San Francisco Transportation Plan Update

PART 2.4: Needs Assessment (continued)

Spring 2013

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January 19, 2011

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

Core Network Circulation Study

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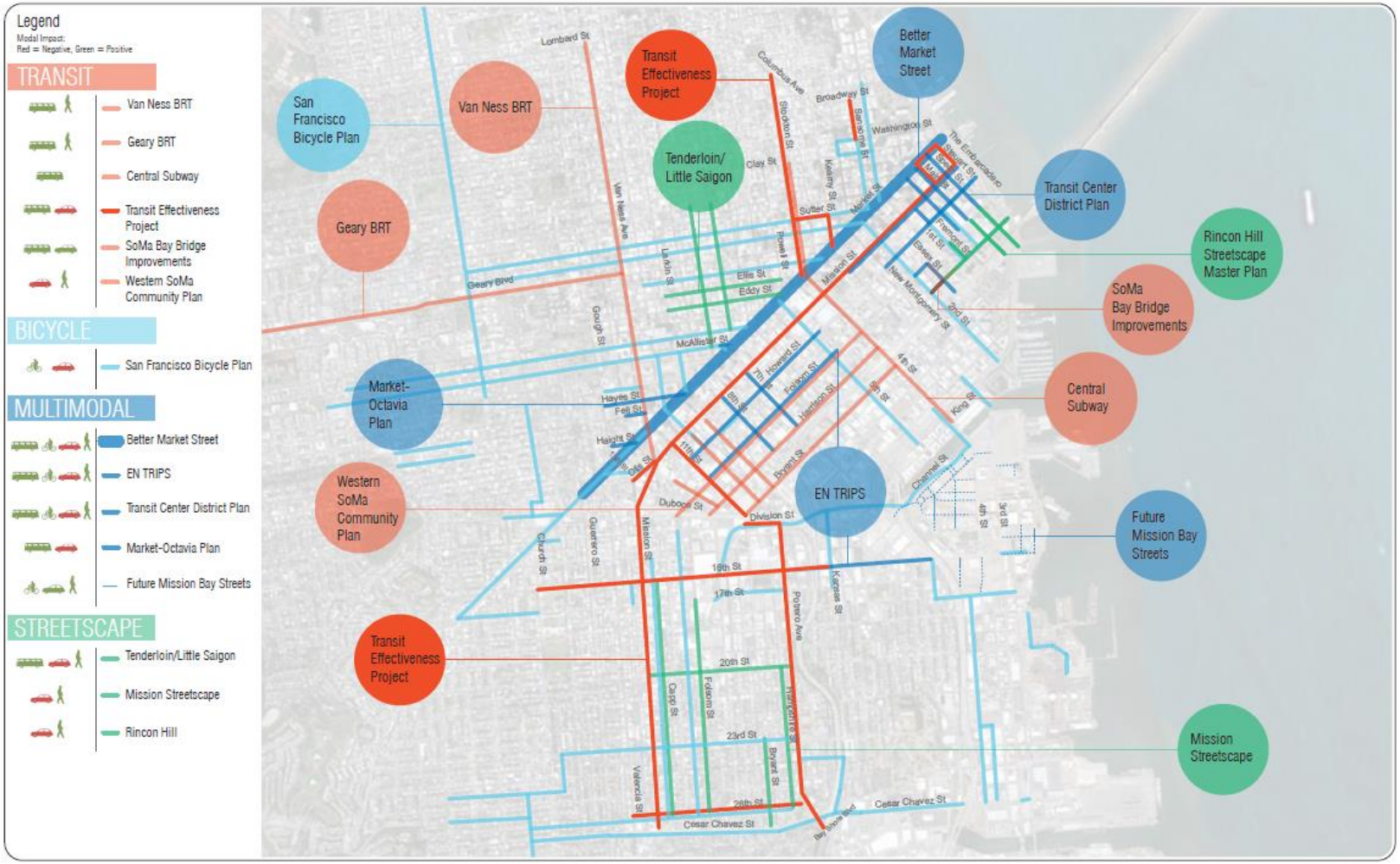
Core Network Circulation Study Goals and Purpose

