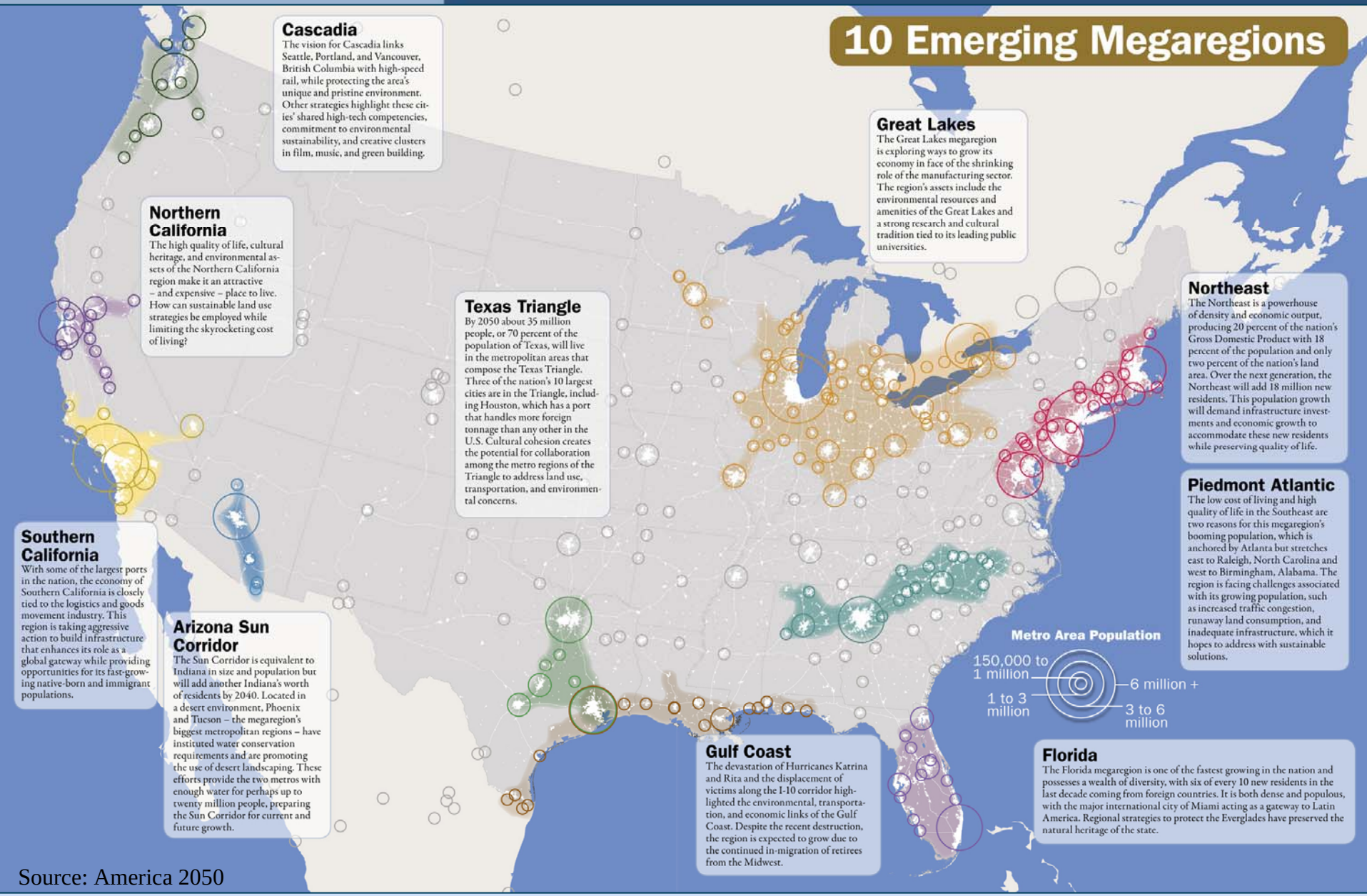
Metro Mobility

Commissioner Steve Heminger

January 17-18, 2007

NATIONAL SURFACE TRANSPORTATION
POLICY AND REVENUE STUDY COMMISSION

1. Context



Source: America 2050

Top Dozen Metro Areas

Source: U.S. Census

Metros Capture Huge Market Share

	10 Megaregions	Top Dozen Metro Areas
1 Share of U.S. Population	68%	33%
2 Share of Traffic Congestion	92%	70%
3 Share of GDP	78%	39%
4 Share of Transit Ridership	93%	76%
5 Share of Population Exposure to Criteria Pollutants	94%	64%

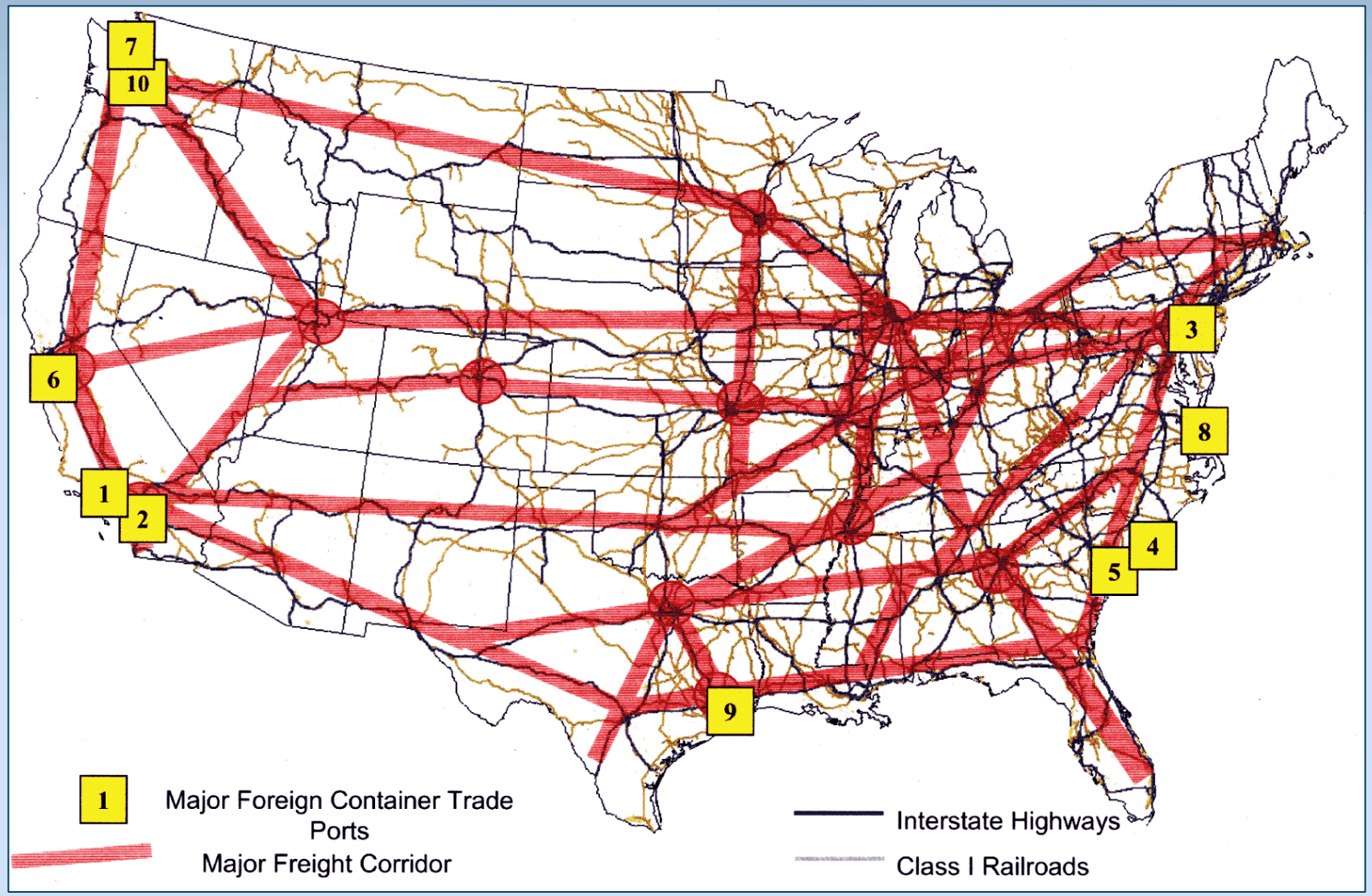
Source: U.S. Census, Texas Transportation Institute, U.S. Conference of Mayors, EPA

