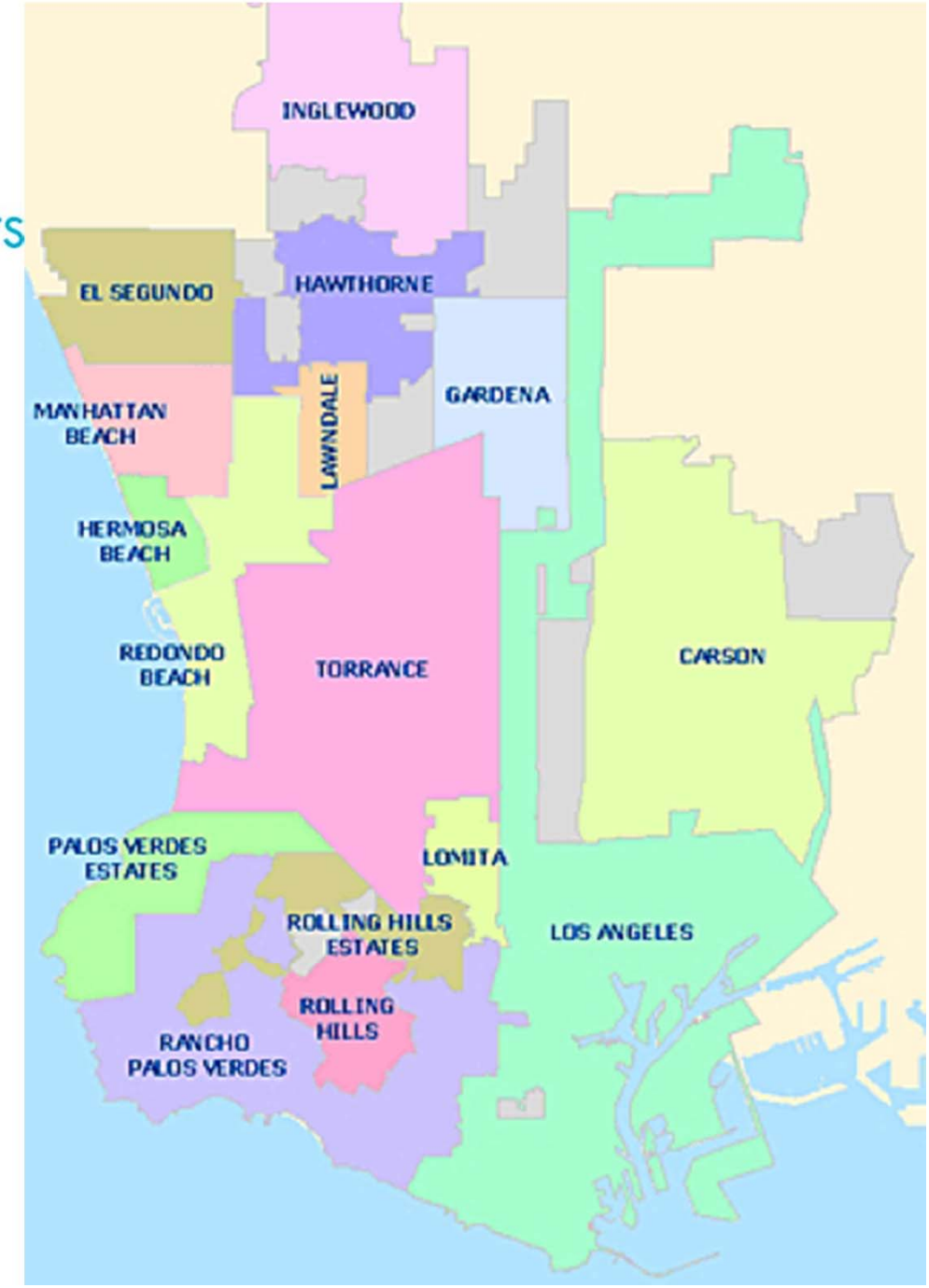
SOUTH BAY CITIES
COUNCIL OF GOVERNMENTS



Future of Automobility: NEVs in the South Bay

Wally Siembab
Toolbox Tuesday
9-18-12

NEVs in Three Steps

1. Research
2. Strategy
3. Demonstration

1. Research

What kind of mobility does the South Bay's development pattern require?

