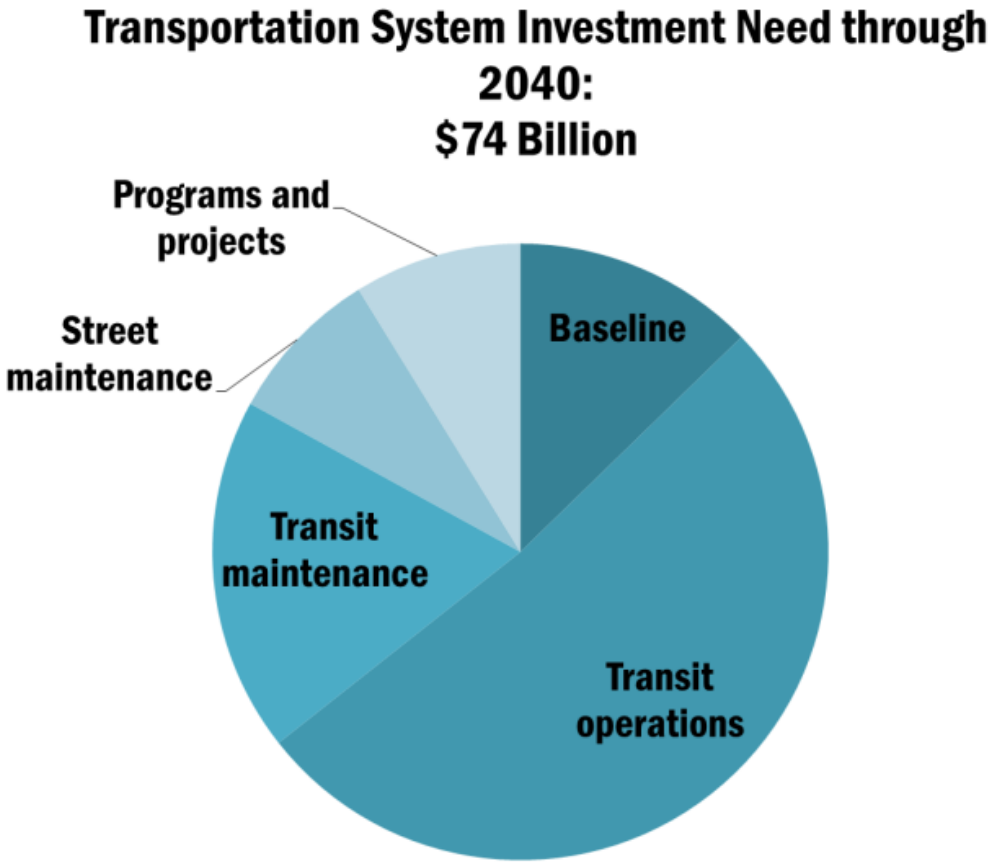


Source: SF-CHAMP 4.3

...yet challenges remain.

Needs Outstrip Revenue



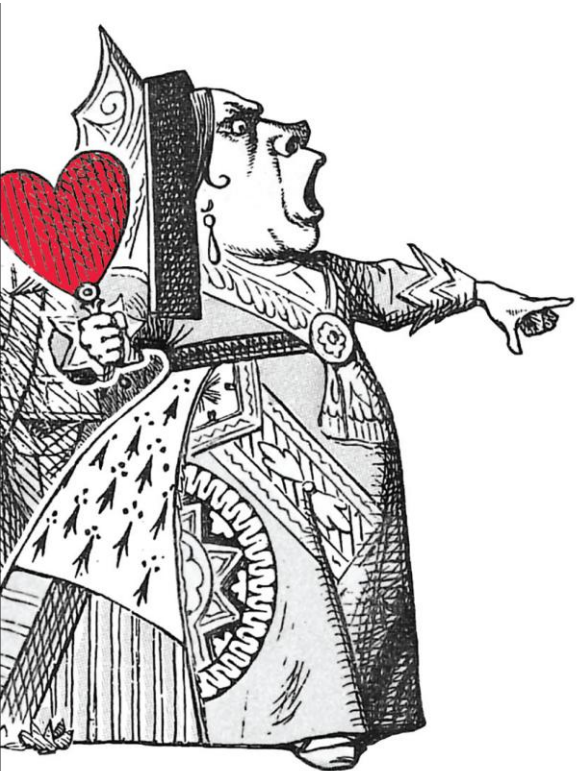


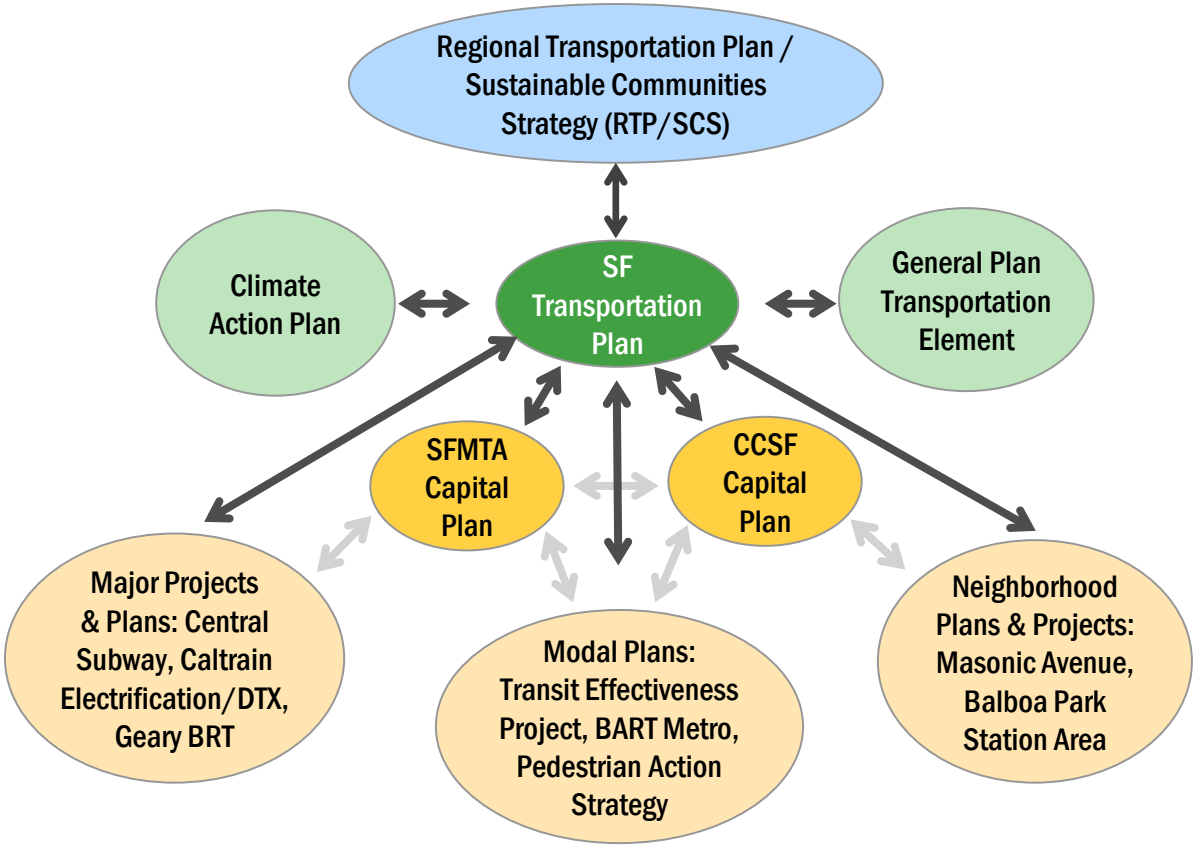
San Francisco looks forward to partnering with the region in implementation phase