- 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

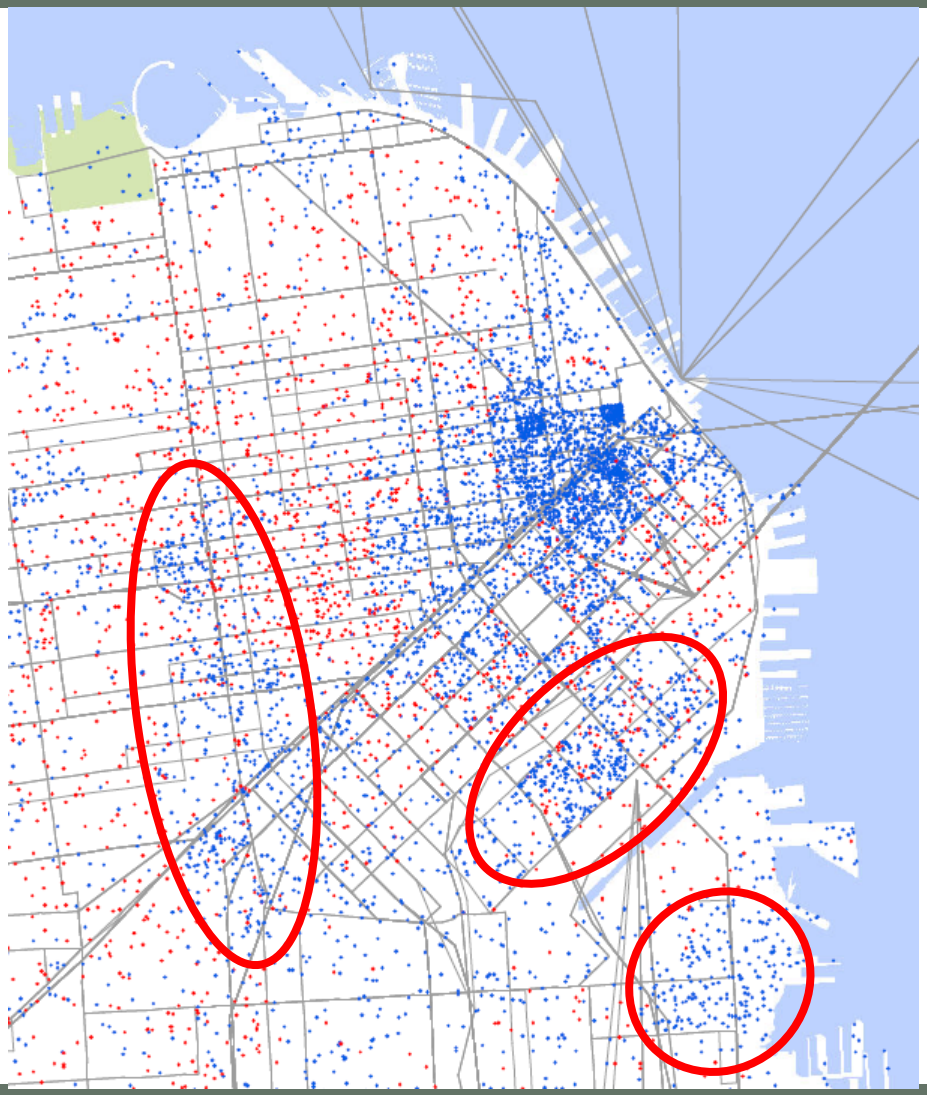
Map of Projects Affecting the Core



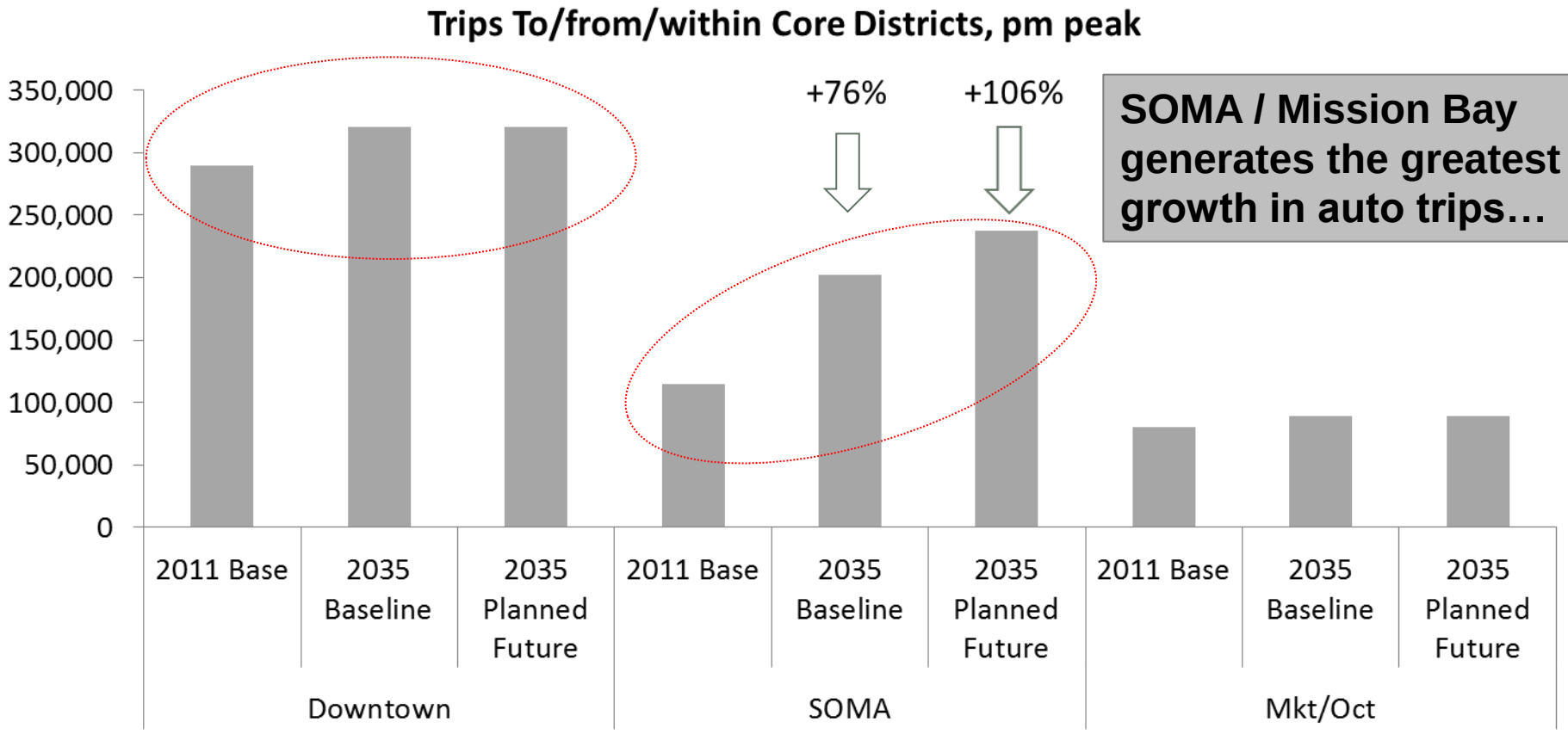
Growth in Population and Jobs

Need to serve emerging job centers as well as downtown

- Central Corridor south of I-80
- Mission Bay
- Van Ness corridor



Increase in core trips ends are predominantly from new trips to/from/within SoMa/Mission Bay