South Bay Characteristics

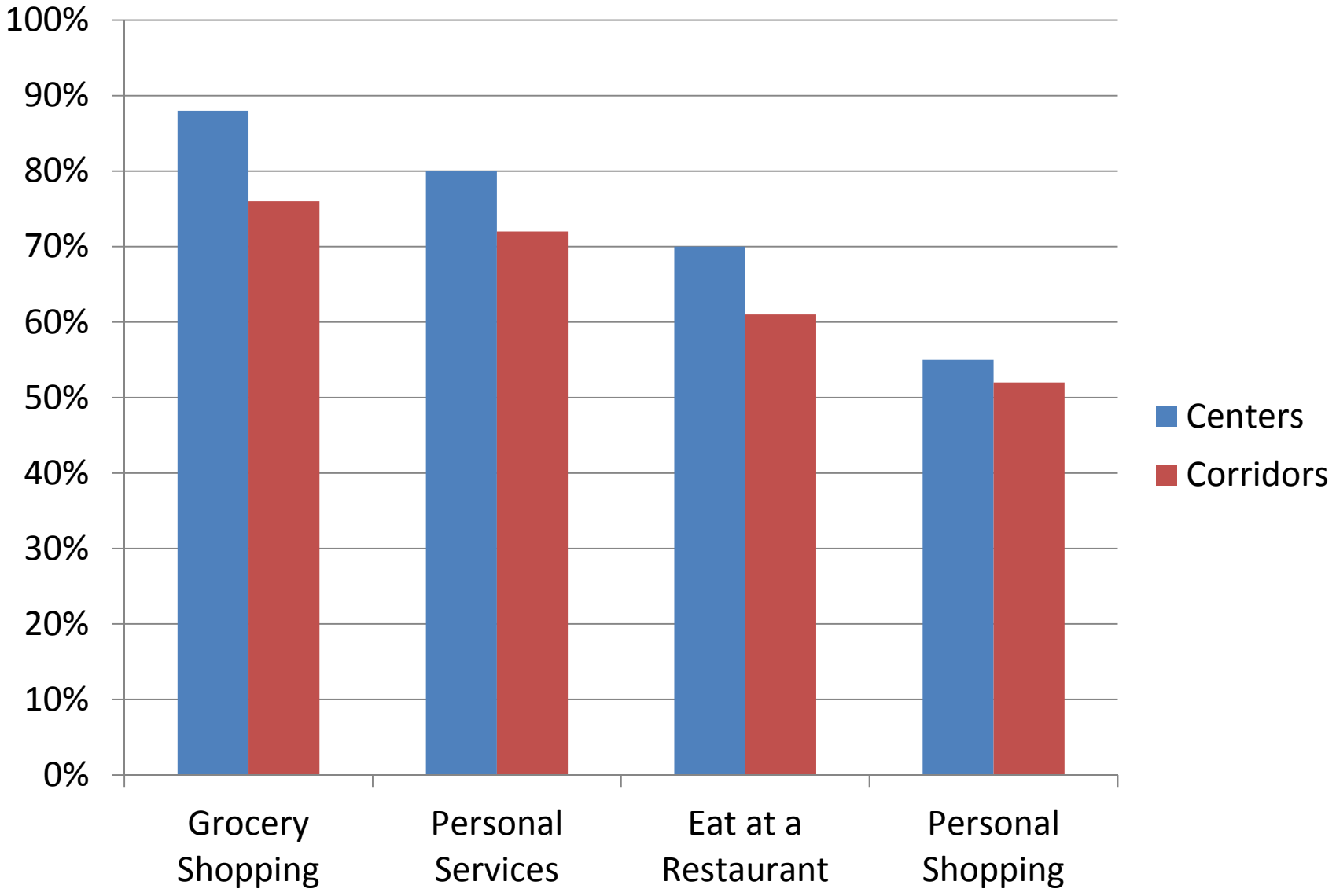
- Population – just over 1 million
- 600,000 private vehicles in 2011
  - About 250,000 secondary vehicles
- About 500,000 employees
- Slightly more acres than Portland with 1.5 times the residential density and no dominant commercial center