- Corridor Studies
  - What does the Freeway Performance Initiative look like in SF?
  - What does the Transit Performance Initiative look like in SF?

- Advocacy
  - New revenue sources to grow the pie (e.g. cap-and-trade, tax increment financing successor to redevelopment

Enter the San Francisco Transportation Plan …





Thank You. Questions?

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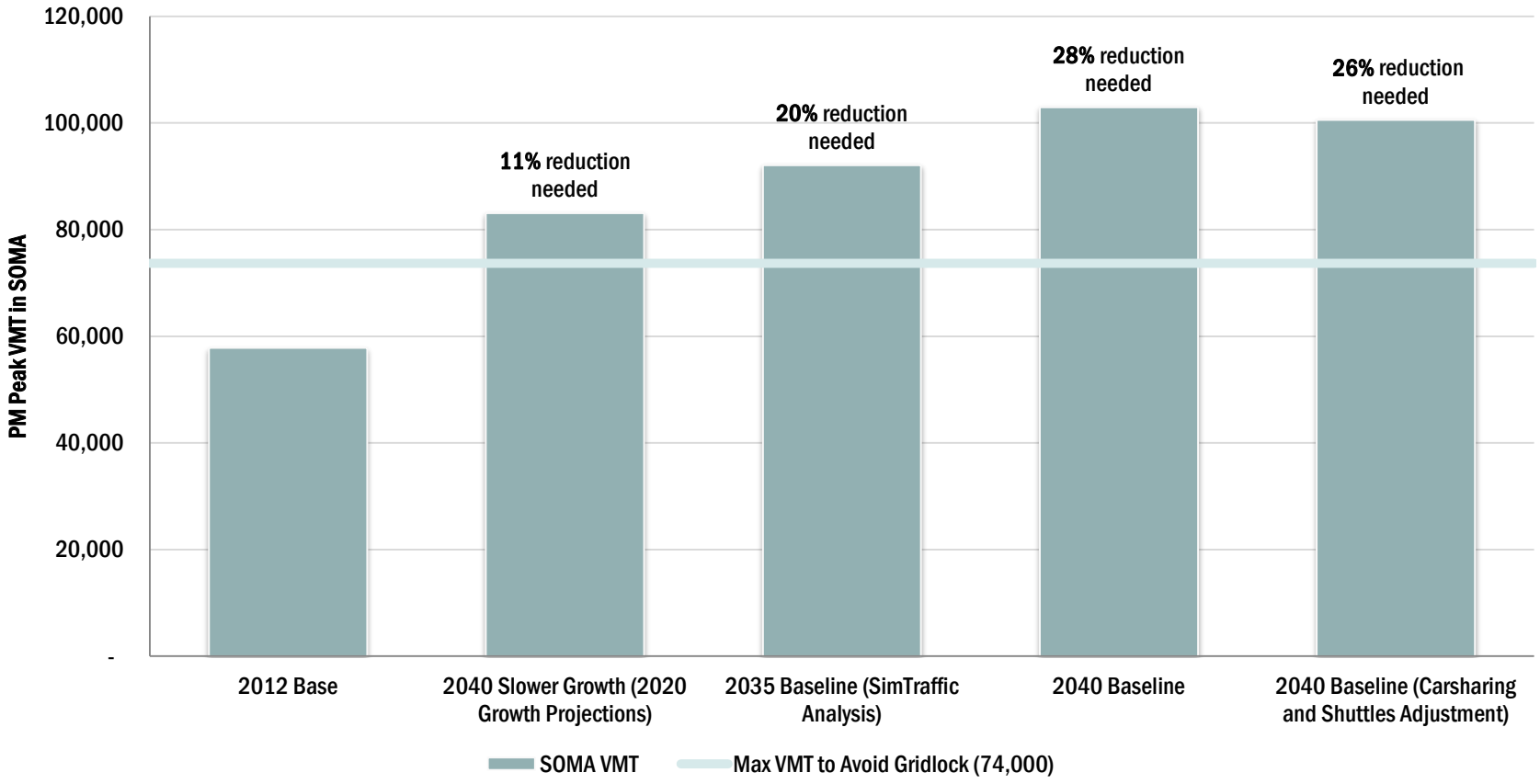
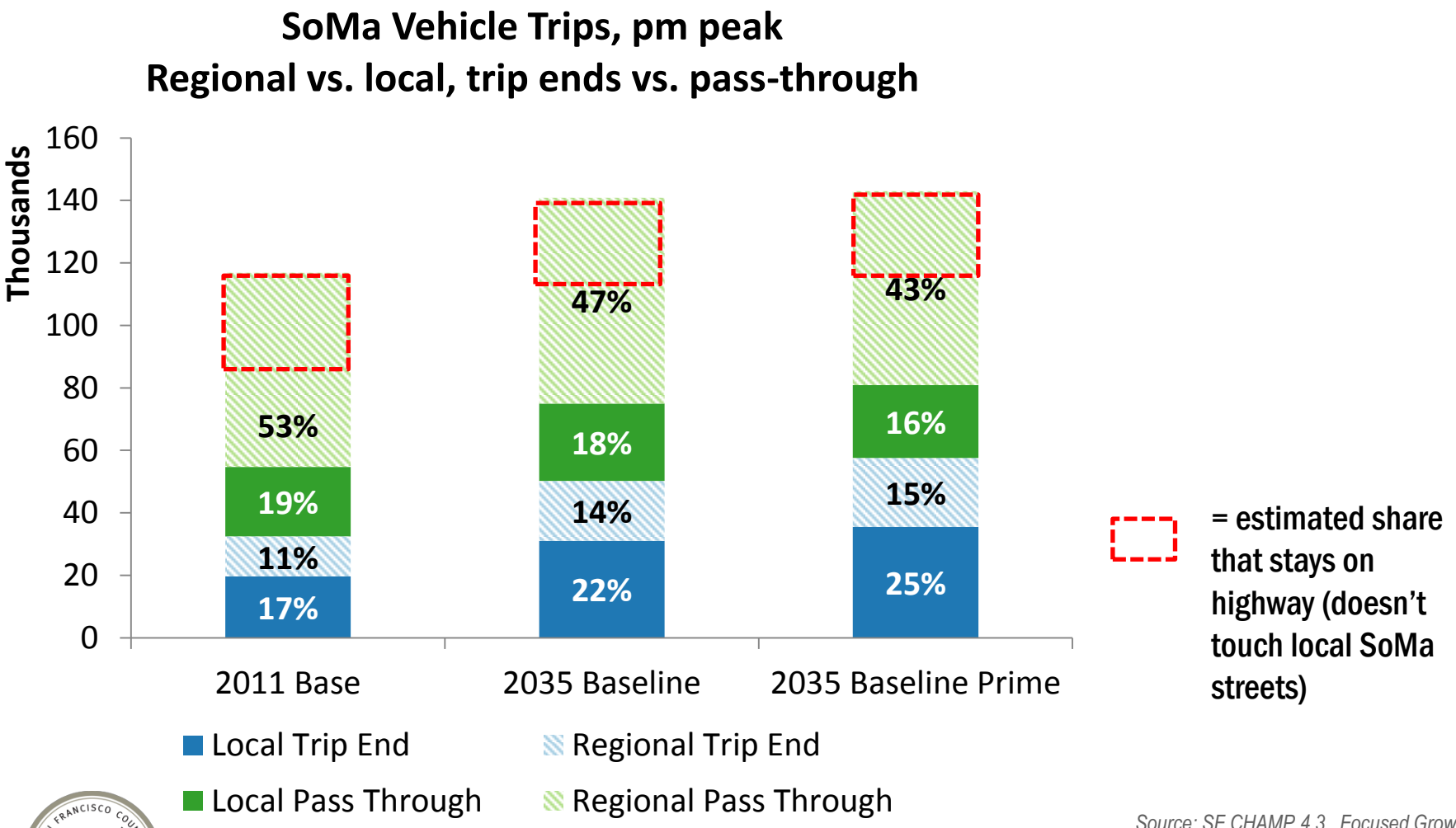
Projected SOMA PM Peak VMT



