

# The gas tax is running out of gas! What alternative is sustainable?

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Federal motor vehicle fuel taxes have been the primary means of paying for highway maintenance and construction since 1956. The failure to increase the federal gas tax since 1993 has reduced its purchasing power by 33% and drastically undercut its ability to keep pace with rising infrastructure costs and inflation. Are you paying the same amount for goods compared to 1993? (See table below.)

Another impact that has reduced the effectiveness of gasoline tax revenue is the emergence of alternative fuel vehicles, notably plug-in hybrid, hydrogen, battery electric passenger cars and light-duty trucks that grew at a compound annual growth rate of 106% between 2010 and 2015, resulting in sales of more than \$3.24 million vehicles during that period. While the impact of alternative fuel vehicles on gas-tax revenues is likely to be low in the immediate future, such vehicles will pose a greater risk in years to come as demonstrated on page 67.

*Bloomberg* states that electric vehicle (EV) sales worldwide reached just under half a million dollars in 2015—a 60 percent rise on the previous year. Although electric-powered cars make up only one percent of the global vehicle total at present, it is predicted that worldwide EV sales will be more than 40 million by 2040, making up approximately 35 percent of all light-duty vehicle sales.<sup>1</sup>

In addition, the Environmental Protection Agency (EPA) issued new rules requiring automakers to improve the fleet average fuel economy of their new models, resulting in lesser gas consumption.

Aging infrastructure, uncertainty of the federal transportation program and Highway Trust Fund sustainability (HTF), national and international recession, inflation and political reluctance to raise the federal gas tax, have all contributed to a decline in gas tax revenues, which has emerged as a major national problem. The funding shortage to maintain and build

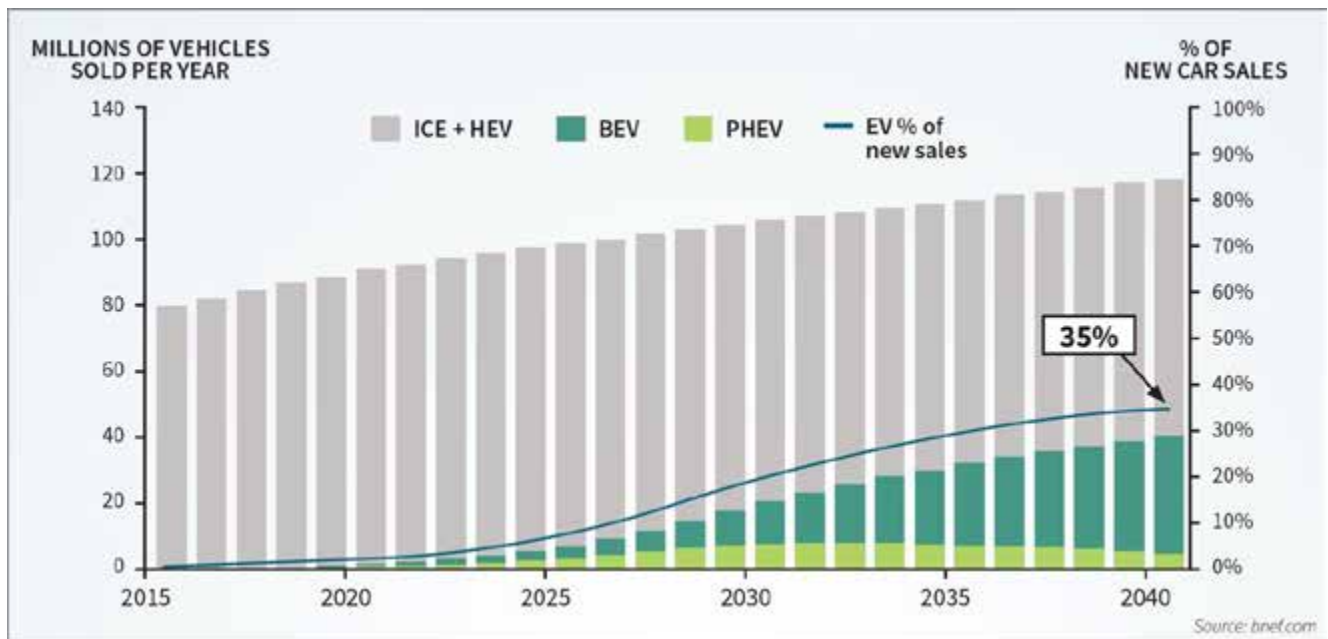
transportation infrastructure projects is a serious challenge to public agencies nationwide. The hardship is more severe for smaller municipalities.