Estimated average distance to work

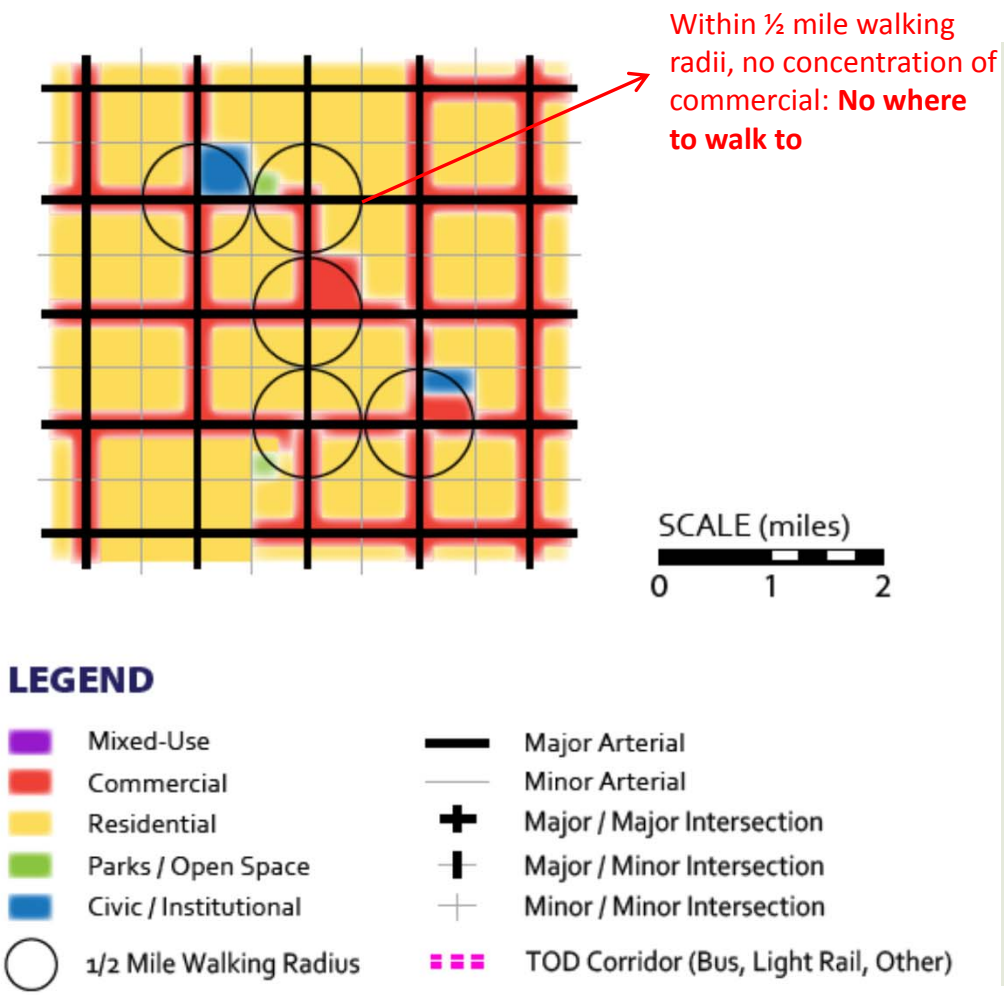
- Coastal cities – 12 miles
- Inland cities -- 12 miles
- PVP -- almost 15 miles

