SBCCOG Strategies: Reduce Energy Demand Reduce Extreme Weather

South Bay Cities Council of Governments

Board of Directors Meeting

August 28, 2025

Minimizing extreme weather and its deadly and costly consequences requires transitioning from fossil to clean energy as quickly as possible

Transition requires reducing energy demand and increasing investment in renewables


TIME IS
RUNNING
OUT

Supply: SCE Power Source

Estimated standard service 35% renewables in 2025

- Green Rate "50% or 100% Options
- 2,900 Green Rate customers out of 5 million -- .06%
- Program participation remains limited by available renewable supply
- SCE maintains a customer waitlist for the program

“Pathway 2045” aims for 100% carbon-free electricity by 2045
(Assuming substantial investment increases within 10 years)

Clean Power Alliance (CPA)

Six South Bay Cities are members

Three tiers offered, all price competitive with SCE

- Lean Power (40% renewable),
- Clean Power (50%renewable)
- Green Power (100% renewable)

Limit: CPA does not own or develop clean sources (like wind or solar farms) it purchases from those sources

Expansion of the CPA depends on investors expanding those options

Estimate $35 trillion by 2035 - International Renewable Energy Agency

Demand is Increasing

- Can America's Electricity Grid Keep Up With AI, Bitcoin, EV Charging, Air Conditioning, and Decarbonization of Homes? | Climate Crisis 247

- Coal's Comeback: Return Of Dirtiest Energy Source | Watch Climate Crisis 247

Price is Increasing

- Electricity companies plot massive 142% bill hike despite increasing risk of blackouts, Daily Mail, 7/13/25

- Newsom's Electricity Cost Warning Sparks Debate Amid California's Soaring Utility Bills Tampa Free Press, 8/12/25

Reliability is Threatened

- US Energy Department warns Americans could face 800 hours of blackouts by 2030 Fox Business, 7/7/25

- Blackout crisis looms as Americans face full month of outages plunging hospitals into shutdowns. Daily Mail, 7/8/25

- How Heatwaves Are Impacting Power Grids in Southern and Western States Climate Compass, 7/9/25

Mobility produces 40% of South Bay GHG emissions

SBCCOG has strategies based on low energy options that will reduce that amount

SBCCOG Energy reduction strategies

Micro mobility – 2,3,4 wheel devices with 25MPH max speed and

5 mile comfortable range

- Local Travel Network
- Micro Mobility Hubs
- Destination parking
- Origin parking
- Safety program

Smart Neighborhoods

- South Bay Fiber Network, Digital Hubs, Mobility Hubs, Micro-Grid and Battery Storage

Miles per kWh for Electric Vehicles Options
Miles per kWh analogous to MPG of gasoline

• Tesla	3.2 to 4	Full size, freeway speed EVs not the answer	
• NEV	7 - 9	2.25 X Tesla	about 300 mpg
• Golf cart	16 – 25	6.25 x Tesla	
• E-trike	33- 50	12.5 X Tesla	
• E-bike	60 – 83	20 x Tesla	

Mobility Energy Tradeoffs

- Average US household 30kWh per day
- Tesla driven 5 miles = 5% of daily home electricity consumption
- E-Trike driven 5 miles = .3 % of daily home electricity

Robocabs -- Waymo

- <3.2 to 4 miles/kWh – slightly less than Tesla due to the computor system with roof top sensors

- Waymo runs empty 40-45% of the time, Uber/Lyft 40-60%
  - Constrained service areas
  - Advanced routing and repositioning algorithms

Transit and Bicycles

- E-Bus -- .5 mile per kWh
- Requires 5 passengers to make it energy equivalent per passenger to Tesla
- Requires 15 passengers to make it energy equivalent per passenger to NEV

