



**Resolving the Housing-Carbon Dilemma in State Policy:
The Role of Local Government
White Paper**

October 2018

Maintaining local authority over housing development is required in order to address the complex interaction between low carbon mobility and new housing. One strategy does not fit all. Local jurisdictions where public transit does not perform well should have the flexibility to choose development options that “better fit” their context than transit-oriented housing as a component of mixed-use Transit-Oriented development.

Summary

Wildfires that burned throughout California this summer are the most recent evidence of climate change and the urgent need to reduce the production of Green House Gas (GHG) emissions. The prime target for reducing those emissions is the transportation sector.

In the coming months, State legislation to stimulate housing development will be proposed. It’s essential that those proposed bills also mandate a companion mobility strategy that will reduce the carbon generated by the travel choices made by the occupants of the new housing units.

Today, State housing policies and programs assign the responsibility for carbon reduction to building Transit-Oriented housing (TOH) as a component of a mixed-use Transit-Oriented development (TOD). The Affordable Housing–Sustainable Communities program of the Strategic Growth Council is an example. Another example is SB 827 introduced by Senator Scott Wiener (Senate District 11, San Francisco) earlier in 2018 which mandated TOH throughout the state. Although it didn’t pass, similar legislation is expected to be introduced next year.

However, California is a State of great place-diversity where one size doesn’t fit all – particularly in terms of housing strategies that will also minimize growth of GHG emissions. TOH is likely most effective in dense urban contexts. The State has not yet identified and endorsed an integrated transportation-land use strategy that will be effective in different types of suburban communities – particularly, those that lack effective transit.

LOCAL GOVERNMENTS IN ACTION

The South Bay cities are one such example. They form a sub-region in the southwest portion of Los Angeles County. The 15 incorporated cities plus portions of both the City and County of Los Angeles house about 1 million residents. Most of the South Bay cities were settled in the early 20th Century and, much like other suburban regions of California, they grew dramatically in the immediate post-war period. The result of this growth was a dense, relatively low-rise suburban form where almost no vacant parcels remained after about 1970.

Despite being a dense suburban region, the South Bay transit service is poor, bus ridership is lower than the County average and rail infrastructure is nominal with only marginal additions planned through 2035. The assumption that a significant percentage of the residents of TOH will use transit to decrease personal trips and carbon vehicle miles travelled will not work for this sub-region. Rather, a state mandate to build TOH in the South Bay, without substantial expansion of existing transit service, will increase congestion near development sites rather than reduce GHG emissions.

The question of how best to address new housing opportunities that will mitigate GHG emissions needs to fit the community's context defined by its built environment and transportation options and can only be determined and implemented at the local level - only local planners have the insight to meet that challenge.

Since 2003, the South Bay Cities Council of Government (SBCCOG) has been conducting a research and demonstration program focused on the nexus of land use and transportation strategies for reducing GHG emissions. A regional strategy for low carbon transportation – referred to as zero emission multi-modal mobility – was produced and adopted by the SBCCOG Board in 2010. That strategy became the framework for the land use and transportation policies and programs that were developed and approved in the 2018 SBCCOG's Sub-Regional Climate Action Plan.

Referred to as Neighborhood-Oriented housing (NOH), it is the housing component of the mixed-use Neighborhood-Oriented Development (NOD) strategy in the CAP. NOH will direct housing development to neighborhoods with under-performing strip retail and a city-designated center, regardless of the quality and frequency of transit service. Zero emission multi-modal mobility, consisting of a family of small, slow, short range zero emission vehicles and personal mobility devices; shared, rented or privately owned, is the most cost-effective means for satisfying the short trips that dominate household travel.

When authorizing the location of and conditions for meeting state housing mandates and satisfying grant criteria, local jurisdictions should have the option to choose Transit-Oriented Housing and Transit-Oriented Development, Neighborhood-Oriented Housing and Neighborhood-Oriented Development, or some other adopted strategy that minimizes GHG emissions.

These themes are expanded in the remainder of this White Paper.

Problem

The SBCCOG understands the critical need for more housing throughout the State, affordable housing in particular. Lack of workforce housing is one source of the existing traffic congestion which is straining our transportation infrastructure, damaging the economy, reducing quality of life and generating GHG emissions and air pollutants.

In addition to addressing the housing crisis, both the SBCCOG and the State are concerned with the climate crisis which is threatening water supply, causing wild fires, resulting in deaths from extreme heat, and forcing coastal cities to adapt to rising sea levels.