- US: 80% of J2W < 20 miles

Trip lengths less than 2 miles



Mature Suburban Model



- Few concentrations of compact mix of uses
- No walkable destinations in neighborhoods
- Over time some retail becomes underperforming
- But -- Horizontal mixed-use is common

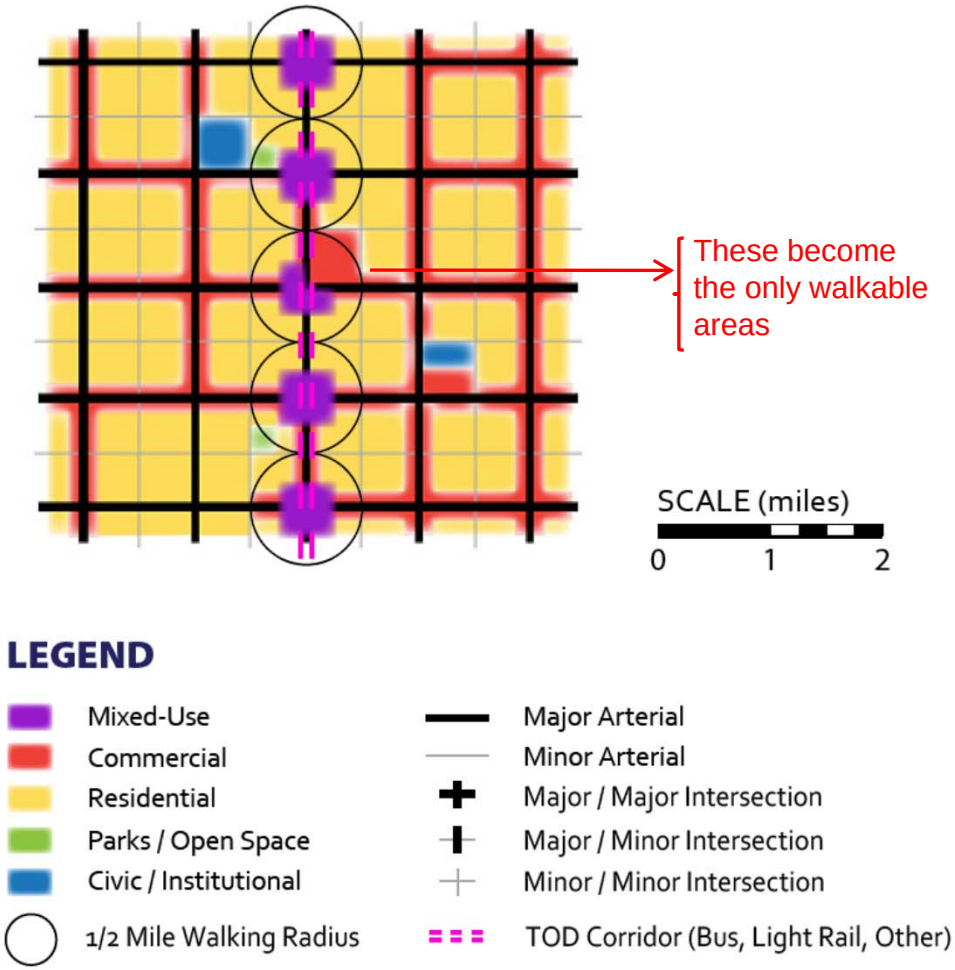
Key finding

- Compact, robust destinations – not residential density – produce short trips
  - Short trips create mode options