Recap on trip analysis findings

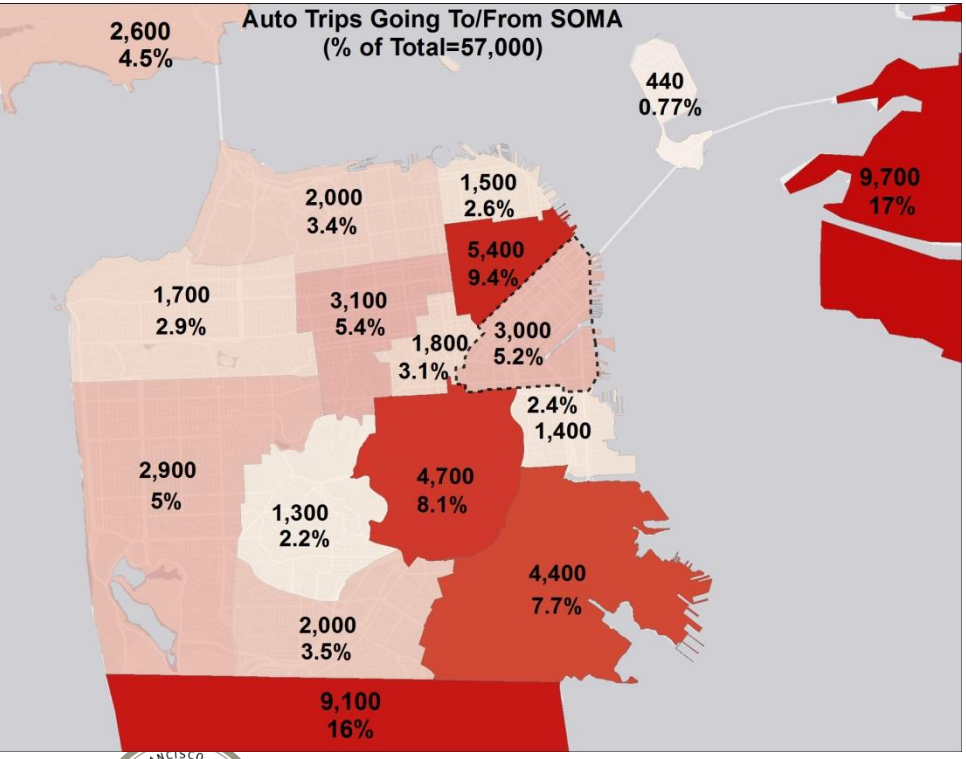


Source: SF CHAMP 4.3, Focused Growth

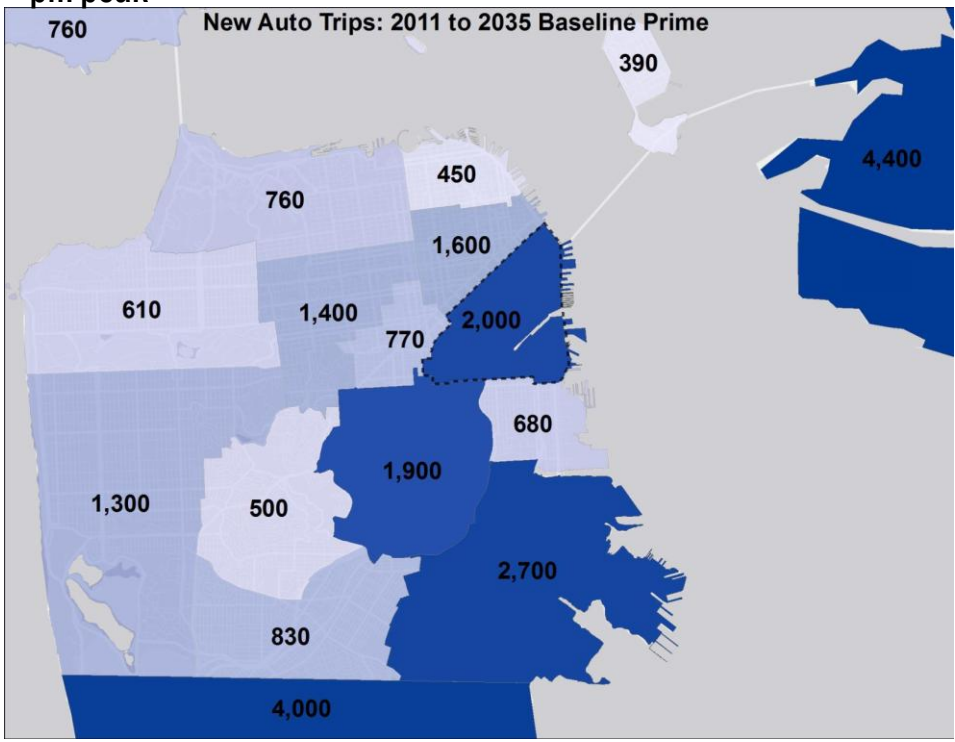
Where are SoMa auto trip ends coming from/going to? (East Bay, South Bay, Downtown, Mission, Bayview)

- For auto trips, largest markets and largest growth markets are the same
- Exception is growth in internal SOMA auto trips (an opportunity!)

Distribution of SoMa auto trips, baseline prime, pm peak



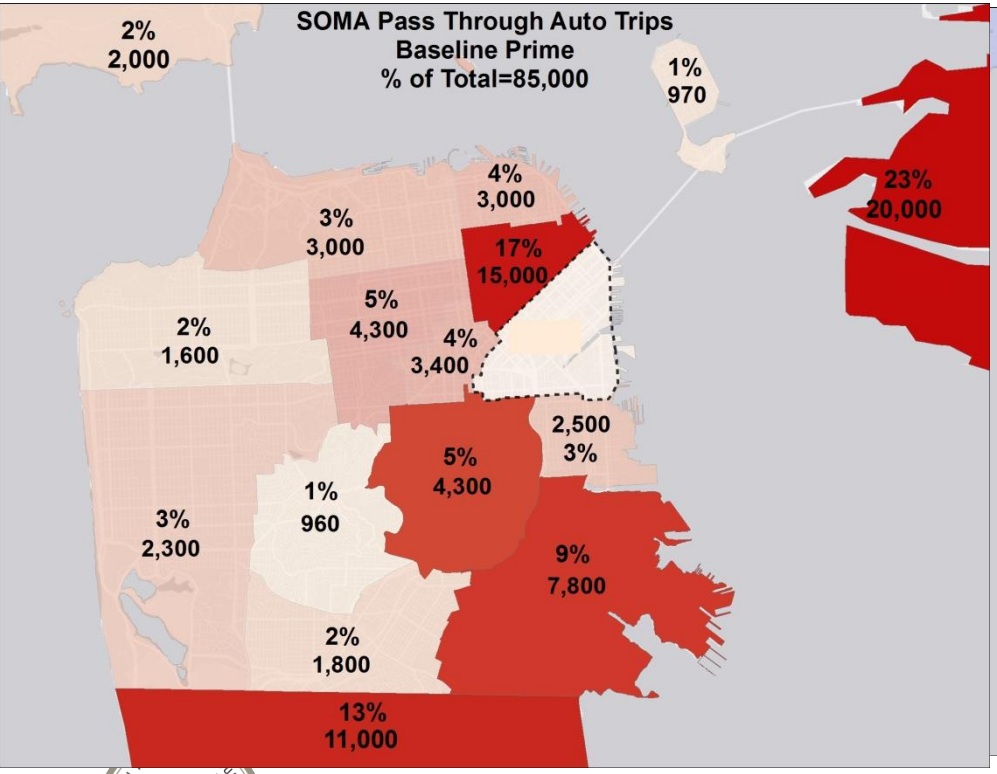
Distribution of increase in SoMa auto: 2011 vs. baseline prime, pm peak