Metros Are Engines of Economic Growth

- **Combined GDP of top dozen metro areas exceeds combined economic output of 35 states**
- **New York metro area ranks 10th in the world, with a larger economy than India, South Korea or Mexico**
- **Los Angeles and Chicago metro areas rank 18th and 19th — each larger than Belgium, Sweden or Taiwan**

Source: U.S. Conference of Mayors

Top 10 U.S. Container Ports



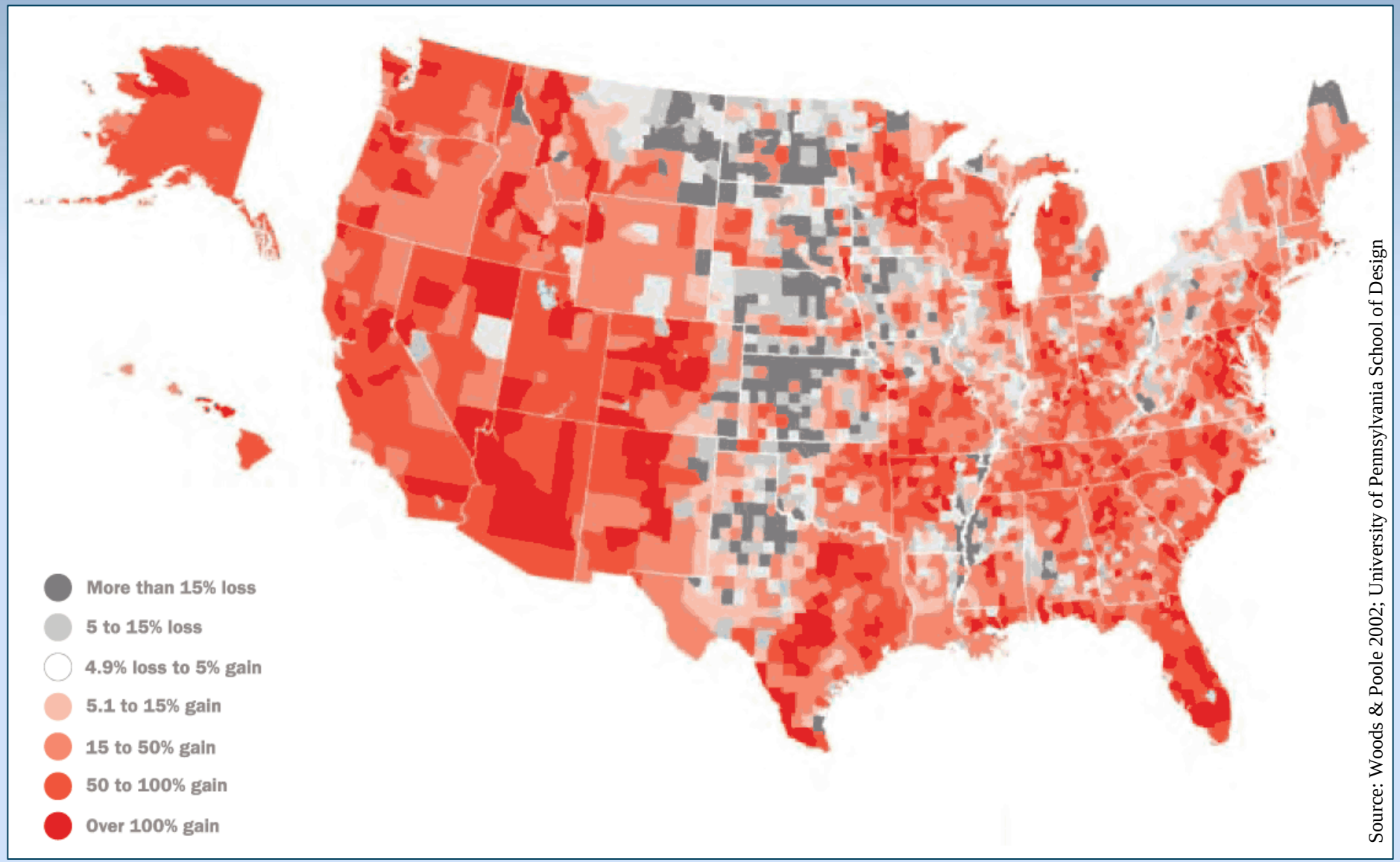
Investment Shortfalls

	Region	Shortfall ($ billions)
1	New York	13
2	Los Angeles	*
3	Chicago	8
4	Washington DC	*
5	San Francisco	30
6	Philadelphia	*
7	Boston	*
8	Detroit	29
9	Dallas	3
10	Houston	5
11	Atlanta	21
12	Miami	*
	Total	109

