

Fuel efficient and electric cars will never be enough

Electric vehicles (EVs) and strong CAFE fuel-economy standards, while essential to reduce emissions from the transportation sector, are not enough to decarbonize the transportation sector on their own. We need to reduce the amount and distance people drive through better land use and by promoting transit, walking, and biking.

Transportation is now the single largest source of greenhouse gases (GHG), contributing 29 percent of the United States' total GHG emissions, 83 percent of which comes from cars and trucks.¹ Vehicle emissions are the result of a combination of three things: fuel efficiency, the carbon content of fuel, and the distance people travel (vehicle miles traveled, or VMT). Gains in two of these areas could be negated by losses in the third. That's where we find ourselves today as transportation emissions continue to increase.

As an example, between 1990-2016, a 50 percent increase in driving negated a 35 percent increase in overall fleet fuel efficiency brought on by the implementation of CAFE standards.² This caused emissions to rise by 21 percent over the same time period.³

We can't meet our climate goals with EVs and improved efficiency alone

Despite an aggressive effort to promote electric vehicle adoption and higher fuel efficiency standards, California has found that in addition to EV adoption, every person in the state would still need to reduce their daily VMT by 1.6 miles to reach the state's 2030 climate target.⁴ A recent report from Smart Growth America and Rhodium Group found that, in order to meet Hawaii's ambitious climate goal of 100 percent clean energy by 2045, it will need to reduce its VMT through strategies that improve transit and encourage walking and biking.⁵ Minnesota has also found that the state will need to reduce driving to reach its climate targets, even as they work to increase the adoption of EVs.⁶

In addition, electric vehicles are only as clean as the fuels used to power the grid. Electric vehicles will be charged by fossil fuels until renewables are slowly added to the electric grid. In Hawaii, the data showed that increased emissions from EV charging would have to be offset by further reductions in VMT.

We're undermining our own efforts

Improvements in vehicle efficiency and vehicle electrification are being undermined by the way we design and spend money on our roadways. New highways, roads, and lanes induce more driving (VMT), which leads to more emissions and ultimately more congestion. This is called "induced demand."⁷ In fact, driving increases in exact proportion with lane-mileage—a 10% increase in lane miles will lead to a 10% increase in driving.⁸ Though building more highways increases emissions, federal transportation spending actually encourages more driving and undermines limited investments in biking, walking, and transit.

1 www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions

2 www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm

3 <https://cfpub.epa.gov/ghgdata/inventoryexplorer/#transportation/allgas/source/all>

4 www.curbed.com/a/texas-california/electric-cars-climate-change-sacramento-california

5 <https://smartgrowthamerica.org/resources/transcending-oil-hawaii-path-clean-energy-economy/>

6 www.minnpost.com/environment/2019/01/minnesota-has-done-a-pretty-good-job-reducing-greenhouse-gas-emissions-from-electricity-generation-reducing-emissions-from-transportation-could-be-harder/

7 www.citylab.com/transportation/2018/09/citylab-university-induced-demand/569455/

8 www.sciencedirect.com/science/article/abs/pii/S0967070X18301720

Federal investment in driving dwarfs transit, walking, and biking

Over \$40 billion is guaranteed to states for highways, which states may spend on expansion while neglecting repair needs.⁹ By contrast, only \$2.6 billion is available for new public transit, and this funding is not guaranteed. And while the federal government will cover 80 percent of the cost of a highway project, it will only pay for up to 50 percent of the cost of a transit project. This places a huge burden on local communities that choose to build or expand transit and incentivizes highway construction. Meanwhile, biking and pedestrian safety are given \$850 million per year—a drop in the bucket.¹⁰

The adoption of electric vehicles will do nothing to improve congestion

Without reform, even as vehicles become cleaner, roadway design will continue to ensure driving is the only safe and convenient option. People driving electric or more efficient vehicles will continue to face congestion and live in places where walking to work, the park, or other essential services is too dangerous or unpleasant. Nearly half of all car trips are three miles or less, trips that could easily be made by walking, biking, or transit if land use and transportation decisions were better coordinated.¹¹

Transportation inequities will persist

Accessible, affordable transportation is essential for accessing jobs, health care, schools, and services. Transportation costs are the second-largest expense for American households and car ownership can often be a burden or unaffordable for low-income families. Personal electric vehicle adoption does nothing to address these existing inequities. Transportation costs tend to be lower for those living in neighborhoods where it's safe to walk, bike, or take transit. Promoting these modes of transportation both reduces emissions and is more equitable.

We must enact policies enabling people to take fewer and shorter car trips

We can reduce our transportation emissions by:

- **Providing all modes with the same federal funding and cost share;**
- **Measuring what matters and holding ourselves accountable: USDOT and states should measure GHG and VMT per capita and set targets for improvements;**
- **Prioritizing road maintenance over expansion with formula funding;**
- **Incentivizing and making changes in land use to allow housing to be located closer to jobs and important destinations; and**
- **Designing roads for safety, not speed.**

9 <http://t4america.org/maps-tools/repair-priorities/>

10 www.fhwa.dot.gov/environment/transportation_alternatives/

11 <https://nhts.orl.gov/vehicle-trips>