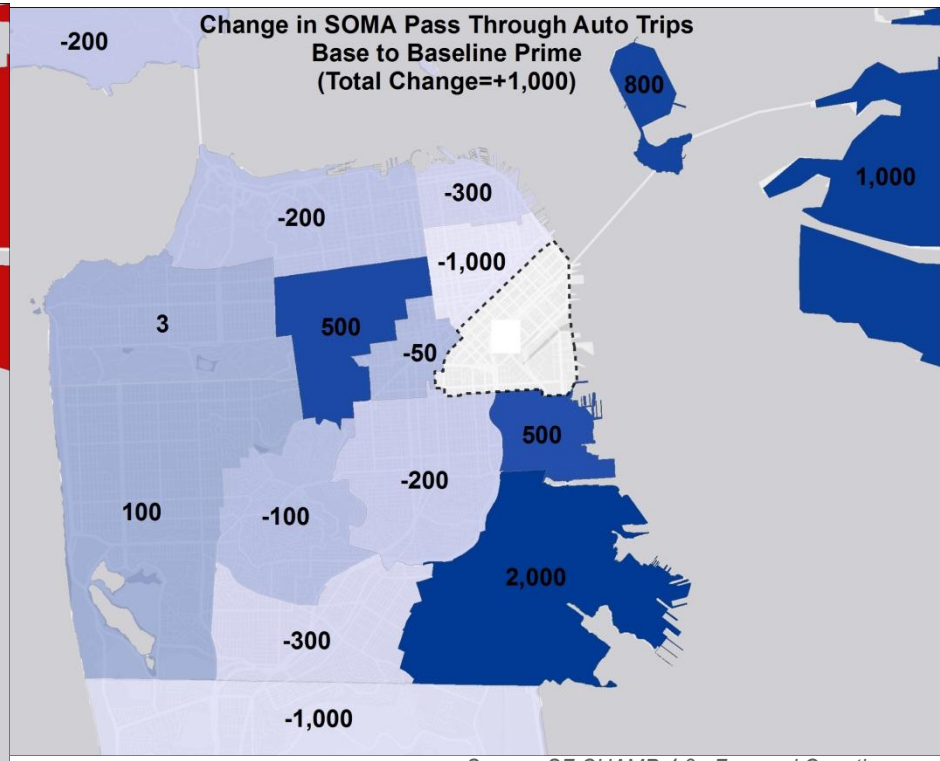
Source: SF CHAMP 4.3, Focused Growth

Where are SoMa pass-through trips headed to/from?

Distribution of SoMa auto pass-through auto trips, baseline prime, pm peak



Distribution of increase in SoMa pass-through auto trips: 2011 vs. baseline prime, pm peak

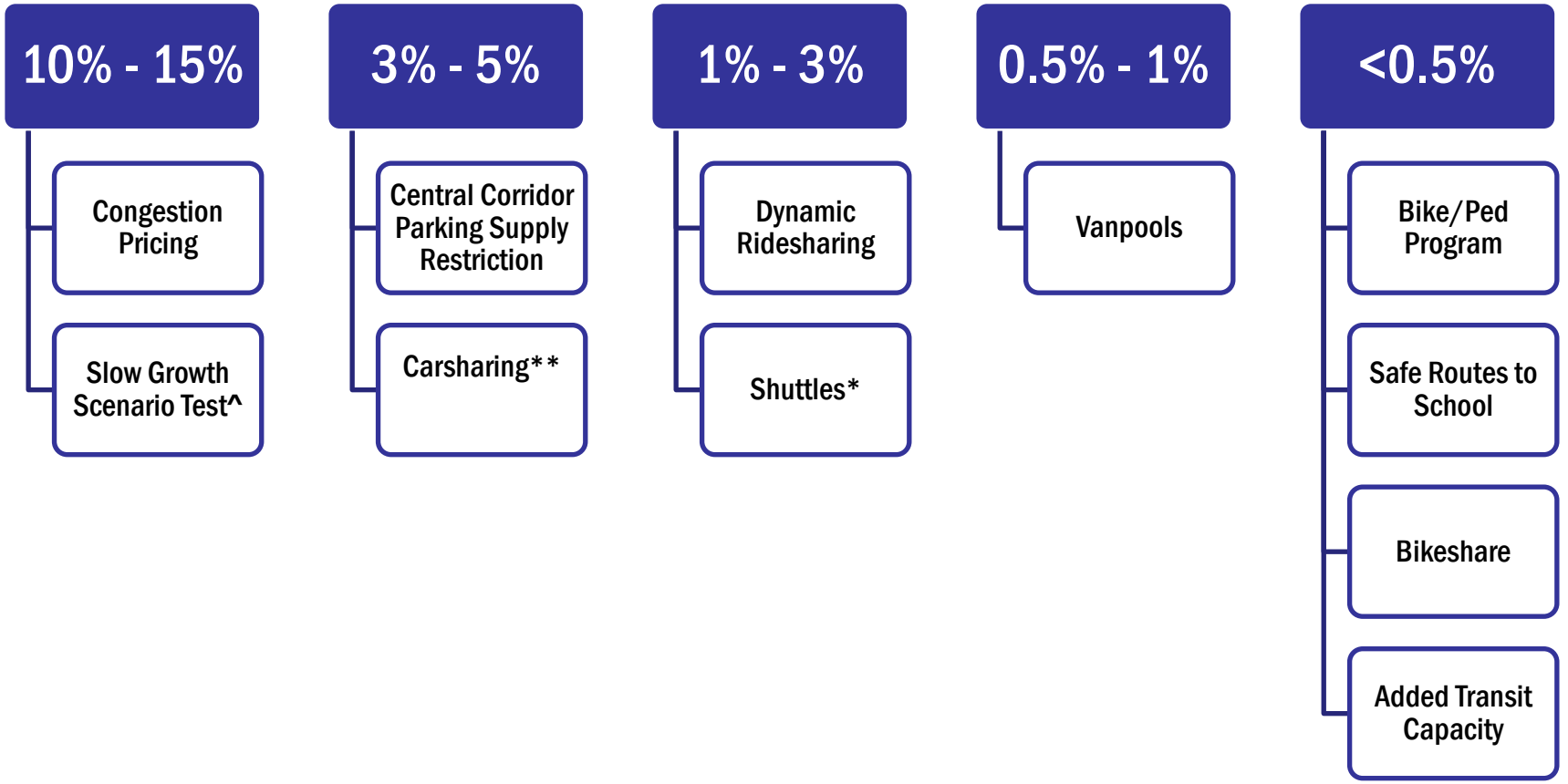


Source: SF CHAMP 4.3, Focused Growth

Three Key Problems Revealed

1. Planned Future “breaks” the core network
2. Even with functioning network, transit performance issues are present
3. The increase in overall trip-making and vehicle trips exacerbates existing multi-modal conflicts