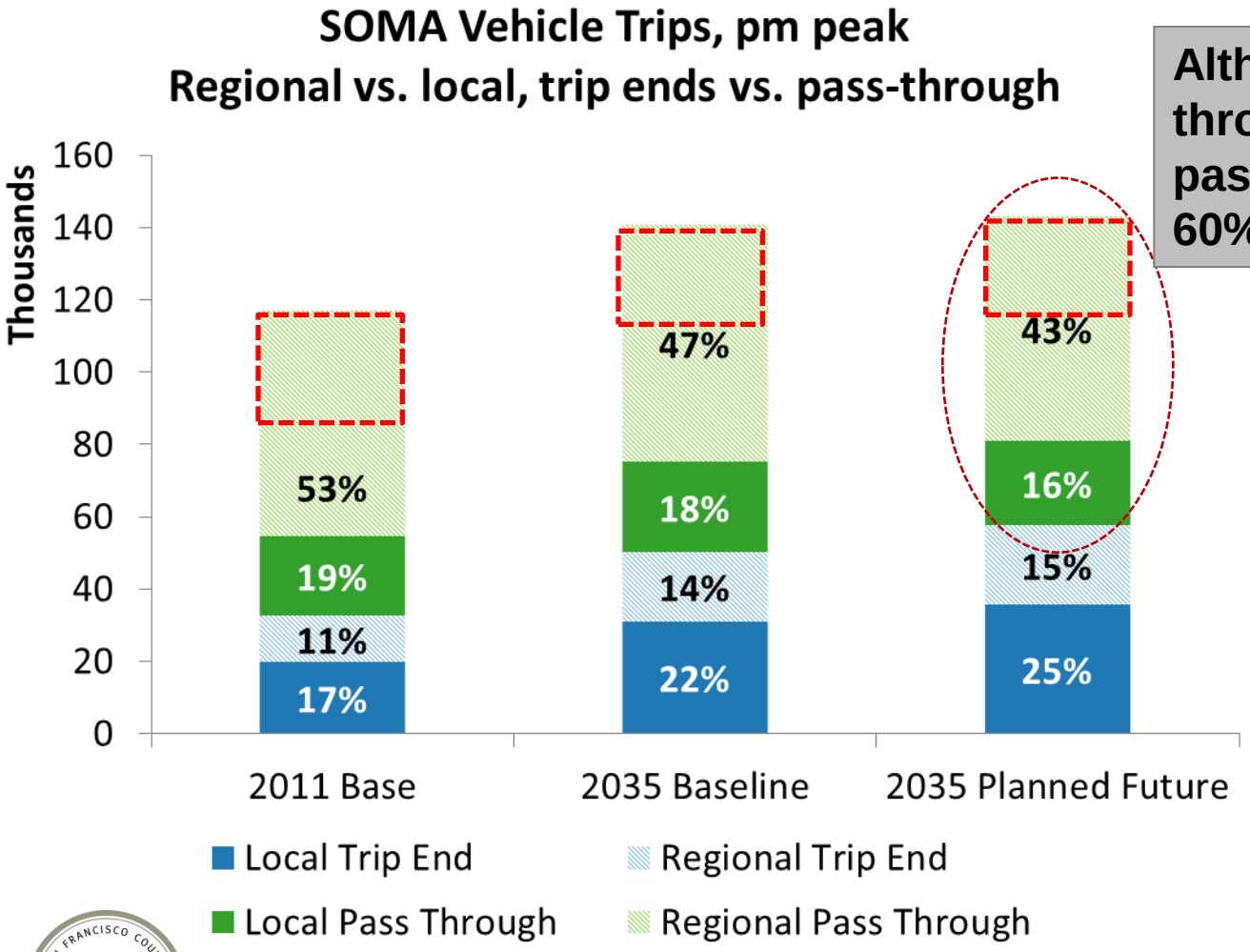


SOMA / Mission Bay generates the greatest growth in auto trips…

But Downtown still generates the most auto trips in absolute terms.

Source: SF CHAMP 4.3, Focused Growth

Pass-through trips are a more significant share of overall SoMa travel, but their share is forecast to decrease



Although share of pass-through trips declines, pass-throughs are still 60% of the total.

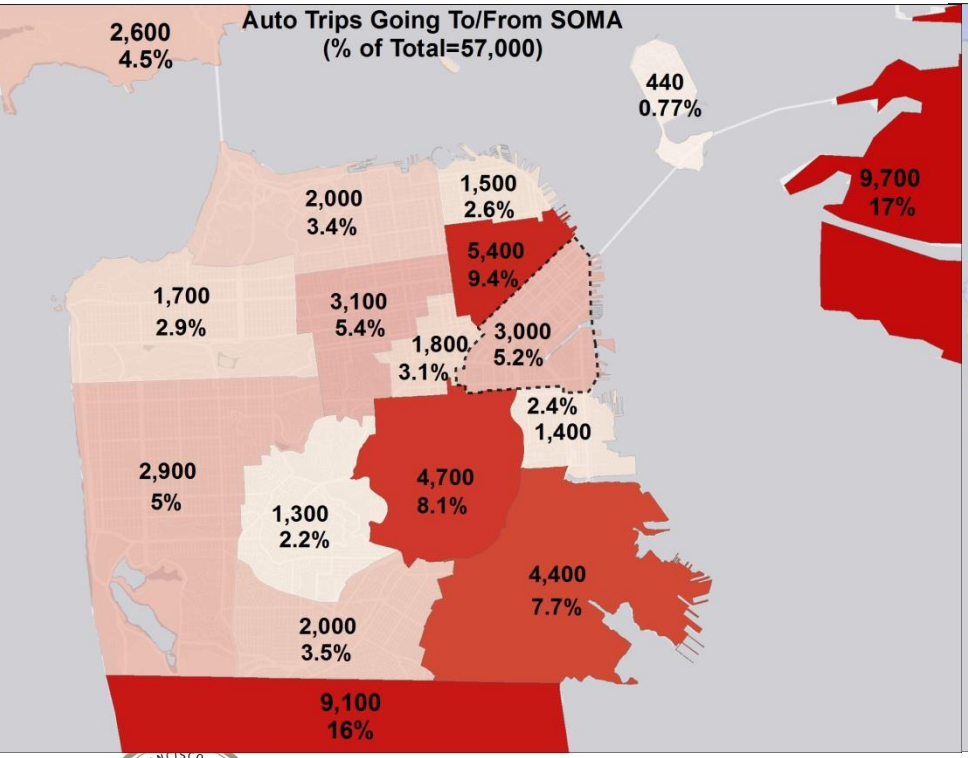
= estimated share that stays on highway (doesn't touch local SoMa streets)

