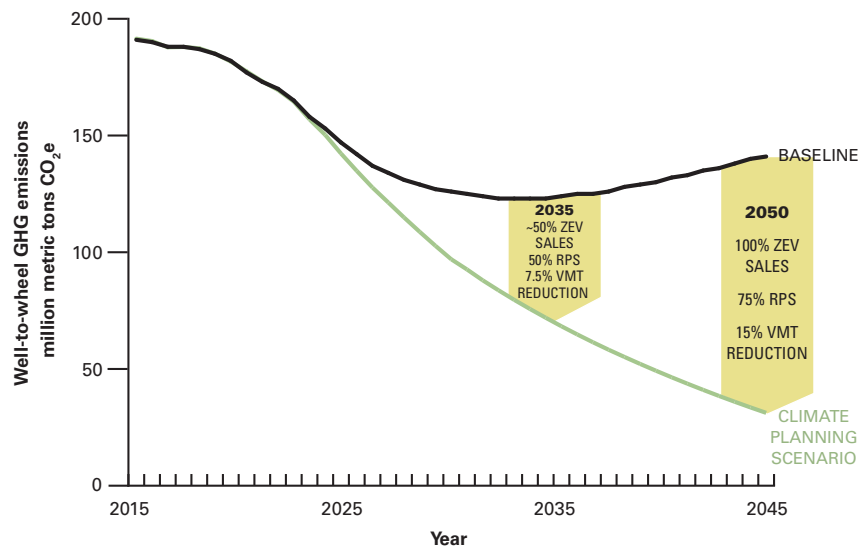


CARB is actively studying the effects of smart growth strategies. This research synthesis summarizes results from several recently completed research projects.

Kicking the Car to Cut Carbon

Reducing the need for driving saves money and can improve quality of life

CARB research has resulted in strategies and tools that help local communities pursue “smart growth,” reduce the need for driving, minimize air pollution exposure, and keep low-income residents in their neighborhoods.



Large cuts to greenhouse gases from transportation are needed to meet statewide climate goals, spanning different fuels and vehicle technologies, and reducing people’s need to drive. The graph shows the total reduction in “well-to-wheel” greenhouse gas emissions that are needed through 2035 and out to 2050. The “baseline” shows what emissions would be without California’s important efforts to mitigate climate change.

What should you know about California’s Sustainable Communities Law?

Senate Bill (SB) 375 – the Sustainable Communities and Climate Protection Act – is California’s landmark law that seeks to make land use, transportation, and housing planning more sustainable so Californians can get where they need to go without driving as far or as often in personal cars. SB 375 requires regions across the state to prepare Sustainable Communities Strategies that provide more housing and transportation options so people can easily walk, bike, and use transit. While these strategies are critical for reducing greenhouse gas (GHG) emissions, they also provide many other benefits, such as improved access to destinations, enhanced health and safety, and cost savings that benefit local and regional economies. However, some strategies can lead to unintended side effects, including rising housing costs and additional exposure to traffic pollution when people spend more time near busy roads.

NEW RESEARCH FINDINGS: POLICY EFFECTIVENESS

- *Smart growth policies can save money:* case studies suggest that re-zoning for higher density development, reducing parking requirements, and requiring pedestrian-friendly design can result in up to \$1 million in benefits to cities and over \$100 million in benefits to the region.
- *Passenger rail transit is a valuable alternative to driving:* when the LA Expo Line opened, people living close to stations drove less than people that lived farther away, and they still drove less 18 months after the opening. However, passenger rail investments are also sometimes associated with increases in

housing costs and loss of low-income households (i.e., displacement). *Research has resulted in tools to help communities* identify neighborhoods that are at risk for displacement and policies to prevent it.

- “*Complete streets*” – designed for walking, biking, and transit, as well as cars – are sometimes associated with lower vehicle traffic volumes, less traffic pollution exposure, and more use by pedestrians and cyclists.

Type of Policy or Strategy	Strategy & Effect
Land Use: e.g., residential density, land use mix, street connectivity, etc.	For a 10% increase or improvement, up to 4% reduction in VMT.
Infrastructure and Services: e.g., distance to transit, quality of transit service, bike/pedestrian infrastructure	For a 10% increase or improvement, up to 60% reduction in VMT.
Operations: e.g., eco-driving, transportation system management, traffic incident clearance	Where implemented, can result in an 8% reduction in fuel consumption/GHG emissions.
Demand Management: e.g., telecommuting, employer-based trip reduction programs	Each individual program participant can reduce VMT up to 90%.
Pricing: e.g., gas price or parking price increase, road user pricing	For a 10% increase in pricing, up to 30% reduction in VMT.

IMPORTANT ONGOING RESEARCH

- CARB is partnering with Caltrans to *develop a statewide system for tracking progress* toward transportation-related climate change goals.
- CARB is continuing to study the potential vehicle travel impacts and other possible benefits of *locating affordable housing* close to transit.
- CARB is supporting ongoing research on strategies that may reduce the need for driving and thus reduce the creation of traffic pollution. This includes studies of walking, biking, public transportation, and emerging mobility options (ridesourcing, ridesharing, and connected/autonomous vehicles).
- The added benefits of sustainable communities are also on CARB’s research agenda, including estimating the health benefits of biking and walking for transportation using new models.

ONGOING EFFORTS TO “KICK THE CAR”

- In 2017, *CARB will update the SB 375 GHG emission reduction targets* to align with the State’s GHG reduction goals for 2030 and beyond.
- The State has identified additional state-level strategies to further reduce the need for driving and to complement local and regional actions already underway: https://www.arb.ca.gov/cc/scopingplan/app_c_vibrant_comm_vmt_measures.pdf.
- The Affordable Housing and Sustainable Communities grant program contributes to filling the need for higher density housing near transit, including more affordable units.
- To help streamline projects that increase infrastructure for transit, bicycles, and pedestrians, the Governor’s Office of Planning and Research is updating CEQA Guidelines, pursuant to SB 743; see www.opr.ca.gov/s_sb743.php
- SB 1 and SB 150, along with proposed legislation (AB 1640), increase funding for sustainable transportation, better align transportation investments with environmental and social equity goals, and track progress of regional Sustainable Communities Strategies.
- Near-roadway air pollution exposure is linked with a variety of negative health effects. A CARB report, which summarizes strategies to reduce air pollution exposure near busy roads, provides planners and stakeholders with information on science-based strategies that can be implemented to reduce exposures. The report is available at www.arb.ca.gov/ch/landuse.htm.

FOR MORE INFORMATION

Research project information can be found at:

CARB’s Sustainable Communities Research Program: <http://bit.ly/2hiJdud>

Research on Impacts of Transportation and Land Use-Related Policies: <http://bit.ly/2fjwV4s>

Quantification Methodology for Affordable Housing and Sustainable Communities (AHSC) Program: <http://bit.ly/2xR6Zog>

CARB’s technical advisory on strategies to reduce air pollution exposure near busy roadways: <http://bit.ly/2fbCDI3>