The recently passed \$305 billion FAST Act Highway Bill offers not much of an increase over the last transportation bill, keeping us at the same funding levels of the last eight years. Unfortunately, the bill does nothing to address the broken HTF, but it does a great deal to make its financial situation worse. Under FAST, the HTF will be close to exhaustion in 2021 and will require an even larger bailout. Rather than provide billions in more bailouts, the HTF needs fundamental and lasting reform to function as a source of sustainable funding. The time to explore a new infrastructure funding source is upon us, but along this journey, other fundamental changes need to be adapted and implemented:

- We need a shift in the public’s mindset towards selecting multi-modal commute options (light rail and bus rapid transit, for

ITEM	UNIT/DESCRIPTION	1993	2010	% CHANGE
College Tuition	Average Tuition and Required Fees	\$3,517	\$9,136	160%
Gas	Per Gallon	\$1.12	\$2.73	144%
Movie Ticket	Average Ticket Price	\$4.14	\$7.89	91%
House	Median Price	\$126,500	\$221,800	75%
Bread	Per Pound	\$1.08	\$1.76	62%
Income	Median Household	\$31,272	\$49,167	57%
Stamp	One First-Class Stamp	\$0.29	\$0.44	52%
Beef	Per Pound of Ground Beef	\$1.57	\$2.28	46%
Car	Average New Car	\$19,200	\$26,850	40%
Federal Gas Tax	Per Gallon	\$0.184	\$0.184	0%

Source: U.S. Census Bureau, U.S. Department of Transportation, U.S. Postal Service, U.S. Department of Commerce, U.S. Department of Education, National Association of Theatre Owners



example). Single-occupant vehicle driving is one of the key burdens on the country’s transportation infrastructure and network. The more we build and widen the corridors, the more vehicles will appear!

- New infrastructure technology and innovation has arrived, and it’s up to us to learn, adjust, and implement these new available approaches. To ensure a more sustainable and effective transportation system, transportation funding and traffic congestion measuring should be made neutral, placing all transportation modes on equal footing. Associated regulations and guidelines should have the flexibility to include multimodal solutions other than vehicle lanes, such as dedicated transit lanes; bike lanes; sidewalks; transit cutouts and stops; and/or traffic calming measures.
- We must maximize spending money on maintenance, preservation, and restoration of our existing transportation infrastructure—not on building new roads. Building new infrastructure uses most of the available (and not enough)

revenue for structures that we can’t even afford to maintain for the long term. Earmarks, competitive grant programs and other political distributions of funds have focused on building new, often unnecessary, projects rather than maintaining the infrastructure we already have. This occurs despite the fact that maintenance projects often require less funds compared to new projects.

- We must change our finance policies to allow less bonding of the revenue stream. By not over-bonding revenue streams, we will ensure that we have more available revenue to pay for future expenses. This will provide a more stable revenue stream on an ongoing basis to pay for transportation infrastructure.
- We must enforce accountability of elected and appointed officials for the long-term viability and sustainability of the investment programs, which should lead to support of transportation agencies’ “performance-based” programs.

**VMT is becoming the most favorable alternative transportation funding source**

Vehicle miles traveled (VMT) is emerging as the consensus and predominate choice for a future transportation funding mechanism. It is a funding system based on direct “user pay” charges, in the form of a charge for each mile driven. VMT is the most viable approach to effectively fund surface transportation improvements in the long run; it is based more directly on miles driven (and potentially on other factors such as time of day, type of road, and vehicle weight and fuel economy) rather than indirectly on fuel consumed. Current gas taxes can impose a larger burden, relative to income, on people who live in low-income or rural households. Even for households that do not own passenger vehicles, gas taxes impose an indirect burden because they raise public transportation costs as taxes are reflected in the prices of those purchased goods.

In implementing VMT taxes, policymakers are confronted with several questions: what are the goals of the system, which vehicles and roads to include, what methods and technology would be used to administer the system, and how should the system be introduced to the public?