As a leader in the global community combating climate change, the State has asked cities to reduce GHG emissions by 40% below 1990 levels before 2030. Transportation generates about 45% of each city's emissions, so aggressive policies for moving toward zero emission mobility are essential to meeting the goals.

Housing-needs statewide have been forecast in the range of 3.5 million homes by 2025; to be achieved by building 500,000 dwelling units per year for each of the next 7 years. The challenge will be building that volume of housing while minimizing the carbon emissions generated by the new occupants which could total as many as 50 billion travel miles annually by 2025.

The State's established response to the housing-carbon relationship is policies and programs that concentrate private investment and public funding on building new units at high densities adjacent to rail infrastructure or "quality" bus transit corridors. This is referred to as Transit-Oriented Housing (TOH) which is often part of a mixed-use Transit-Oriented development (TOD).

As practiced, TOH/TOD is largely "faith-based." Policies fail to include carbon targets (for example 50% zero emission VMT within 3 years) or specific carbon reduction requirements (like parking maximums). Performance is seldom evaluated. While wishing for favorable results from the TOH strategy, alternative policies and programs are not being developed and demonstrated.

Transit-Oriented Housing: Dense Housing Adjacent to Transit Corridors

The dominance of the TOH strategy raises three concerns.

1. Traditional transit (publicly subsidized fixed route, fixed schedule, "shared" service) is most effective in dense urban places but much less so in suburban contexts. A common phrase describing the strategy is that "density makes transit feasible and transit makes density livable." Transit-Oriented Housing will have limited effectiveness reducing the GHG emissions in most suburban regions of the state.

2. Transit ridership is declining nationally including in Los Angeles County where even with an aggressive rail construction program, system ridership overall is down and bus ridership is lower than it was in 2008. Most significantly, a 2018 study by UCLA into the reasons for declining transit ridership in LA County found that “the most significant factor is increased motor vehicle access, particularly among low-income households that have traditionally supplied the region with its most frequent and reliable transit users.” (Falling Transit Ridership, California and Southern California, UCLA Institute of Transportation Studies, Manville, Taylor and Blumenberg, January, 2018, prepared for SCAG)

In other words, even the transit-dependent community which provides the core demand for public transit will abandon the service as soon as it can get access to a private automobile. The majority of people no matter their income, simply prefer door to door, on-demand service over scheduled route service even when those trips are 83% publicly subsidized, as they are in Los Angeles County.

3. Traditional public transit is bound to change in the future, perhaps dramatically in the coming decade. New competing mobility devices and services are emerging and being deployed, including ride hailing, e-scooter rentals, e-bikes and more. Within a few years automated vehicles will provide effective competition to the vitality and perhaps even the viability of traditional public transit. It may be that the system of fixed route, fixed schedule transit may not produce enough mode share for long enough to justify building houses, with a 50 to 100 year life adjacent to those routes.

One question is whether there is a land use and transportation strategy by which new housing will “outperform” TOH, at least in some circumstances?

Housing as a Companion to Fleet Electrification

Fleet electrification is the primary carbon containment strategy being pursued by the State. The California Air Resources Board (CARB) provides cash rebates to purchasers of qualified electric vehicles and the California Energy Commission (CEC) is investing in electric charging in order to provide the fueling infrastructure.

As discussed at Governor Brown’s International Climate Action Summit on September, 2018, sales of zero emission vehicles have fallen behind the established targets. Current policies and programs are not as effective as they need to be. CARB is considering increasing the “clean air vehicle” subsidy from \$2,500 per vehicle to \$4,000, in part to compensate for the diminishing federal tax rebate.

An integrated housing-EV strategy is an unrecognized strategy that would contribute to faster EV adoption. Unlike the mutually reinforcing relationship between housing and transit, there is no recognized land use strategy that mutually reinforces ZEV adoption. A land use component to complement the mobility component has not yet been identified – until now.

Neighborhood-Oriented Housing and Electric Vehicles

The SBCCOG has been conducting a research and demonstration (R&D) program since 2003. That initiative produced a land use strategy that forms a virtuous cycle with fleet electrification, and it was adopted by the Board in 2010. We refer to this as the Neighborhood-Oriented housing (NOH) component of a larger Neighborhood-Oriented development (NOD) strategy.