Source: SF CHAMP 4.3, Focused Growth

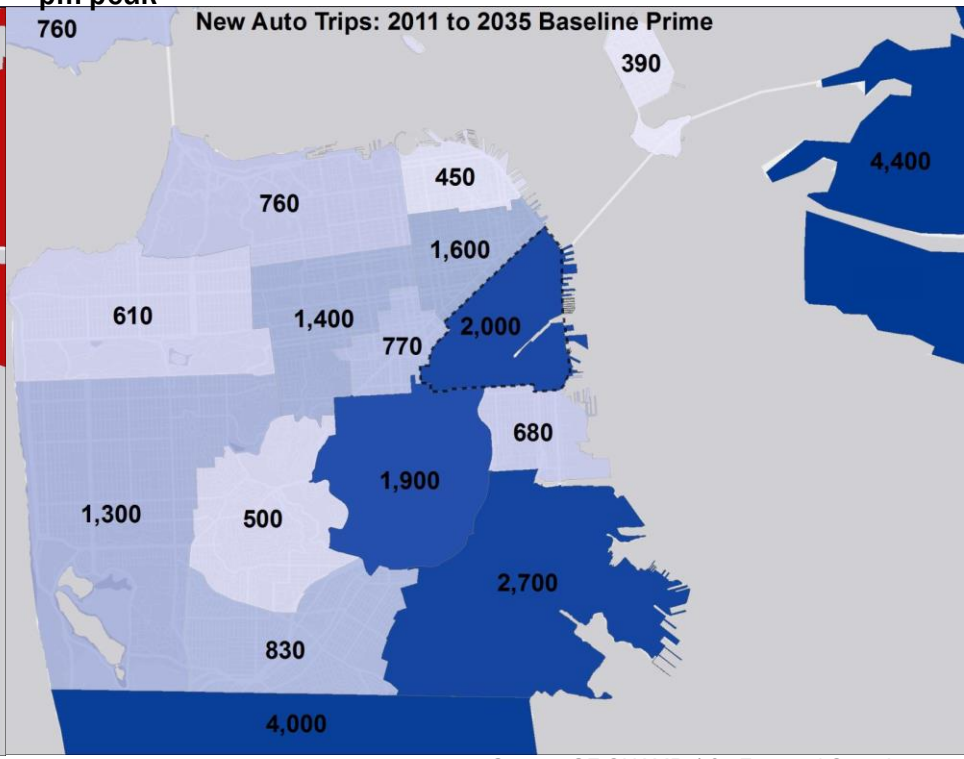
Where are SoMa auto trip ends coming from/going to? (East Bay, South Bay, Downtown, Mission, Bayview)

- 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



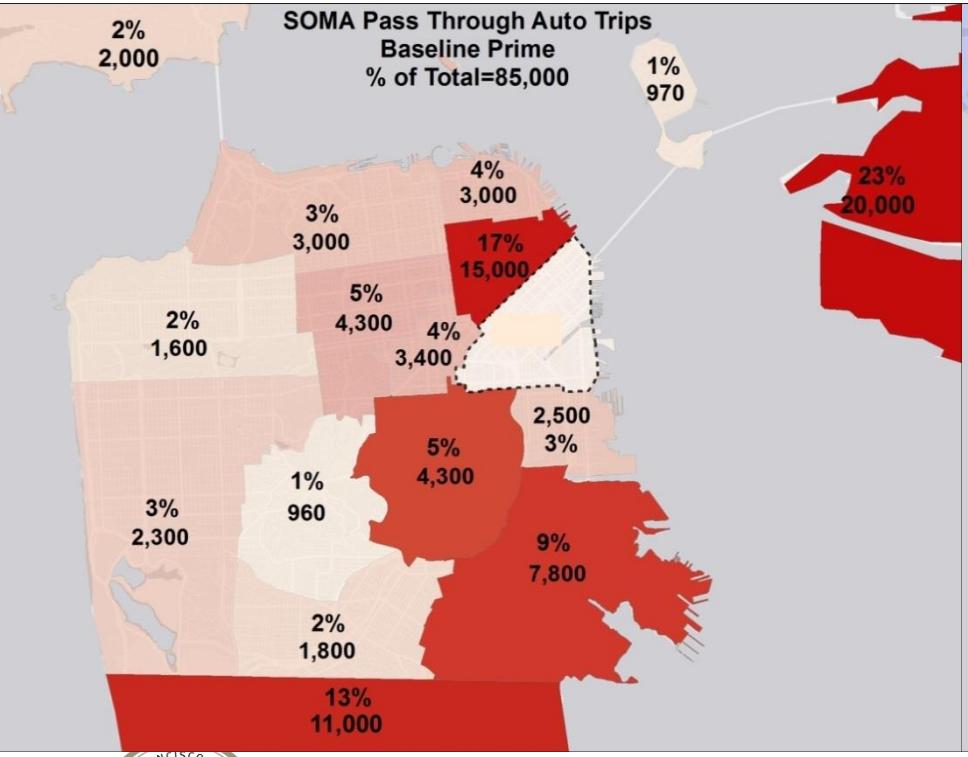
Distribution of increase in SoMa auto: 2011 vs. baseline prime, pm peak



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



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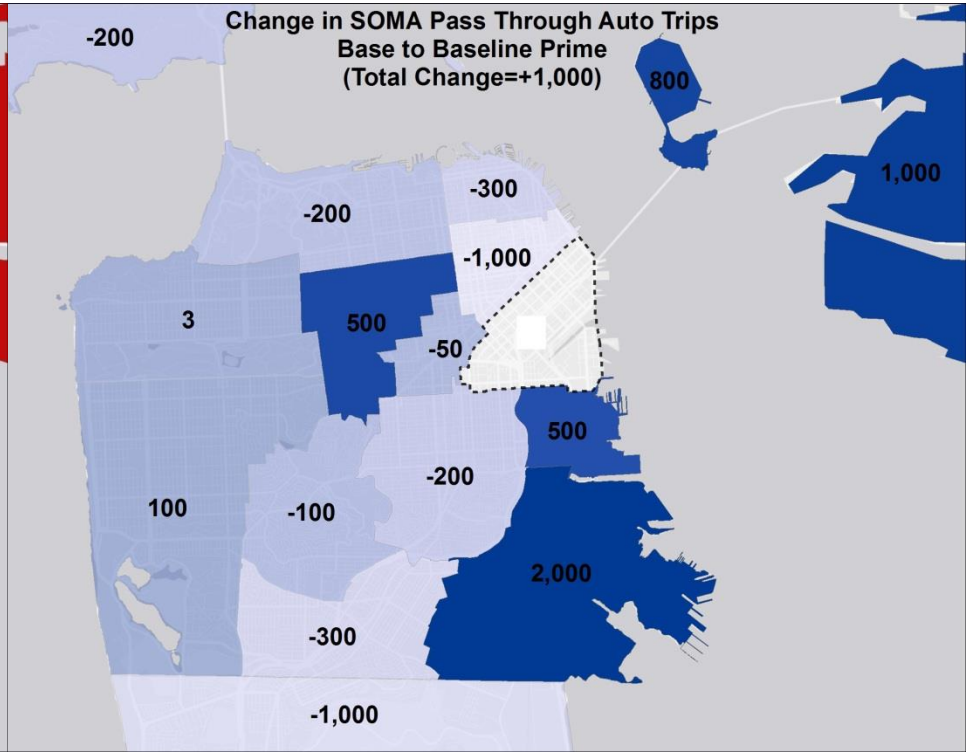