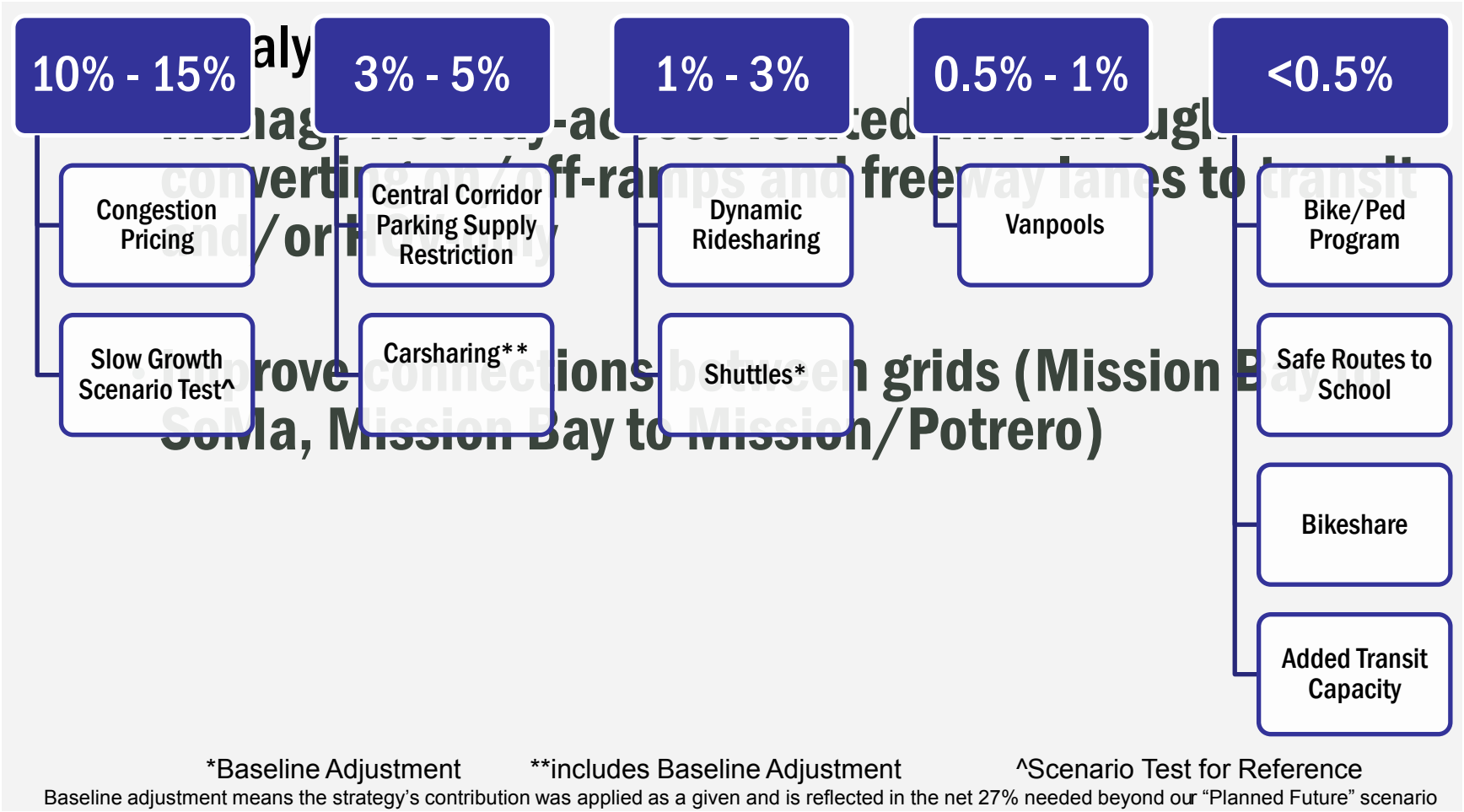
Potential effectiveness of a range of strategies



*Baseline Adjustment **includes Baseline Adjustment ^Scenario Test for Reference

Baseline adjustment means the strategy's contribution was applied as a given and is reflected in the net 27% needed beyond our "Planned Future" scenario
Each strategy listed in bar would individually contribute the range shown (e.g. Congestion pricing on its own would contribute 10-15% reduction, as would a scenario with slower growth)

Recommendation for Problem 1: We need to do all of these (and more)



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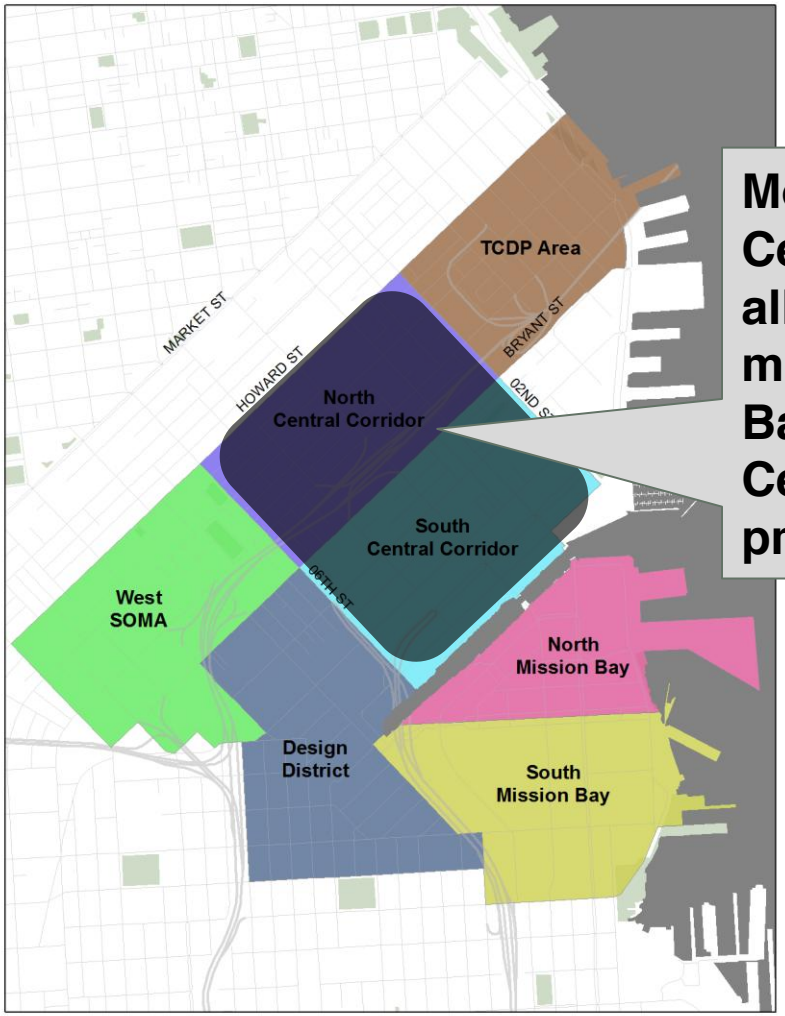
Potential market to target: auto trips under 2 miles