2. Strategy

- *Sustainable South Bay Strategy* adopted by SBCCOG Board in October, 2010

Transit-Oriented Development (TOD) Model

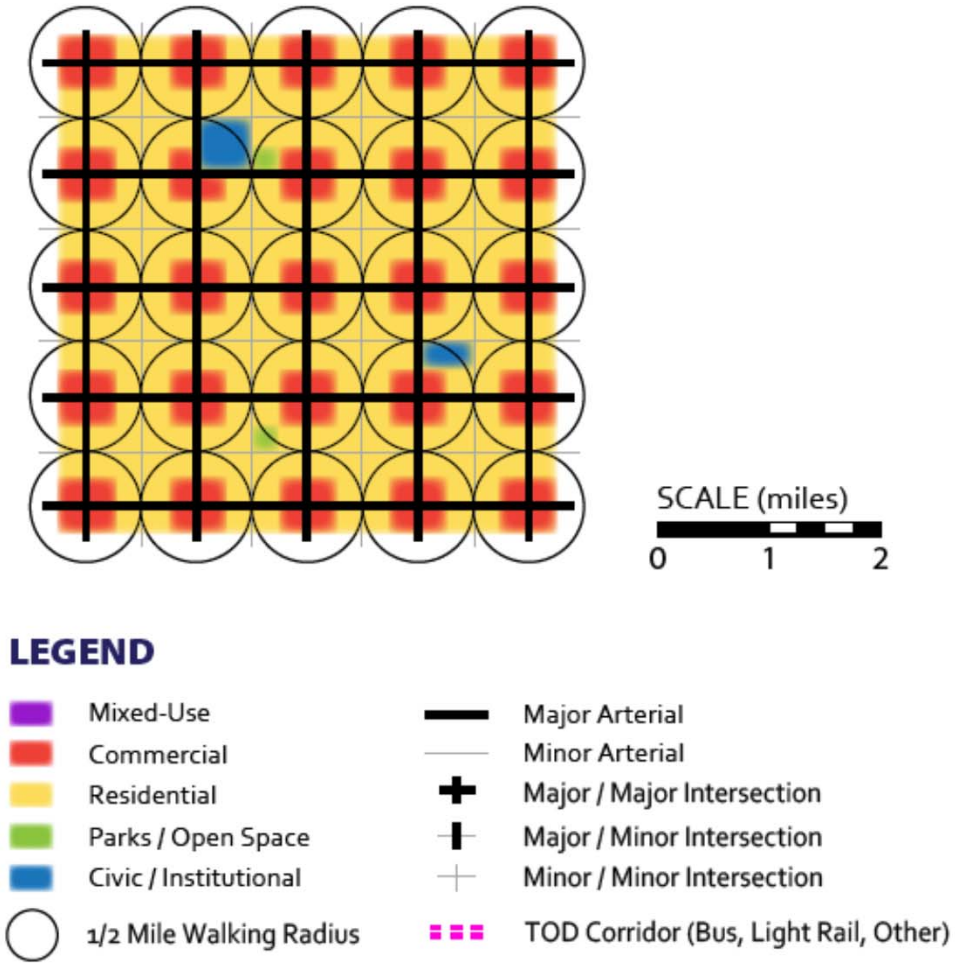


- Singular corridor of investment
- Few concentrations of compact mix of uses, few walkable neighborhoods
- Requires final mile connections to be effective
- Economics of transit require high residential densities
- **Model does not look at a city comprehensively and neglects all other corridors**

TOD not really an option

- South Bay is transit-poor
  - 3% transit mode share in 2010
  - 3% transit mode share projected in 2025 by Metro
- Green Line extension to South Bay Galleria – maybe by 2020

Neighborhood Development Model



- Intersections serve the commercial needs of their neighborhoods
- Commercial along corridors converts to residential further supporting intersections
- Potential to achieve 25 walking neighborhoods in 4 sq miles
- Investment focused throughout grid as opposed to along one corridor
- Supportive of local use vehicles (LUV) – destinations within 4 miles