Source: SF CHAMP 4.3, Focused Growth

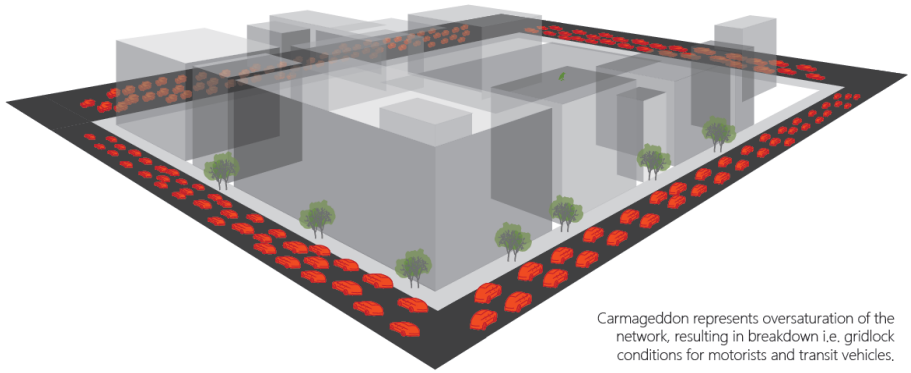
Three Key Problems Revealed

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

Problem 1: Planned Future "breaks" the core network

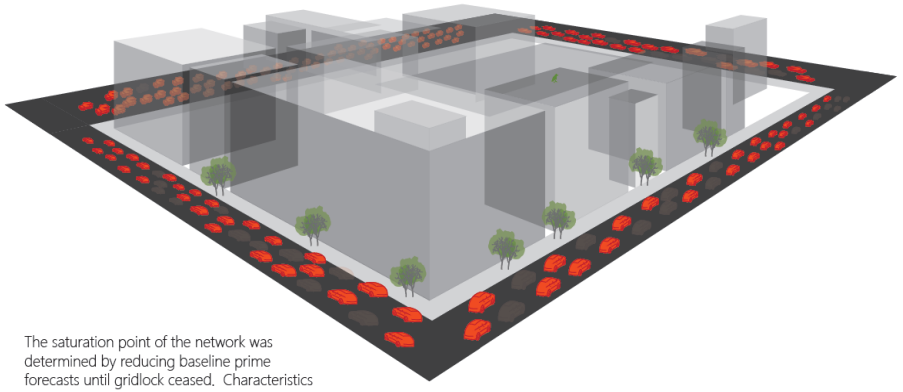
27% reduction in PM peak SoMa private vehicle traffic needed to maintain a "saturated" network