* Financially-constrained plan

Source: MPO Plans

U.S. Population Change, 2000–2050



Source: Woods & Poole 2002; University of Pennsylvania School of Design

2. Toolbox

Highway Operations

Traffic Congestion

Freeway Incident Management

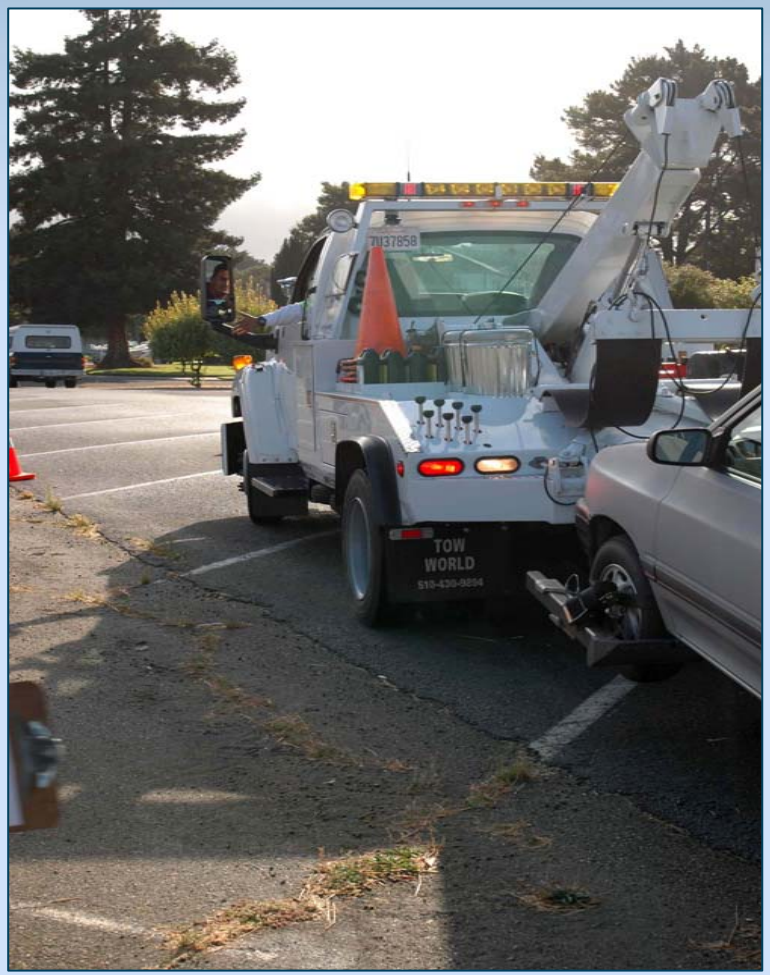
Partners: MTC, Caltrans, CHP

Operational Projects

- Freeway Service Patrol – AVL to manage trucks
- Callbox System – Private call answering with transfer option to CHP

Projects Under Development

- TOS Equipment Management System – Tools to manage TOS (loop detectors, CCTV) in field
- CCTV – Camera management by TMC staff



Signal Coordination and Transit Priority

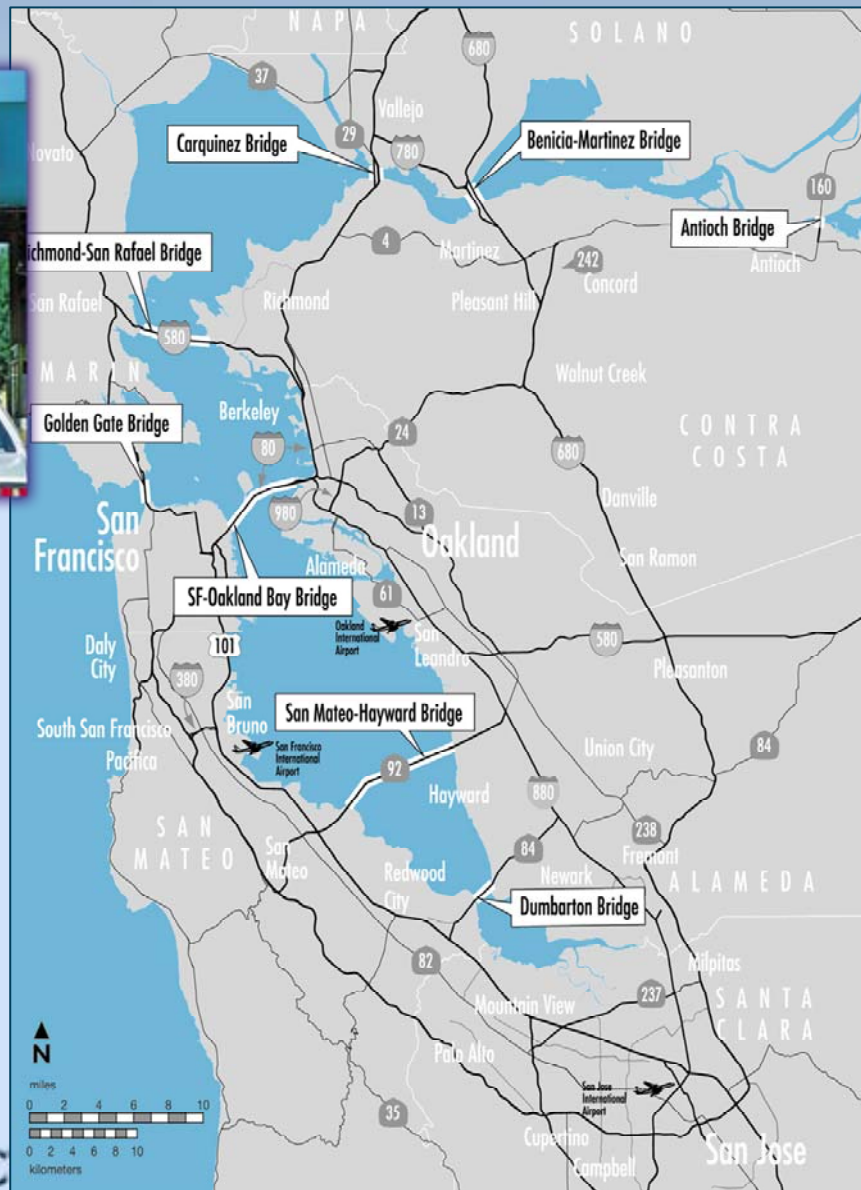
MTC's Regional Signal Timing Program

- 7,000+ traffic signals, 50% coordinated
- Proactively retime coordinated signals every 5 years for weekday peaks, including preferential treatment of buses
- 13% savings in travel time and fuel consumption, 7% reduction in mobile source emissions

Other Transit Priority

- Additional treatments: queue jump lanes, bus stop improvements, AVL, BAIS
- Major projects in San Francisco, East Bay, and South Bay in various stages

FasTrak® Electronic Toll Collection



- **Golden Gate Bridge and State operated two separate systems prior to 2002.**
- **Transponders interoperable on all bridges**
- **Successful launch of single customer service center (June 2005)**
- **FasTrak® in peak period**
  - 70% on Golden Gate
  - 45% State bridges

