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## Why Local Use Vehicles (LUV)

As part of a transportation-land use approach, the LUV Pilot can inform the evolution of SB 375 guidelines. Local Use Vehicles anchor the mobility strategy that is the companion to the SBCCOG's innovative land use strategy - Neighborhood Oriented Development. Also, a Local Use Vehicle strategy will add a significant innovation to the Air Resource Board's clean vehicle incentive framework.

"Over seven years, the state of California has spent \$449 million on consumer rebates to boost sales of zero emission vehicles. So far, the subsidies haven't moved the needle much." (LA Times, August 28, 2017)

Even the South Bay, despite being a good market for Plug-in Electric Vehicles (PEV), is running behind expectations. Based on vehicle registration data from 2014 through 2016, the South Bay will not meet its contribution to Governor Brown's 2025 Zero-Emission Vehicle (ZEV) target until 2035.

Our Neighborhood Electric Vehicle (NEV) and Battery Electric Vehicle (BEV) demonstrations found that NEVs were actually more popular among participating households. To the participants, the BEV was just another car while the NEV was a new mode. Fun to drive and close connection to street life were two characteristics often cited.

Data on carbon emissions and criteria pollutants in the NEV demonstration (named LUV the Future) resulted in the final report to the Southern California Air Quality Management District (SCAQMD) titled "Local Use Vehicles: The Missing Mode in Sustainable Transportation."

LUVs are a good replacement for the second and third vehicle in a household. Each family could operate smoothly with a long distance vehicle and one or more specialized for short distance. According to Southern California Association of Governments, 40% of South Bay households operate two vehicles, and 20% more have 3 or more vehicles. Those almost 220,000 vehicles define a known target for replacement by one or more LUVs.

In addition to reducing Greenhouse Gas (GHG) emissions and criteria pollutants, here are fifteen co-benefits that will follow from a LUV mobility strategy - LUVs are:

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### LOCAL GOVERNMENTS IN ACTION

Carson   El Segundo   Gardena   Hawthorne   Hermosa Beach   Inglewood   Lawndale   Lomita  
Manhattan Beach   Palos Verdes Estates   Rancho Palos Verdes   Redondo Beach   Rolling Hills  
Rolling Hills Estates   Torrance   Los Angeles District #15   Los Angeles County

1. Capable of satisfying a large portion of household demand for mobility, conveniently and affordably.
2. Simple to drive, can be the first car for teenagers or the last car for grandparents.
3. Relatively low cost to purchase and operate, very little routine maintenance required.
4. Able to reduce congestion – small footprint on the road and while parked.
5. Making streets safer for pedestrians and cyclists because their slow speed, small volume and light weight reduces the impacts of accidents when they occur.
6. Charging their batteries exclusively on L1 outlets which are common in the public realm and which are found in virtually every Multi-User Dwellings (MUD) parking area. These are PEVs that do not require landlord investment in electric infrastructure.
7. Compatible with Autonomous Vehicles (AV) when that technology arrives. No one with access to a LUV will pay the minimum charge or wait at a peak period to travel a mile or two in a shared AV.
8. Providing more consumer options, especially helpful to disadvantaged communities, through programs that promote the least expensive PEVs.
9. Able to improve transit ridership by providing first and last mile connections.
10. Very attractive at a reduced price point. Rebates will have a high likelihood of success stimulating the market. Our focus groups found that a \$6,000 price point would interest them to purchase. The local NEV retailer verified that figure. A 30% rebate will lower the price of some NEV models to that target figure.
11. Using lead acid batteries that are 98% recyclable and won't end up in landfills.
12. Good for the economy. Their broader use can lead to an increase in manufacturing jobs in the South Bay as demand attracts LUV production to the sub-region. Polaris pays \$1,000 to transport each GEM to Los Angeles from Ohio which would be a handicap against local competitors.
13. Capable of reducing rebates more quickly because with greater use, there will be a surge in LUV production which will quickly result in decreases in unit costs as economies of scale are captured.