If ALL auto trips under two miles to/from SoMa/Mission Bay were shifted to other modes, 7% out of the 27% would be achieved*

*assumes no new auto vehicle trips are induced as a result of capacity created



Most opportunity in Central Corridor, ~1/2 of all auto trips under two miles in SoMa/Mission Bay start or end in Central Corridor (3 hour pm peak)

Source: SF-CHAMP 4.3, 3 hour pm peak

Problem 1 Finding: A 27% Reduction Might Not Be Achievable

- Many strategies induce new trips of all modes rather than reduce auto traffic

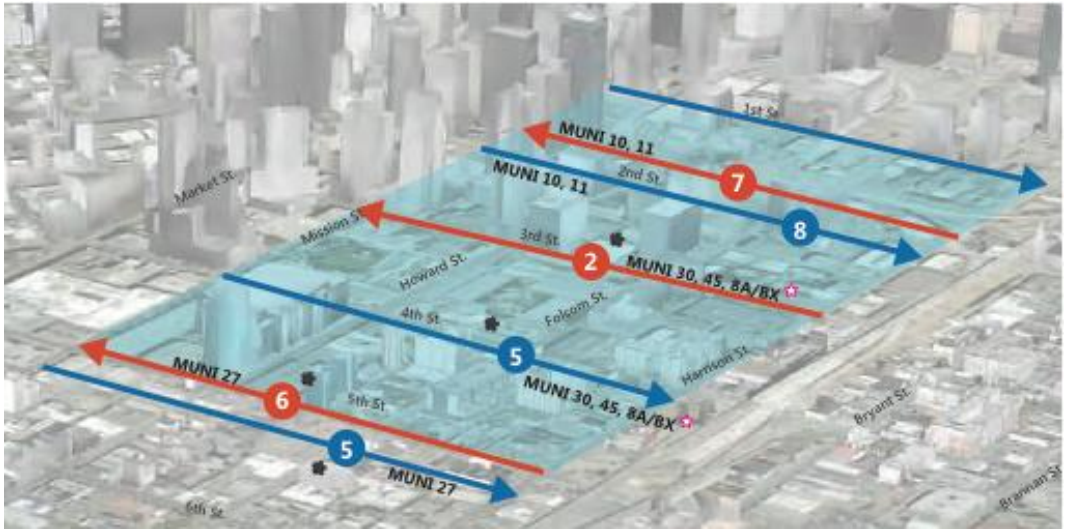
Recommendations for Problem 1

- Package of demand management and mobility improvements are essential but cannot get us all of the way
- Focus should be on making transit/cycling/walking trips work in congested conditions
  - More sophisticated signaling, "Don't block the box" intersection enforcement, automated camera enforcement
  - Self-enforcing transit-only lanes, cycletracks, wider sidewalks
  - Transit/bike/walk-only streets
  - Grade-separated transit (e.g. subways)

Increasing Challenge/Cost

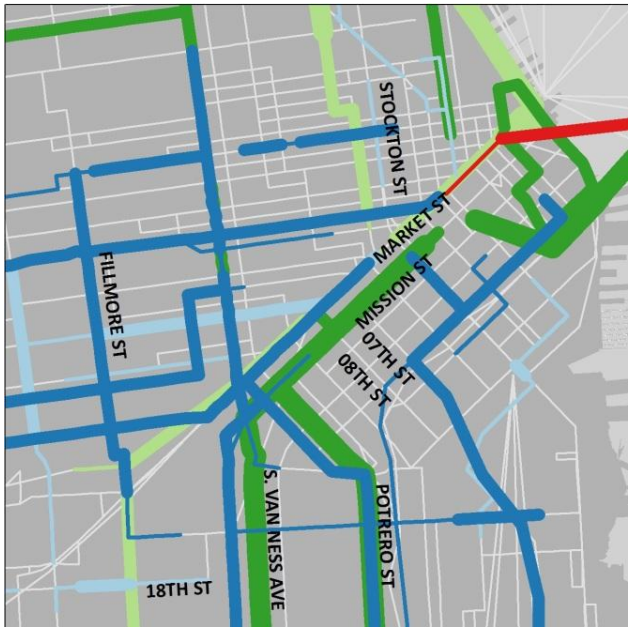
Problem 2: Even with a functioning network, transit performance issues are present

Slow bus speeds (1-hour pm peak)



Source: SF-CHAMP 4.3 volumes for 2035 Baseline with Development, (source: SimTraffic Fehr + Peers, 2012)

Crowding (3-hour pm peak, 2035 baseline with development)



Near Crowding: Muni: 0.75-0.85 load; Regional=0.85 load
Crowded: Muni: 0.85-1.5 load; Regional=1-1.5 load; **Overcrowded:** Muni/Regional: >1.5 Load