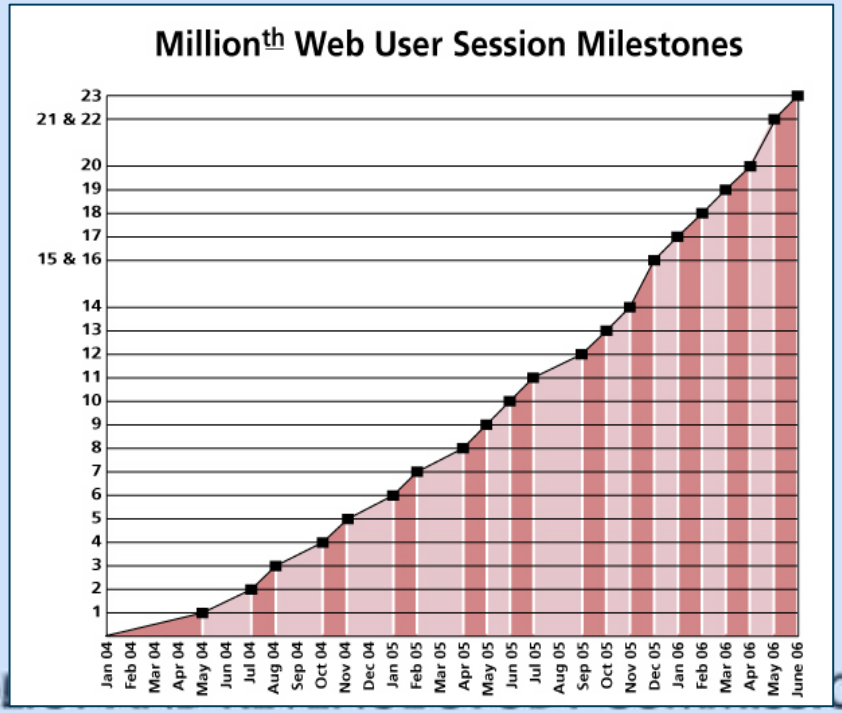
Traveler Information

- **Multimodal traveler information featuring:**
  - Traffic Conditions and 511 Driving Times℠
  - TakeTransit Trip Planner℠ and 511 Arrival Times
  - 511 Ridematch Service
  - 511 BikeMapper℠
- **Fastrak® toll tag readers as data source for 511 Driving Times℠**
- **Try it out: www.511.org**

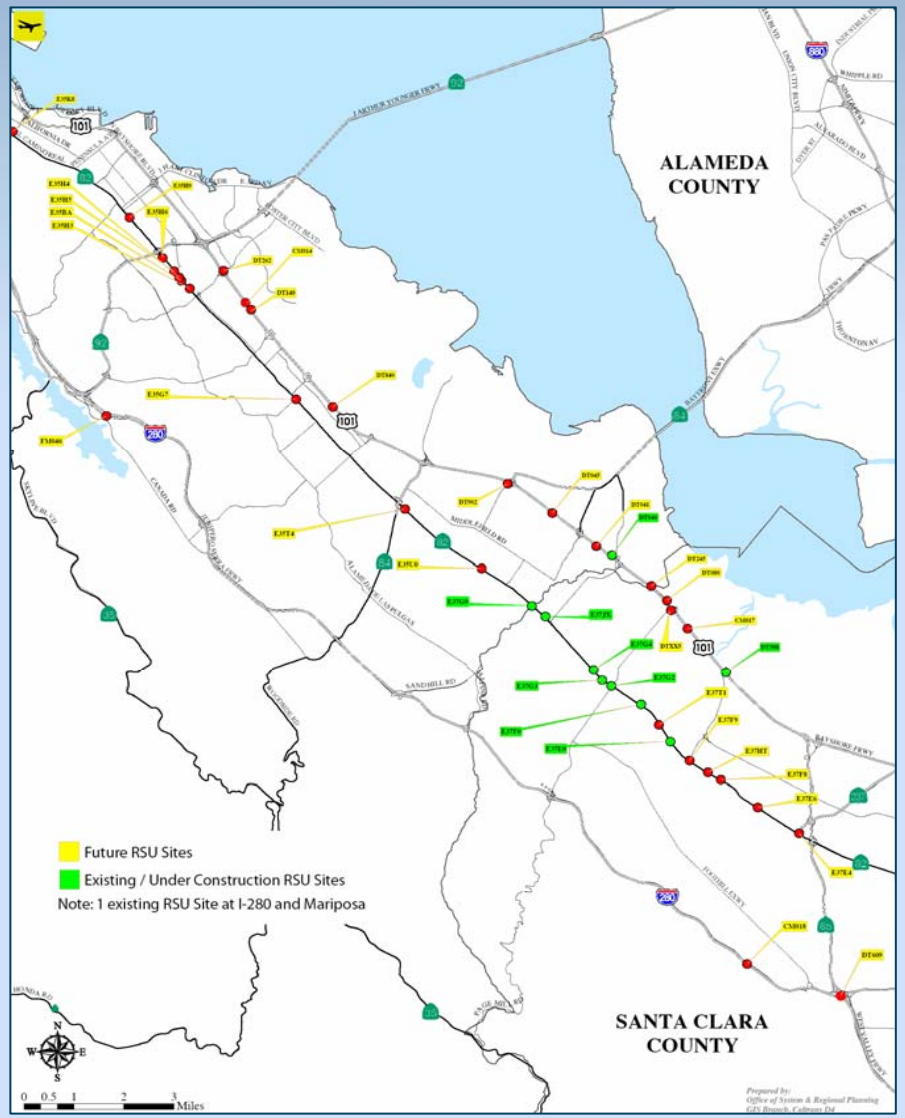
511
Phone, Web and ISP Usage Summary

511 system is well used (from Jan-Jun 2006):

- 2.1 million calls (350,000 per month)
- 8.2 million Web user sessions (1.35 million per month)
- 2.4 million uses by Internet Service Providers (400,000 per month)
- Cumulative usage to August 2006: 12.9 million calls and 27.4 million Web user sessions



Vehicle-Infrastructure Integration (VII)



- **VII California Testbed**
  - MTC, Caltrans, DaimlerChrysler, VW, Toyota and BMW
  - 40 roadside sites funded
- **Goal is to test technology and business model to inform national deployment decision.**
  - Ramp metering
  - Electronic tolling
  - Intersection safety
  - Curve overspeed warning

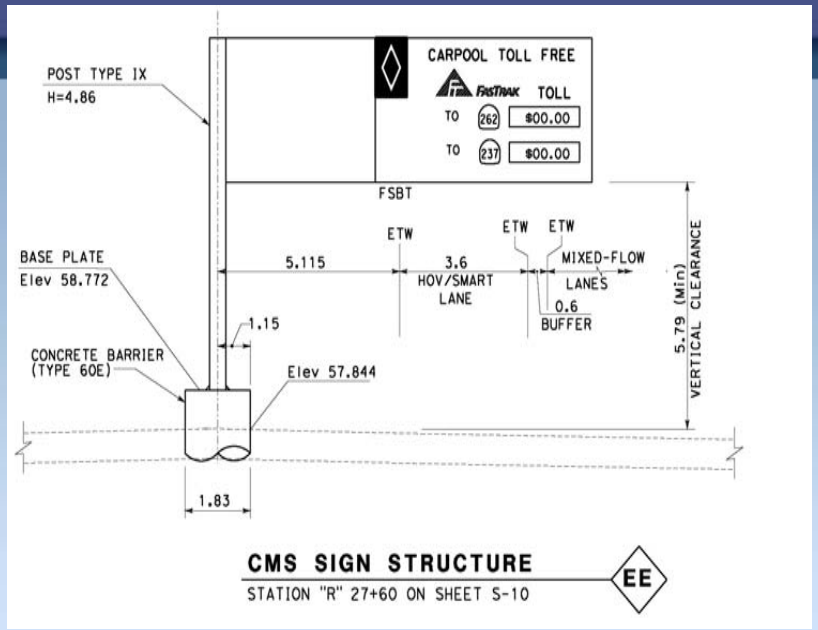
Cost/Benefit of Operational and Capital Projects