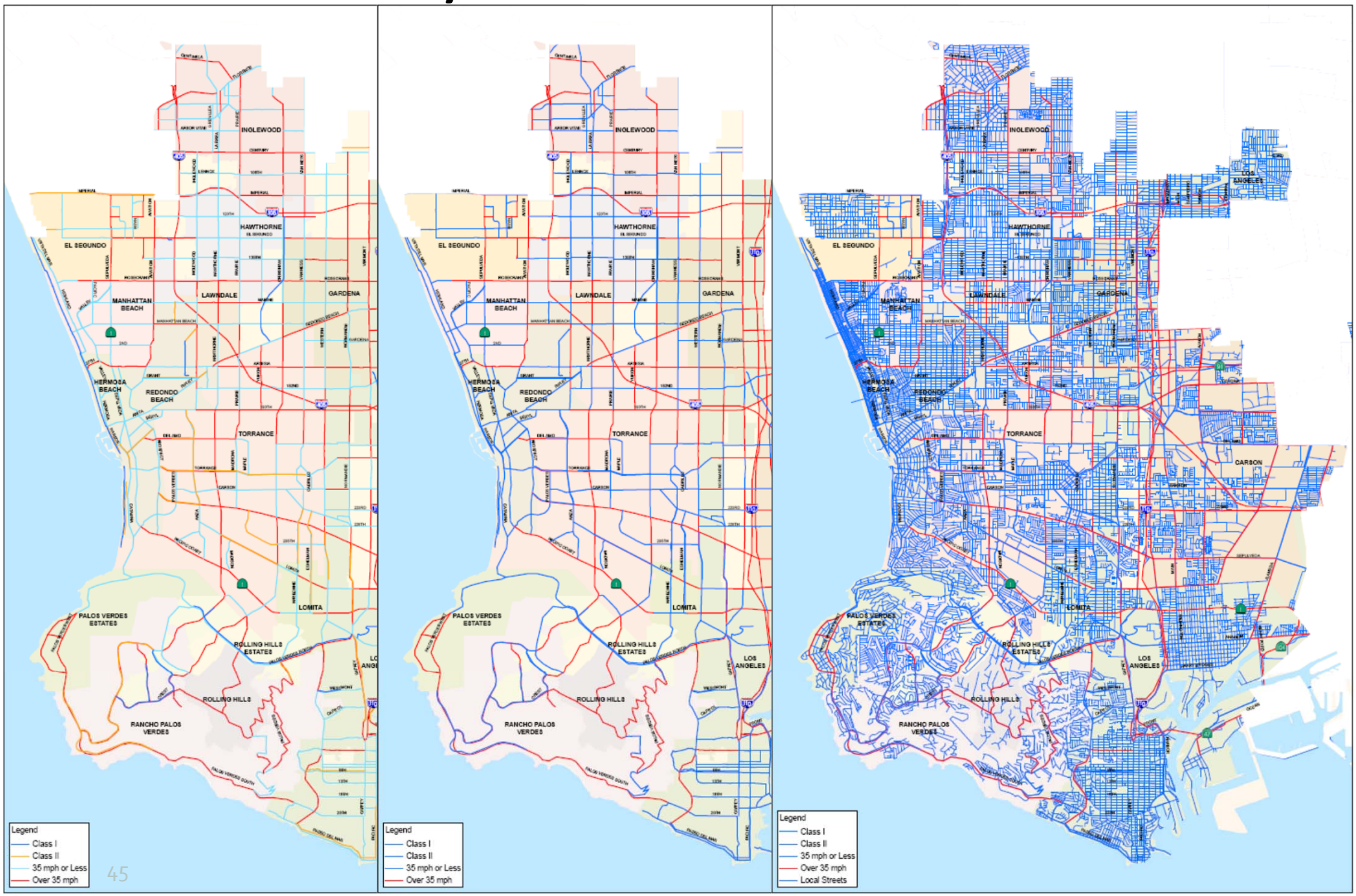
Mobility Strategy

- Transition of 600,000 vehicle ICE fleet to PEV
  - Priority – 250K secondary vehicles
  - Most existing trip distances are short
  - NOD will make them shorter still
- Complete Streets – combination lanes
- Car Sharing
- Public transit
  - Rapid connections to regional network
  - Local DASH and DART