The land use strategy would redevelop underperforming commercial strips into housing, made possible by migrating retail and other destination types (from job sites to schools) into a new form of an old idea, the *neighborhood center*. These centers will be designated by each city based on the existing density and mix of destinations; and each center will include a technology component that will add virtual access to the physical. The idea is to use all possible means to bring many destinations to within walking of every household.

Our R&D program found that 70% of the trips taken in the South Bay are 3 miles or less. Demand for trips that are too long to walk and too short for transit has been discovered by commercial interests as a rich market niche for small zero emission vehicles specialized for short trips and slow speeds. The current e-scooter phenomenon validates the findings from our survey research supported by the NEV and BEV demonstrations. We refer to this as the “zero emission multi-modal mobility strategy.”

Those small vehicles and devices are the least expensive options on the market and so are extremely cost-effective for consumers. As important; the new mobility options do not require very large government capital investments nor operations and maintenance subsidies. In general, this strategy would lower the cost of mobility to society. In addition, the small vehicle volume and slow speeds contribute to improved safety for cyclists and pedestrians.

The SBCCOG completed a sub-regional Climate Action Plan with a chapter on land use and transportation in 2018. It translates the land use and transportation strategy from 2010 into implementation policies and projects.

Suggestions

In order to broaden State housing policies to include alternatives to TOH, new legislative language will be needed and program guidelines revised. The following are high level suggestions for crafting a neighborhood focus instead of solely a transit focus.

Neighborhood-Oriented cities should have:

- A designated neighborhood center which over time will become a relatively small but dense, destination-rich location, the equivalent of a neighborhood business district. The SBCCOG has developed a methodology for planning neighborhood centers. They should be developed in conjunction with existing or future residential corridors.

- Re-zoned commercial strips for redevelopment into housing. A precursor to the rezoning would be a study similar to SCAG’s collaboration with the Orange County Business Council, “Retail Land Use in Orange County: An Examination of Future Potential,” April, 2018.
- Designated “local travel networks” that will accommodate pedal technologies, e-bikes, Segways, neighborhood electric vehicles, e-scooters, and more. This represents the next generation of “complete streets” which today are limited to bicycle, transit and pedestrian modes rather than the multi-modal mobility that is needed. The SBCCOG has a Caltrans grant to develop a feasibility plan for a local travel network; this plan and its implementation should be monitored and evaluated in terms of its impact on zero emission multi-modal use and congestion.
- Parking plan to accommodate the vehicles, whether owned or shared, that use the “local travel network”.
- Wide spread deployment of public electric charging, especially relatively low cost Level 1 service.
- Smart city technology and applications, especially those that create virtual access available through neighborhood centers.

State programs could be offered to help cities plan and develop those characteristics.

Other State policies for facilitating NOH include:

- Reconcile the planning approaches and goals associated with the Land Use and Transportation Chapter of Climate Action Plans with the Sustainable Communities Strategy Chapter of the Regional Transportation Plan. Both deal with the interplay between land use and transportation, however the CAP lends itself to sub-regional modelling that is close to the ground and far less complicated and expensive than the regional models and high level focus of the RTP. SCAG’s “policy growth forecast” in the 2016 RTP was based on TOD and TOH.
- Increase the CVRP and expand it by making low cost vehicles such as NEVs eligible for the maximum subsidy. This will be far more cost-effective than increasing the subsidy from \$2,500 to \$4,000 per vehicle
- Fund or otherwise support sub-regional development of fiber networks capable of delivering gig/sec speeds to every government facility, public school, library and neighborhood center.
- Require NEV sharing in multi-family buildings above a threshold size.
- Impose parking maximums on new housing developments and extensive electric charging infrastructure in parking areas.

The SBCCOG can help develop the wording needed for new legislation and program guidelines.

Conclusion

It is time for new thinking in the State to address the geographic-diversity that is a strength of California. For too long, state policy and state grants have been narrowly focused on Transit-Oriented development and access to and from it. With transit ridership in decline and its long-term viability in question, it's time to look for new approaches.

The State has the opportunity to foster housing policy that supports local authorities to use the latest mobility and digital technologies to re-build neighborhoods as the center of community and economic life. Providing an option siting new housing which reinforces neighborhoods rather than transit routes will be welcomed in most suburban regions.

NOD should not displace TOD in areas where transit is most effective, but local governments should be given options as to which strategy to adopt in order to incorporate their share of the 350,000 new housing units that will be required.

See www.southbaycities.org for more information on Neighborhood-Oriented development, Neighborhood-Oriented housing and zero emission multi-modal mobility.