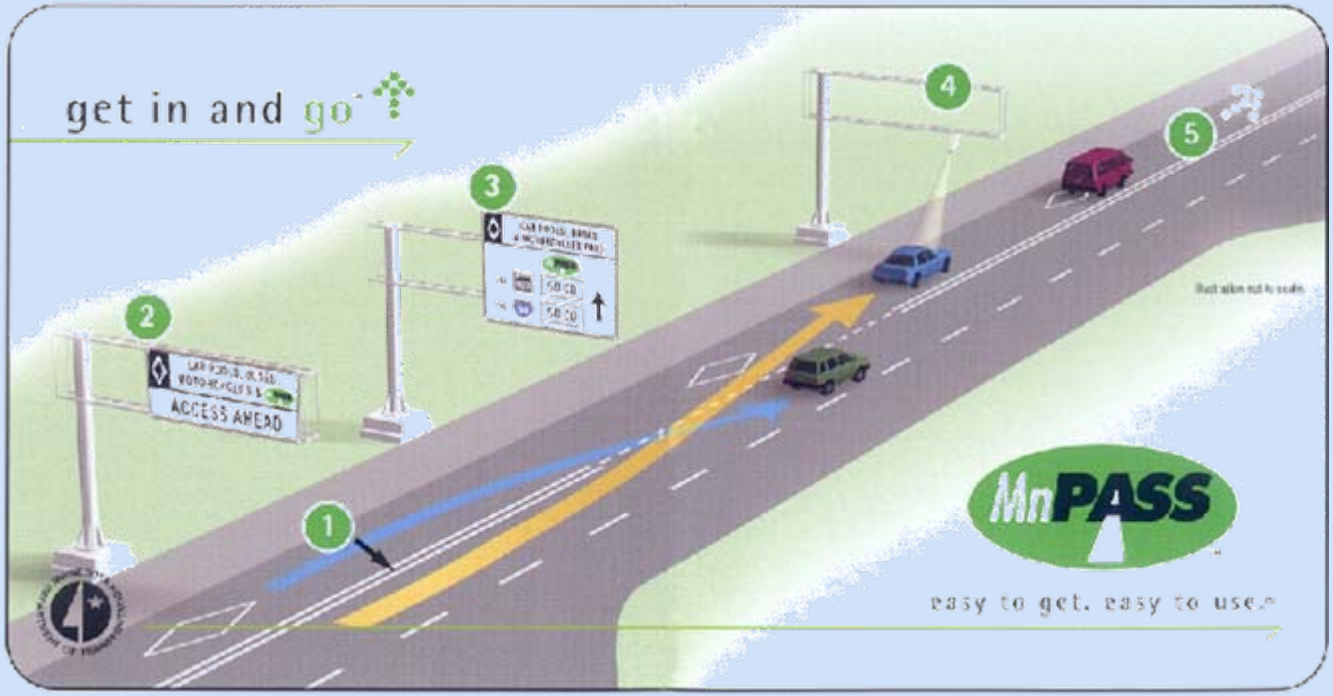
Operations Projects	Benefit/Cost Ratio (avg.)
Freeway Ramp Metering	14:1
Incident Response	8:1
Arterial Signal Timing	35:1
Region-Wide ITS Deployment	9:1
Capital Projects	
New HOV Lanes	**2:1**
New Mixed Flow Lanes	**1.2:1**
Interchange Improvements	**1.2:1**
Auxiliary Lanes	**5:1**
Truck Climbing Lanes	**1.3:1**