- Pedal bikes require 0 kWh and are most energy efficient

Santa Monica Local Leader in Bike Infrastructure Cost VS Performance

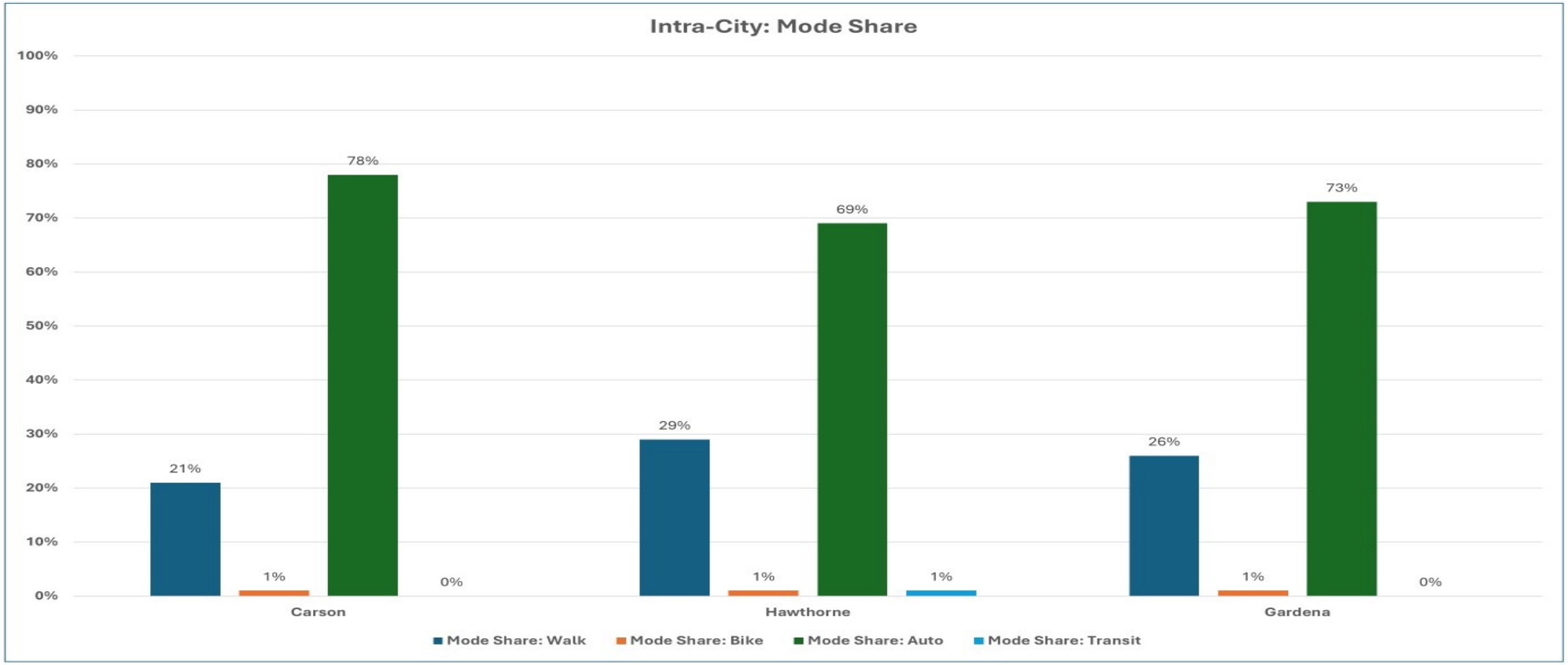
Protected bike lanes in Santa Monica downtown