Near Crowding
Crowded
Over-Crowded

Muni Local
Muni Rapid
Muni Rail
Regional Bus
BART

Source: SF-CHAMP 4.3

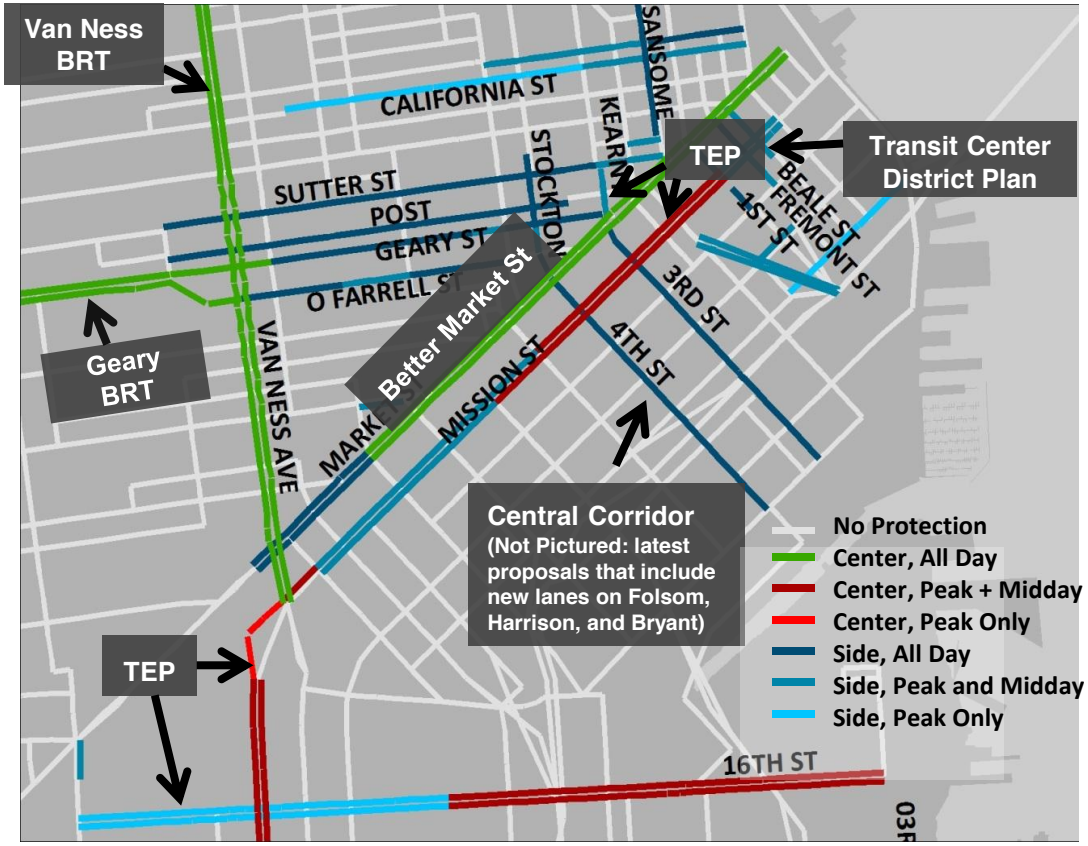
Recommendations for Problem 2

1. **Significantly more transit-only lanes:**
   - Additional SoMa N-S pair
   - E-W pair south of freeways
   - Upgraded connection from south (e.g. Bayshore-Potrero)

2. Higher capacity and more frequent service is needed to address crowding

3. Protection for transit on freeways and freeway ramps are needed (HOV lanes)

Existing and planned transit-only lanes

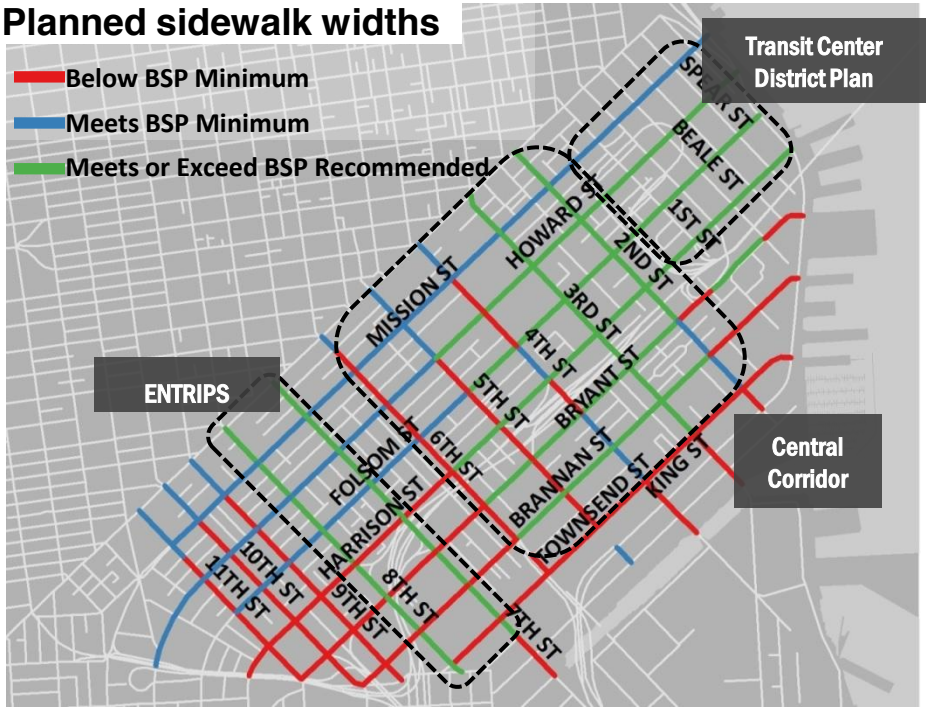


Recommendations for Problem 3

1. Widen sidewalks to BSP standards, upgrade Class II and III bikeways to higher treatment and fill connectivity gaps.

Existing and planned bike facilities

Planned sidewalk widths



2. "Program-level" improvements (e.g. bike parking, mid-block pedestrian crossings, education as per SFMTA Bike, Pedestrian strategies)

Next Steps Recommendations

- Support work already underway, including:
  - Central Corridor transportation, Better Market Street
  - Pedestrian, Bicycle Strategy & Arterial-focused Traffic Calming
  - TEP/Fleet Plan
  - TDM Partnership Project, Citywide Parking Pricing and Regulation Study
  - Caltrain Electrification/Downtown Extension, HSR
- Need for new studies/additional work
  - Freeway/Ramp Planning study
  - Transit Performance Initiative conceptual planning
  - Grid repair/connections conceptual planning
  - Advance congestion pricing (EIR)
  - Long-range Transit Network /Capacity Study (Muni, BART)

Policy Linkages to the SFTP

- **Strategic Policy Initiatives**
  - Local to Regional Connections
  - Transportation Demand Management
  - Project Delivery
  - Revenue strategy
- **SFTP Investment Scenarios: Financially Constrained and Vision**
  - SoMA Core Circulation Program
  - Long-range rail and rapid network development
  - FPI, TPI, TDM/parking and pricing, bike/ped/traffic calming
  - Priority Development Area: Transportation Investment & Growth Strategy

Study Goals and Purpose

- Core Network Circulation Study is a focused Study to analyze cumulative impact of growth and changes to transportation network
- Identify transportation performance problems and proposed recommendations:
  - Support for work already underway
  - Call for additional studies/planning
- Incorporate into SFTP
  - Investment strategy (Financially constrained and Vision)
  - Policy recommendations