Source: FHWA, Caltrans, MTC

High Occupancy Toll (HOT) Network

A Proven Concept





- San Diego
- Orange County
- Houston
- Minneapolis
- Denver

HOT Lane Networks Under Study

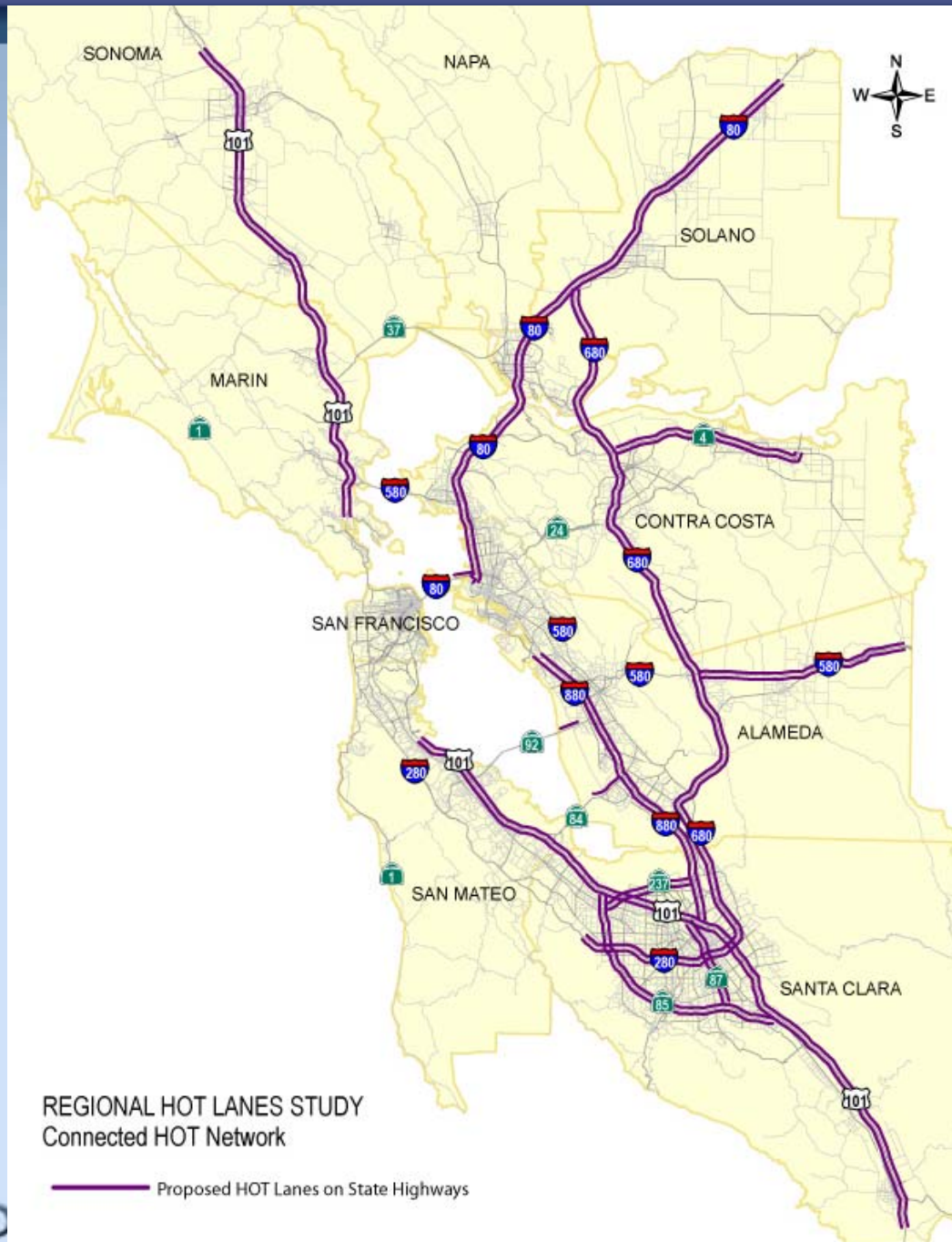
1. **Existing & Funded Network**

   Convert HOV lanes that exist, are under construction or are fully funded

HOT Lane Networks Under Study

2. **Connected Network**

   Fill gaps in the system



Costs and Revenue

1 Existing & Funded Network (2006$)*

30-Year Revenue	**$3.8 to $5.6 billion**
30-Year Cost	**$1.5 billion**
30-Year Net Revenue	**$2.3 to $4.1 billion**

* Present discounted value between 2015 and 2030; 4% real discount rate

2 Connected Network (2006$)

Incremental Capital Cost**	**$3.5 billion**
30-Year O&M Cost***	**$1.7 billion**
30-year Total Cost	**$5.2 billion**

** Cost beyond that for Existing and Funded Network, for year 2030 only

*** Present discounted value; assumes 4% real discount rate

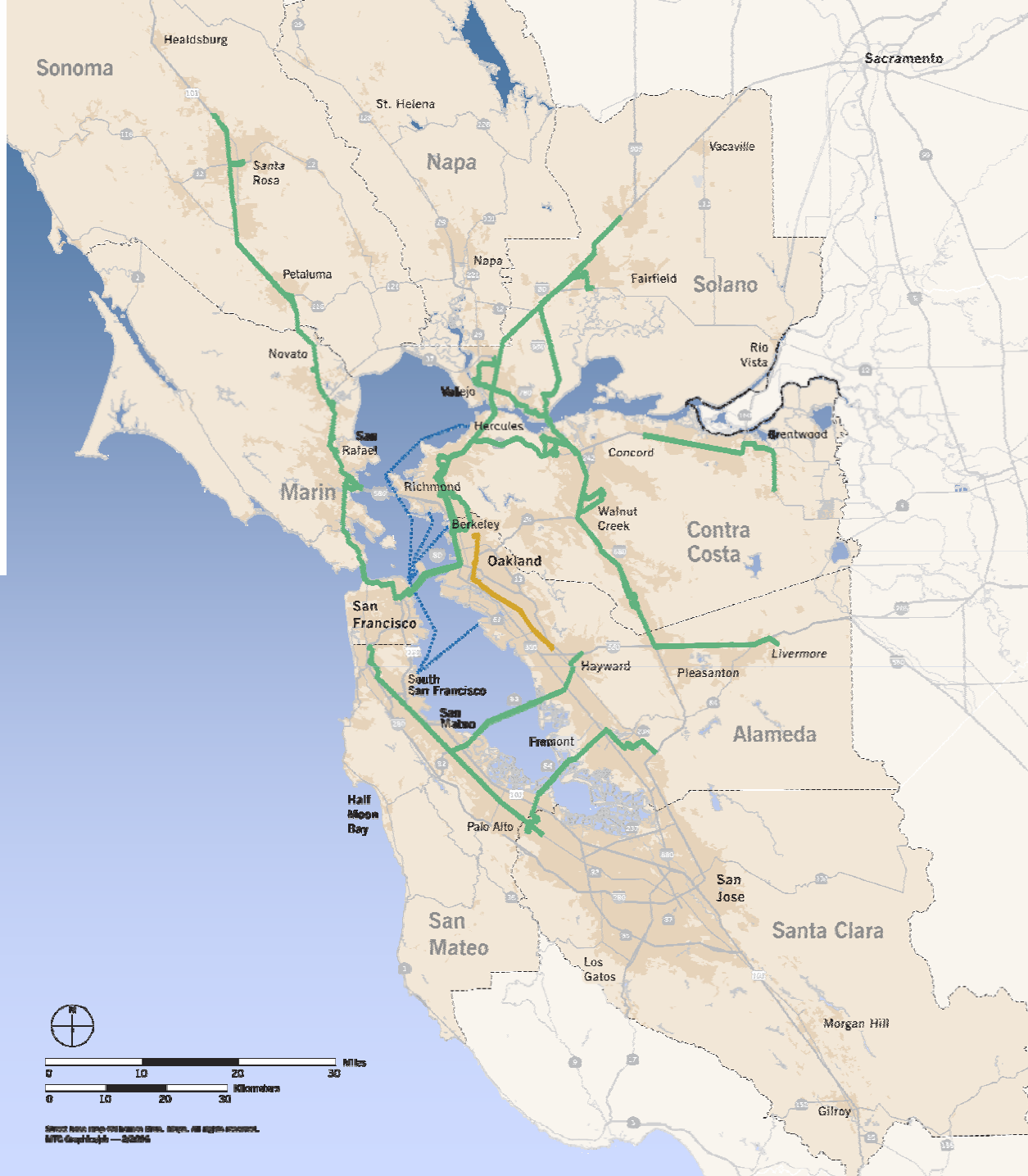
Transit Expansion

Resolution 3434 Rail Projects:

- Rail Service Upgrade
- Rail Extension
- Existing Rail
- Urbanized Area

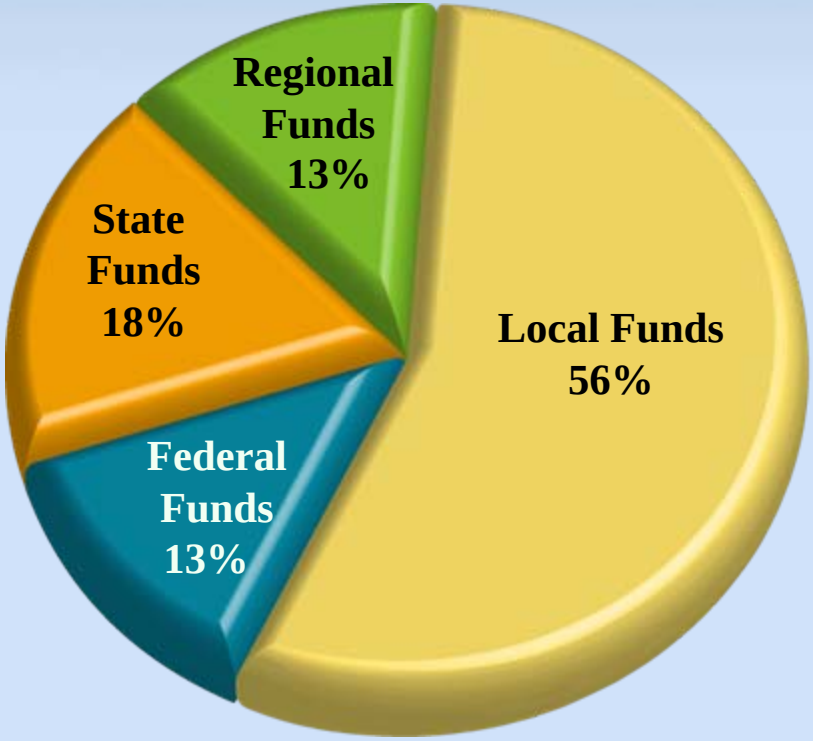
Resolution 3434 Bus and Ferry Projects:

- Express Bus Route
- Bus Rapid Transit Route
- Proposed Ferry Route
- Urbanized Area
- Freeway
- Other Highway

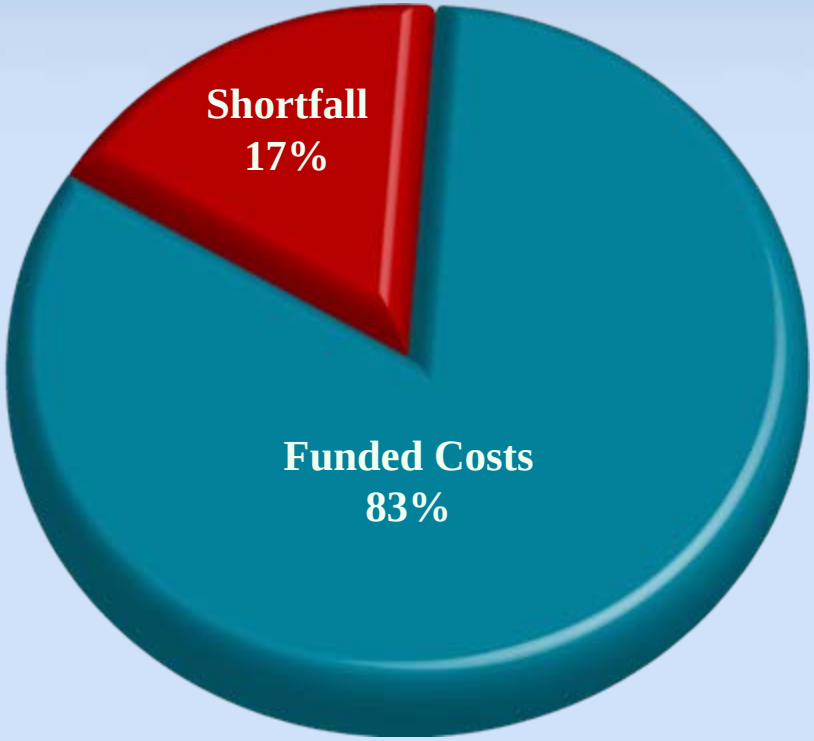


Resolution 3434 Funding Plan

Total Revenue: $11.2 billion



Total Cost: $13.5 billion



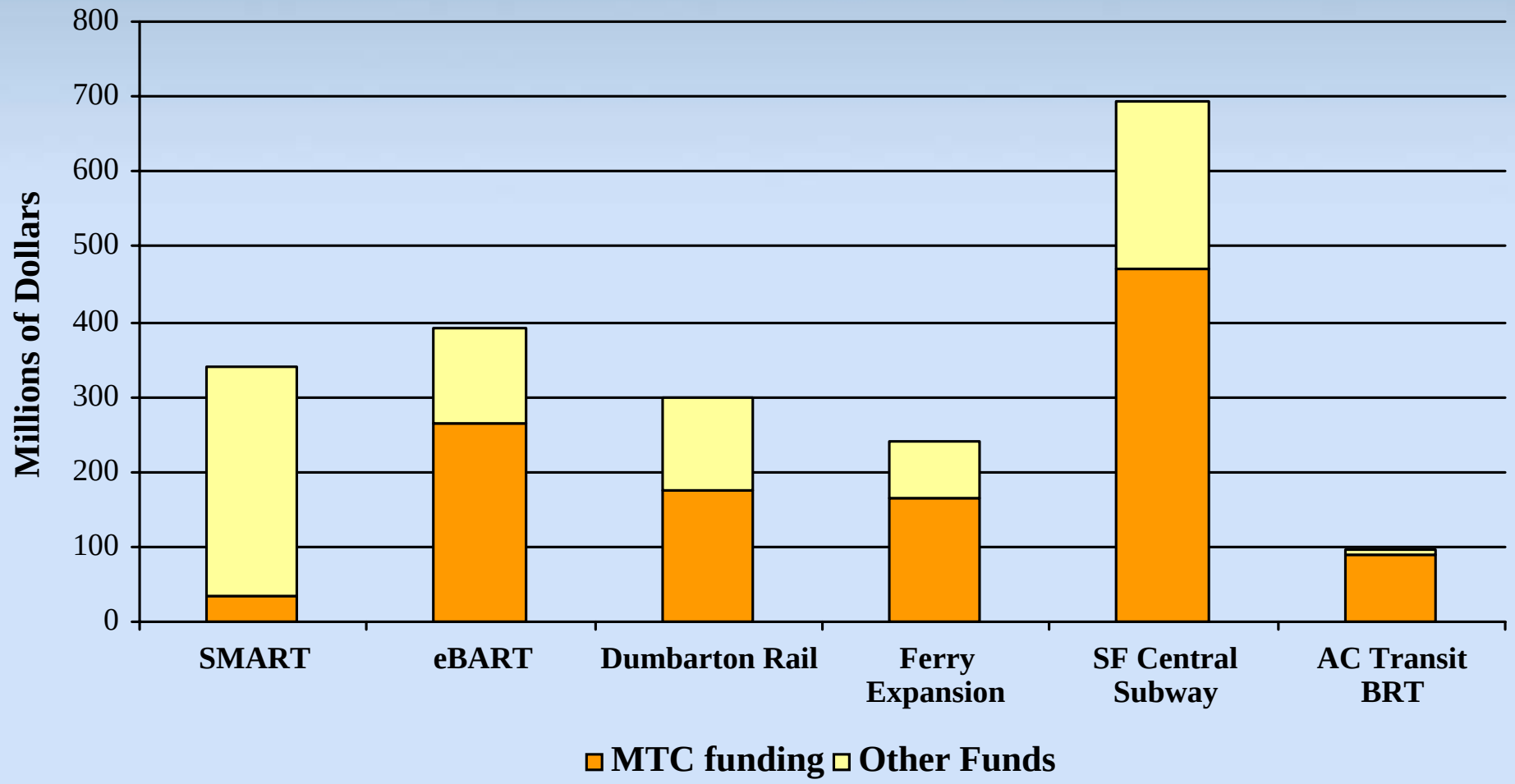
Land Use Connection

Transit Oriented Development (TOD) Policy Goals

- Insure cost-effective transit investments
- Ease regional housing shortage
- Create vibrant, livable communities
- Preserve regional open space