Gridlock



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

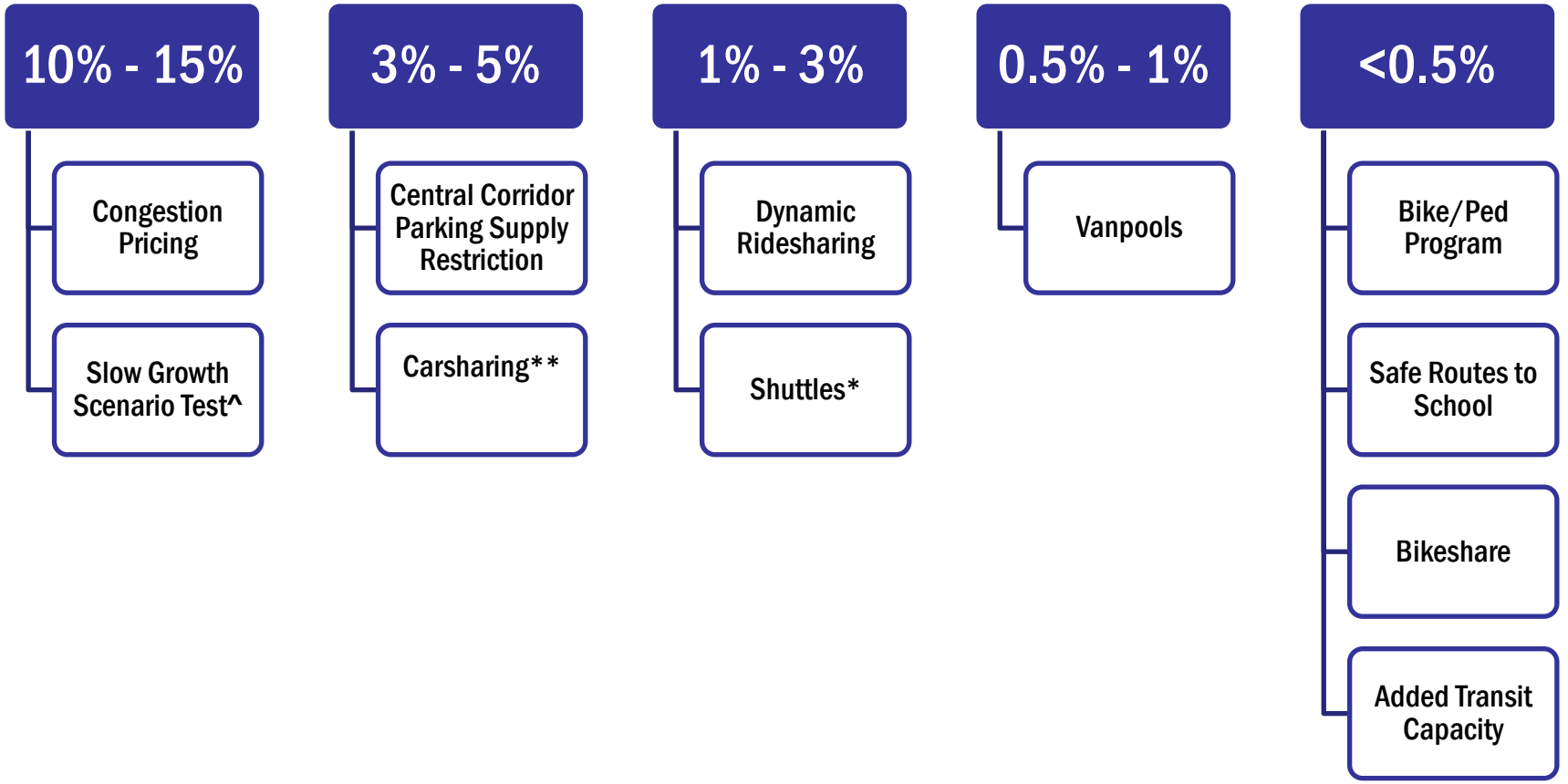
Saturated



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

Potential effectiveness of a range of strategies



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

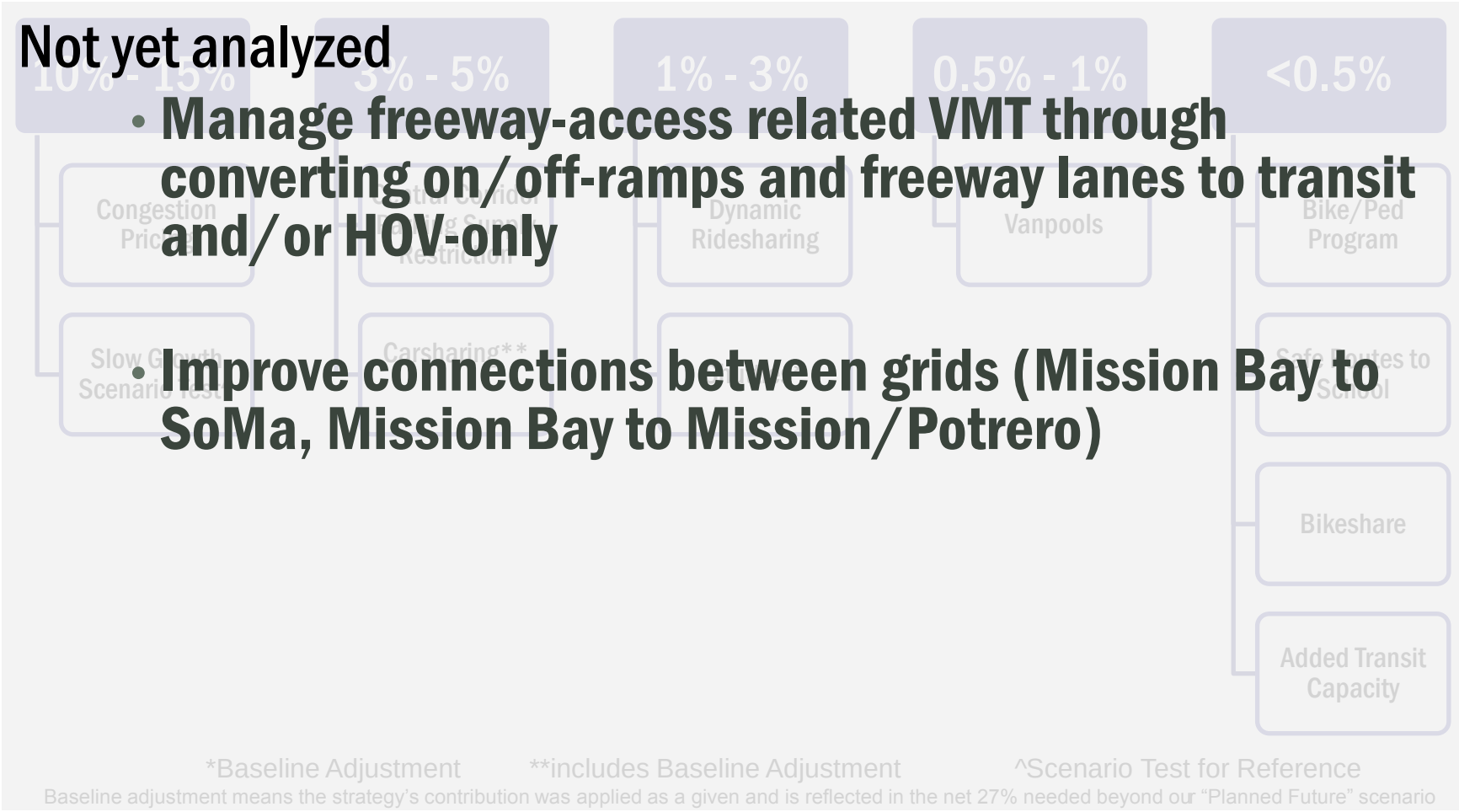
Baseline adjustment means the strategy's contribution was applied as a given and is reflected in the net 27% needed beyond our "Planned Future" scenario

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)

Not yet analyzed

- **Manage freeway-access related VMT through converting on/off-ramps and freeway lanes to transit and/or HOV-only**
- **Improve connections between grids (Mission Bay to SoMa, Mission Bay to Mission/Potrero)**



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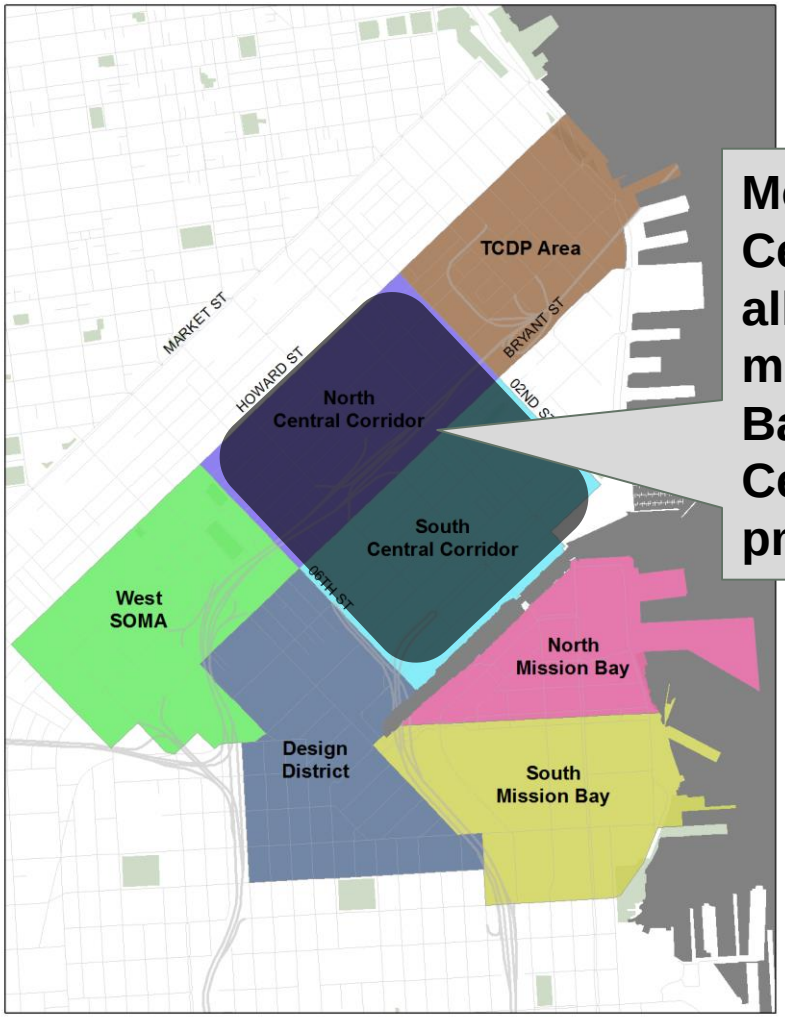
Potential market to target: auto trips under 2 miles