3. NEV Demonstration (AQMD)

- Testing NEVs (aka local use vehicles or LUV)
  - Six, small, short range, slow speed vehicles (25MPH)
  - Driven by local residents for 2-3 months at a time
  - Demonstrating use on local streets
    - Previously only in closed campuses
- Designed to:
  - Demonstrate the match between LUVs and resident's travel behavior
  - Identify the barriers to wide spread adoption of Local Use Vehicles

South Bay LUV Backbone Network



GEM e4

GEM e4

Vantage CrewCab

Wheego Whip

Columbia Summit

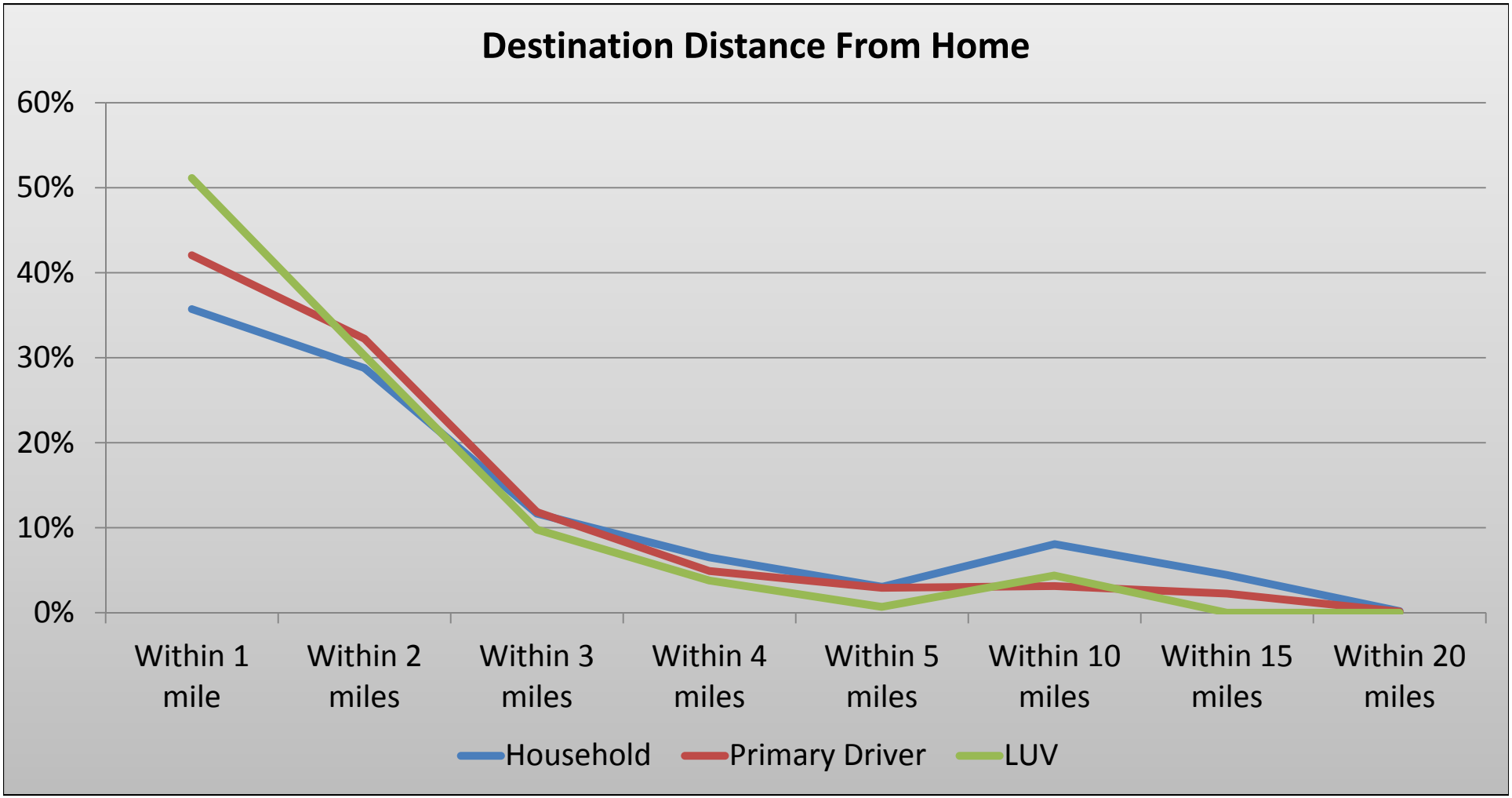
Local Use Vehicle
LUV
Our Future
www.southbaycities.org