Fruitvale BART

TOD Policy: Leveraging Regional Funds

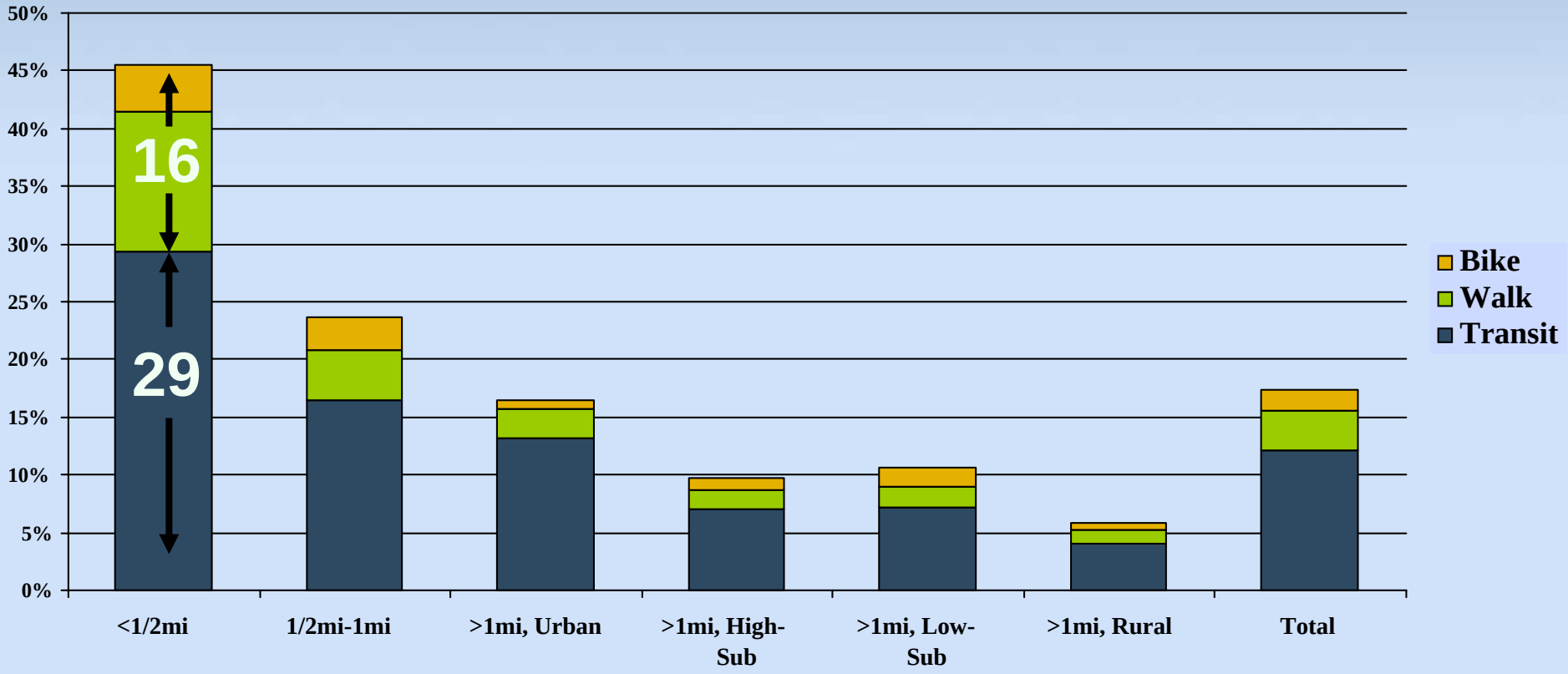


Housing Thresholds: MTC TOD Policy

Mode	BART	Light Rail	BRT	Commuter Rail	Ferry
Housing Units within half mile of station	3,850	3,300	2,750	2,200	750

TOD Ridership Benefits: Bay Area

- **Work trips** – mode share for transit, walking & biking by proximity to transit



3. Federal Policy

Metro Mobility Program

Goal:

Focus new funding where it can enhance ***economic productivity*** *and* ***system performance.***

Metro Mobility Program

- **Direct allocation of significant share of federal funds to metro areas**
- **Precedents: STP sub-allocation under ISTEA; UASI funding from DHS**
- **Flexible by Mode: Highway, transit, bikes, pedestrians**
- **Flexible by Purpose: Operations, rehabilitation, expansion**

Metro Mobility Program

- **Performance-based: Set targets for improved performance on defined metro system, with incentives/disincentives to meet**
- **Distribute funds based on population and severity of congestion/pollution (*i.e. CMAQ formula*)**
- **Reward local financial "self-help" with additional funding**

Who Decides How to Spend the Money?

- **States – Generally not good match for major metro challenges**
- **MPOs – Some strong, some weak**
- **Other Candidates – Transportation authorities (*i.e. Port of NY/NJ*)**
- **Possible Approach – Govenor to designate with local concurrence**

Other Policy Reforms

- **Repeal prohibition on tolling Interstates in major metro areas**
- **Expedite environmental and permit reviews for metro projects**
- **Others?**

Interface with National Freight Policy

- **Metro agency can plan community and environmental mitigations for "Conveyor Belt"**
- **Metro agency can identify synergies for passenger rail service in expanded freight rail corridors**
- **Metro agency can propose joint funding of key freight projects with passenger travel benefits (*i.e. truck lanes*)**

"Metropolitan transportation challenges will only be fully addressed if metropolitan areas are given more powers, greater tools, and higher capacity to get transportation policy right for their places. Yet these reforms must come with a quid pro quo: the federal government must demand greater performance and accountability from its state and metropolitan partners. This federalist exchange — of greater flexibility in exchange for more responsibility — lies at the heart of other major federal reforms over the past decade, and it will be critical to the success of transportation policy over the coming decades.

The Brookings Institution

— Bruce Katz, Robert Puentes and Scott Bernstein
Brookings Institution, 2005

"Our unity as a nation is sustained by free communication of thought and by easy transportation of people and goods... Together the unifying forces of our communication and transportation systems are dynamic elements in the very name we bear — United States. Without them, we would be a mere alliance of many separate parts."

— Dwight D. Eisenhower, 1955