As of 2012, 18 states have considered a framework to study and/or implement a VMT pilot program in order to successfully design this funding alternative in ways that: it protects users' privacy and civil liberties; incorporates any necessary cross-subsidies (for instance, to benefit the national network or to meet social equity objectives); does not interfere with interstate commerce; accounts for inter-jurisdictional travel; analyzes urban/rural equity; considers transition from gas-tax to VMT; investigates on-vehicle technologies; and last but not least, supports carbon reduction goals.

Greater use of pricing mechanisms, such as VMT pricing zones, could also spur more efficient use of the transportation network and, by shifting demand to less congested periods of the day or to other modes, may enable more efficient investment, thus reducing the additional capacity that needs to be built.

To collect VMT fees, it's currently the vision that an onboard vehicle device would capture the distance driven by a vehicle through GPS or other technology and relate that to a method of charging, which could involve payments at the gas pump, billing, or automatic deductions for a prepaid

customer account. GPS units on board a vehicle can record distance, assign it to the appropriate taxing jurisdiction, and calculate the amount owed. Only the final billing information would have to be released outside the unit, to protect privacy.

The FAST Act Highway Bill has allocated some funds for states to continue using for such studies. Several states, most notably Oregon and California, have already experimented with, or are launching VMT pilot programs. The Oregon Department of Transportation (ODOT), which conducted a small-scale pilot program, found that a VMT system is workable, can be successfully integrated with the fuel tax, and can be paid at the pump, as now occurs with the fuel tax. The federal Department of Transportation is funding the University of Iowa for a VMT study involving drivers in a number of states. Below is a summary of significant events in evolution of the VMT funding alternative in the United States.

According to University of Virginia Miller Center of Public Affairs' *Well Within Reach* report<sup>2</sup>, VMT fees "... could generate significant revenues. A fee of just one penny per mile would equal the revenue currently collected by the fuel tax; a fee of two cents per mile would generate the revenue

necessary to support an appropriate level of investment over the long term."

The potential benefits of a VMT system include significant revenue potential and stability; more equitable distribution of highway costs among drivers of different types of vehicles; the ability to optimize highway use (e.g., by charging higher fees during peak traffic times); and use of proven technology, such as GPS systems.

Oregon is actually the first state that introduced and implemented their own gas tax (\$0.05/gal) in 1919! Now they are, kudos to them, on the lead to introduce and implement the VMT as an alternative but sustainable transportation funding source. It's time for more states to join the move, or at the very least begin implementing more research and studies around VMT. We have waited long enough for funding to appear. It's time to act.

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**Notes:**

<sup>1</sup> <http://ecowatch.com/2016/03/09/electric-car-revolution-bloomberg/>

<sup>2</sup> <http://www.infrastructureusa.org/well-within-reach/>

**SUMMARY OF SIGNIFICANT EVENTS IN EVOLUTION OF VMT ALTERNATIVE IN USA**

2007	Oregon conducted a VMT tax pilot project.
2008	The University of Iowa Public Policy Center began a national evaluation of VMT fees.
2009	The National Surface Transportation Infrastructure Financing Commission released its final report, recommending VMT as a means of financing road infrastructure that would eventually replace the fuel tax. <sup>3</sup>
2011	The U.S. Congressional Budget Office issued a report comparing the relative merits of fuel taxes, vehicle excise taxes, vehicle tire excise taxes, and hypothetical vehicle miles traveled tax.
2012	Oregon conducted a second road user fee pilot. The pilot was completed successfully in January 2013.
2013	Oregon passed the first legislation in the United States to establish a permanent road usage charge system for transportation funding. The law authorizes the Oregon Department of Transportation (ODOT) to set up a mileage collection system for 5,000 volunteer motorists beginning July 1, 2015. ODOT considered assessing a charge of 1.5 cents per mile for up to 5,000 volunteer cars and light commercial vehicles and issuing a gas tax refund to those participants.
2016	The California Department of Transportation has selected four private account managers to launch a pilot program in July of 2016. The California road charge pilot will be looking for 5,000 volunteers — similar to Oregon, but will differ from the Oregon pilot in that it will only simulate payments.