Body Glove

Ripley Ave
E 182nd St W 182nd St
S Inglewood Ave
W 190th St
Anita St
Herondo St
Beryl St
Diamond St
Prairie Ave
Madrona Ave
Maple Ave
Calle Mayor
Anza Ave
Hawthorne Blvd
Lomita Blvd
Pacific Coast Hwy
Pennsylvania Ave
1
107

182nd St
W 182nd St
Singlewood Ave
90th St
Prairie Ave
Maple Ave
Van Ness Ave
Plaza Del Amo
Hawthorne Blvd
Anza Ave
Lomita Blvd
Pennsylvania Ave
Vermon Ave
1
107

Trip Length


Destination Distance From Home
60%
50%
40%
30%
20%
10%
0%
Within 1 mile
Within 2 miles
Within 3 miles
Within 4 miles
Within 5 miles
Within 10 miles
Within 15 miles
Within 20 miles
Household
Primary Driver
LUV

Benefits: Emission Reduction

Average Emission Reductions From One NEV	Household Reductions	Primary Driver Reductions
Hydrocarbons	28%	58%
Carbon Monoxide	25%	53%
Nitrogen Oxides	25%	52%
Particulate Matter 10	24%	50%
Particulate Matter 2.5	24%	51%
Sulfur Oxides	23%	49%
Carbon Dioxide	18%	38%
Methane	25%	52%
Nitrogen Dioxide	25%	52%

Vehicle Implications

- Sturdy, low amenity, low cost
- Aggressive state subsidies
- Sales price at $5,000 puts one in every garage

Infrastructure Implications

- Signage
- Driver education (NEV & full speed)
- Striping – Class 1 and 2 lanes
  - avoid “silos” – bike lanes should become combo lanes for all slow speed vehicles
  - both bike and slow speed lanes

Club Car

GOLF CART LANE
BIKE LANE

LANE
BIKE
NEV

GOLF CART
PARKING
ONLY
JAN California
5ATK623

Public benefits of NEVs

- Small vehicles
- 110V only
- Home charging with few exceptions
- Sized right for the need
- Low end cost

Final Report – February, 2013

- Vehicle recommendations
- Environmental benefits
- Driver typology
- Neighborhood typology
- Destination analysis
- Public education needs
- Charge port infrastructure
- Policy recommendations – state, region, city

Full speed BEV Demonstration

- Will begin in October
- 24 month demonstration
- Four vehicles for 2 months each
- Deployment begins in January, 2013

The future of automobility depends on

- Local development pattern
- Mobility options available
  - Private markets
  - Government services and policies
- Driver awareness of need

Mobility – Appropriate Transportation Modes

Using the right tool to get the job done

0 – .5 Miles

Walking

0 – 10Miles

Short Range Modes:

NEV, Segway, EN-V, Bikes, Shuttles, Buses

≥ 10Miles

Long-Range Modes:

Autos, Bus Rapid Transit or Subway, Plug-in Hybrids