- $1.75M to $3.5M per mile
  - Two year budget for downtown - $10 million

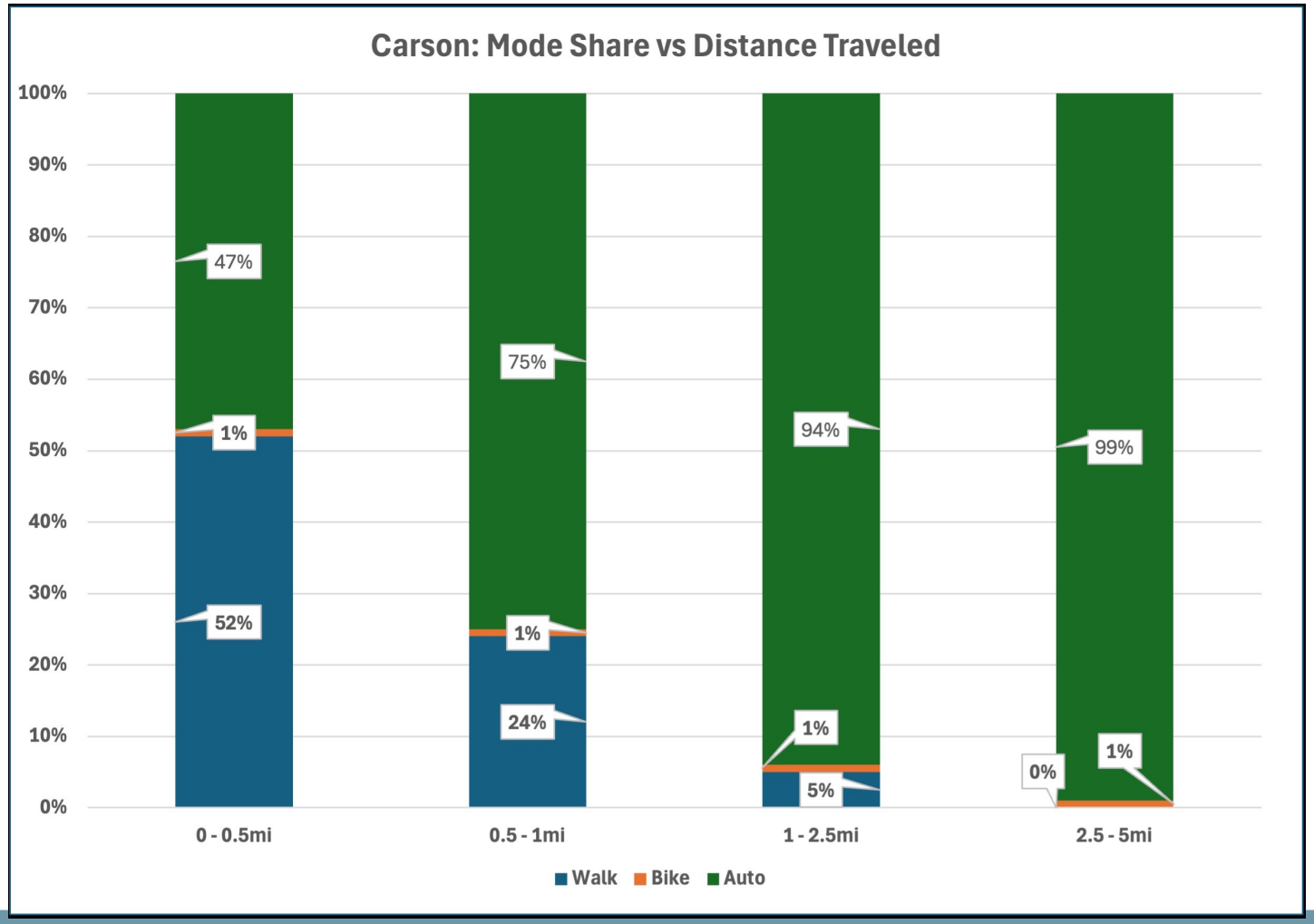
Mode share for trips that stay in Santa Monica

- Bike – 1.19%
- Auto – 65%
- Transit – 0.62% (“Big Blue Bus”)

3 South Bay cities
240,000 Trips per day never leave those cities
About 70% are driven, about 1% biked (Metro Locus)



Carson Example
Mode share by trip distance
Driven 62% half mile --75% 1 mile --94% 2-5 miles (Metro Locus)



Policy Innovations in Development

- Board demonstration of NEVs
- Municipal regulations of robo cabs – no trips less than 3 miles
- Housing – micro parking VS no parking, shared micro devices as building amenities
- Metro – NEV demonstration at Redondo Beach station
- Micro grids co-located with mobility hubs and internet hubs

Energy Efficiency Opportunity & Cost

- Need to start with energy efficiency because not doing this is like putting water into a bucket with holes in it
- Through onsite visits the SBCCOG has identified opportunities:
  - 941,000 kWh savings – Lighting
  - 371 tons of CO2 equivalent ghg savings for lighting
- At a replacement cost of $270,000 for lighting
- 112 HVAC units past their useful life
- 250 HVAC units with banned or phased out refrigerants

Energy Efficiency, Decarbonization & Solar

Stacking order is important

1. Energy Efficiency – reduce the need
2. Decarbonization – reduce the carbon
3. Solar – scale the solar based 1 & 2

What else is in your control…

Implement	Invite	Support
Implement identified energy efficiency at your city facilities	Invite us to the community events to help educate the community	Support sustainability programs – spread the word, recognize success

Questions?