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

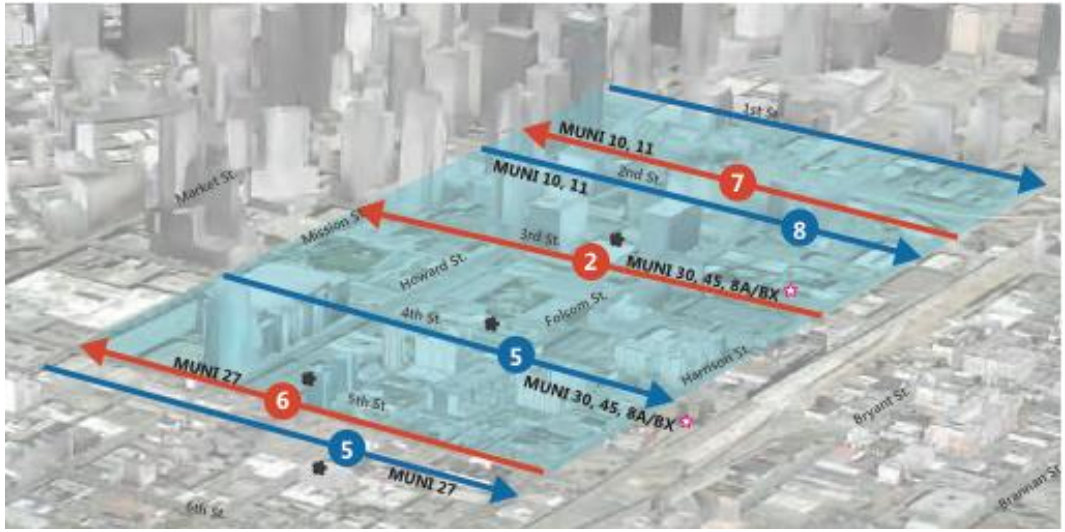
Recommendations for Problem 1

- 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

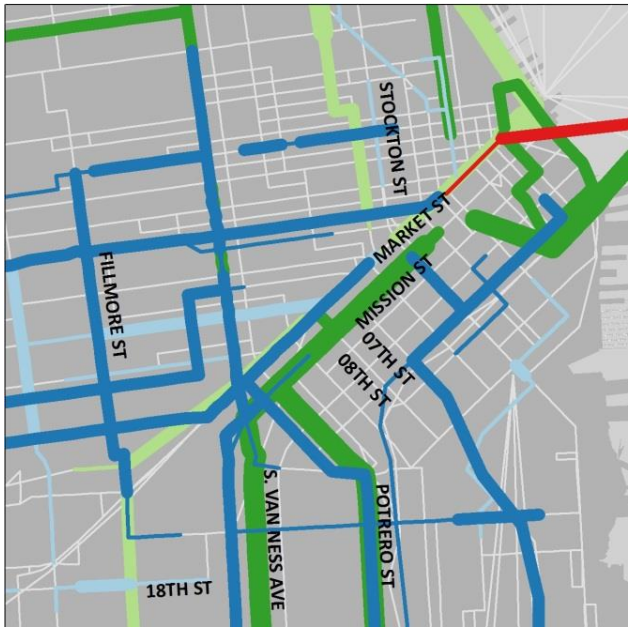
Problem 2: Even with a functioning network, transit performance issues are present

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

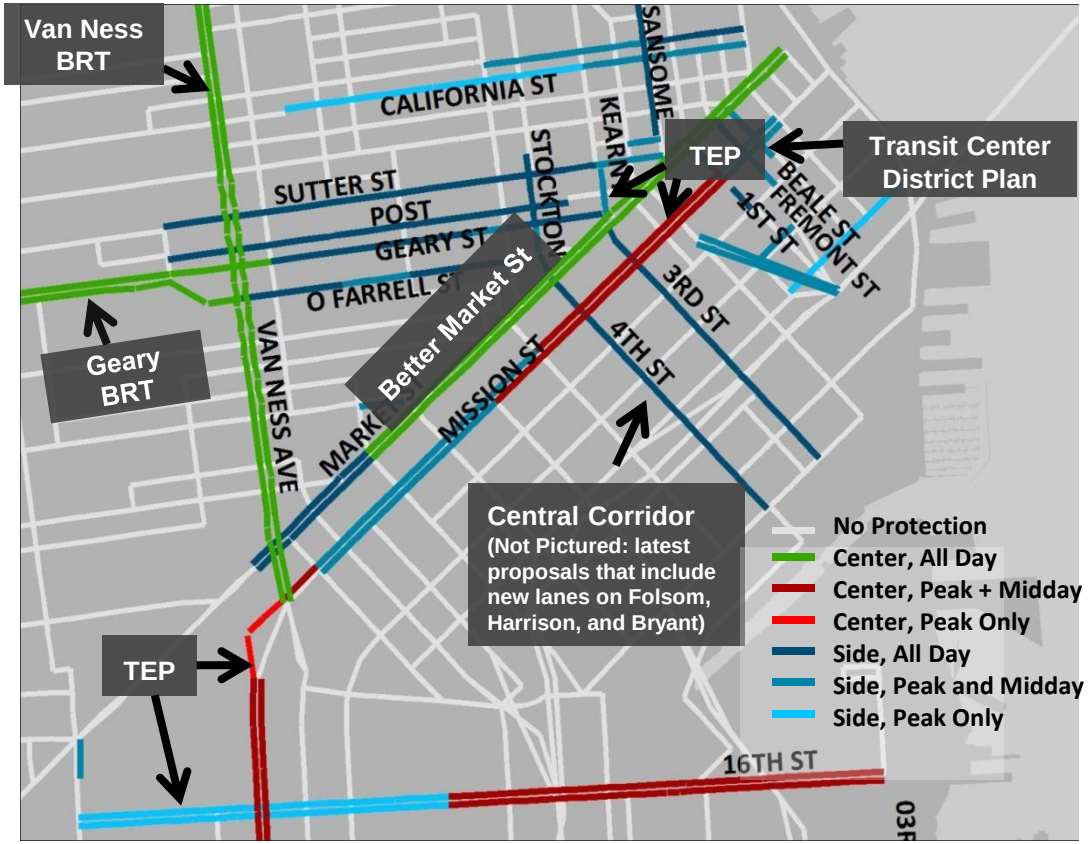
Recommendations for Problem 2

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)