14. The best mode for engaging the substantial powers of local government in advancing sustainable mobility. Street management policies, parking policies, charging infrastructure and way-finding support are 4 ways that municipalities can impact the LUV market place.
15. Potentially neighborhood shaping as well as neighborhood serving. Destination-rich neighborhood centers are a key component of the South Bay Sustainable Neighborhoods Strategy. Neighborhood mobility and neighborhood destinations will reinforce each other.

This is an idea whose time has come. The online journal Clean Technico published on January 1, 2018 an article describing a new program being implemented this February by the Swedish government that is “starting at the bottom” by offering 25% discounts on a variety of what are essentially LUVs. “Sweden Puts Its Money On Small Electric Vehicles.”

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**Why in the South Bay**

In addition to the more affluent coastal cities, there are several disadvantaged communities (DACs) in the inland cities like Inglewood, Carson, Gardena, and Lawndale. Some residents of those cities previously participated in the vehicle demonstrations. The DACs will be targeted for benefits and recruited as participants in program implementation.

The SBCCOG conducted the basic research that found LUVs to be the missing mode in sustainable transportation. Staff are knowledgeable about the technology and experienced in implementing PEV demonstration projects.

The LUV logo applied to the original NEV demonstration vehicles has a brand recognition that the LUV strategy can build on. Over 200 people remained on the waiting list at the end of the demonstration reflecting community interest in trying a new mode.

The SBCCOG has a multi-year subscription to semi-annual reports of new vehicle registrations from the Polk Co. This is a resource critical to monitoring the impact of the NEV subsidies. No other sub-region in Southern California has purchased similar access.

The SBCCOG will maximize the chances of success by supporting the LUVRP implementation with at least 3 complementary initiatives – LUV Exhibitions (being funded by the SCAQMD), feasibility study for implementing a South Bay slow speed network (proposed to Caltrans) and an online project named “Drive What You Need” (prototype to be developed by the SBCCOG with outside funding for introduction at the LUV Exhibitions).

**How We Got Here**

Today’s mobility options are dominated by the mono-culture of large, fast personal vehicles capable of travelling long distances without re-fueling. Those vehicles were a perfect fit for

the mobility demands of the post-war suburban developments that characterize LA County and much of California.

By the early 1960s these suburban communities were built out. With no vacant land, infill development gradually increased housing density and residential arterials were re-developed from housing to strip commercial. As a consequence, horizontal mixed land use patterns were formed on a large scale.

Large, fast, long distance vehicles are not the most effective mobility option for the relatively dense horizontal mixed-use patterns that dominate California suburbs today. That development pattern creates demand for frequent, short trips, with the journey to work making up only about 1/3 of all household trips and even those trips trending shorter.

The powerful grip of that monoculture is sustained by saturation advertising, family traditions, constrained markets, lack of consumer knowledge, and government regulations. In order to reduce energy consumption, air pollutants, carbon emissions and the cost of mobility, investments are needed sufficient to overcome the sustaining forces. New options that are consistent with the mobility demands of the current development pattern should be tried and evaluated.

That sales of ZEVs have fallen short of both expectation and need is another reason to consider an alternative strategy.

Emphasizing more powerful battery packs handicaps South Bay condo owners and tenants of multi-family housing (about half the housing in the South Bay) in acquiring a clean vehicle rebate. A joint research project between the SBCCOG and the Luskin Center for Innovation at UCLA found that few multi-family buildings have the capacity to handle L2 charging without a substantial investment by the landlord to upgrade the electric infrastructure. Home charging will not be an option for many of those tenants and condo owners, Larger battery packs will exacerbate this charging problem.

The SBCCOG developed and demonstrated over a 15 year period an integrated land use - mobility approach. The SBCCOG Board adopted the Sustainable Neighborhoods Strategy (SNS, formerly called the Sustainable South Bay Strategy) as the basis for the South Bay Regional Climate Action Plan in 2017. Were it allowed by the guidelines, the SNS could also be used as the basis for a South Bay Sustainable Communities Strategy in compliance with SB 375. The next step implementing the Regional Climate Action Plan is a pilot of local use vehicles and personal mobility devices.