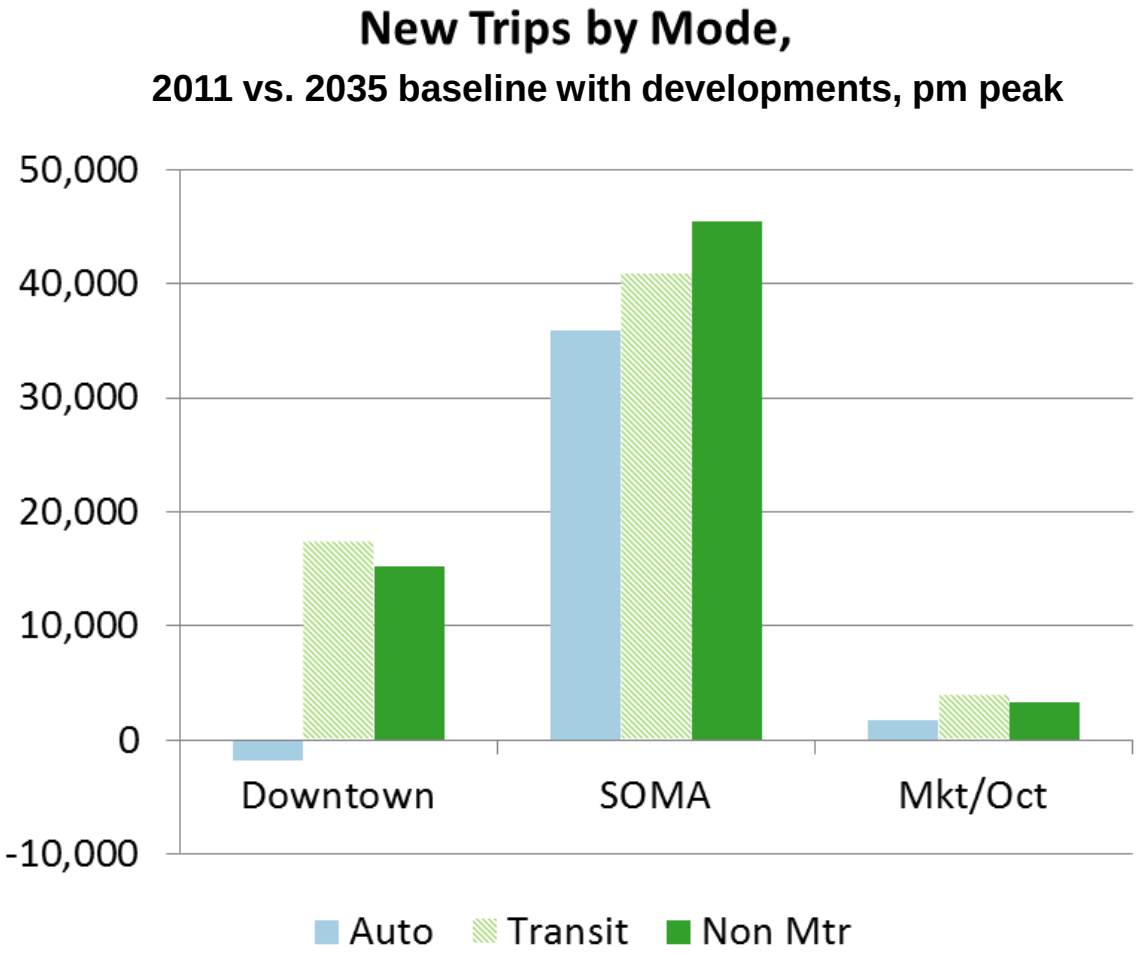
2. Higher capacity and more frequent service is needed to address crowding

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

Existing and planned transit-only lanes



Problem 3: increase in overall trip-making exacerbates existing multi-modal conflicts



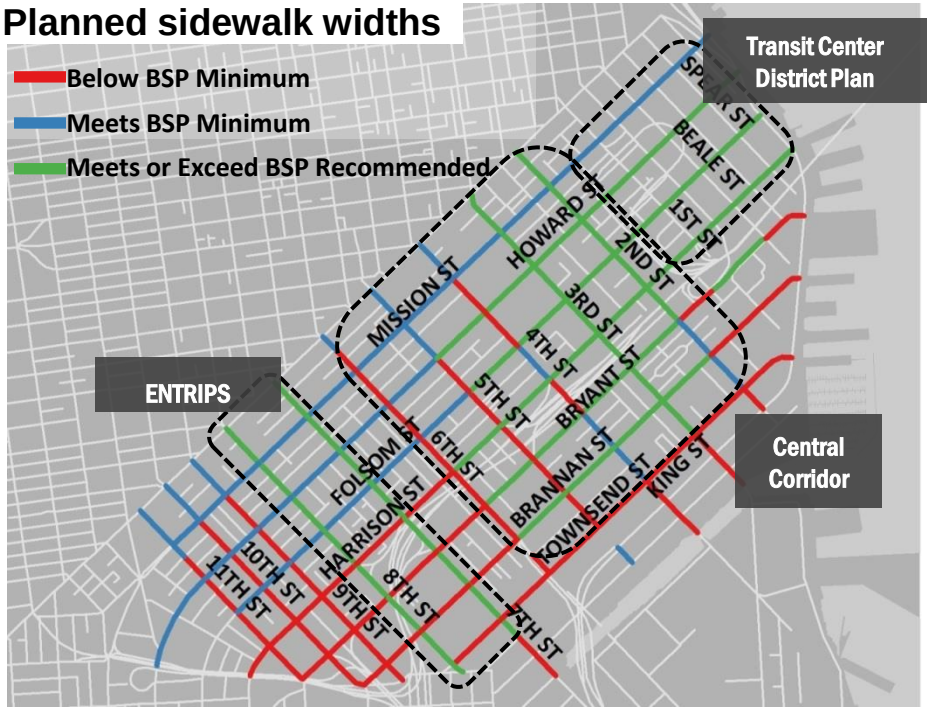
Source: SF-CHAMP 4.3

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

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