

Gas tax alternatives

A policy evaluation framework

State transportation systems rely primarily on gasoline taxes for funding. But this is unsustainable; as vehicles become more efficient and electric vehicles gain more market share, gas tax revenues are drying up, resulting in a widening gap between infrastructure funding and investment needs. Without a switch to alternative funding mechanisms, America's road maintenance backlog will grow dangerously long and public transit agencies will be forced to drastically cut service.

Much of the discussion about alternatives to the gas tax in recent years has focused on the idea of "fairness"—ensuring that those who travel by modes other than gas-powered cars "pay their fair share." While this seems like an admirable goal, it can often result in policies that in fact penalize people for switching to electric vehicles or other modes. New policies should look to find a balance of "fair share" notions and an approach to transportation funding that accomplishes other policy goals such as equity and climate action.

So policymakers are now faced with a new challenge: how can we fund our roads without relying on gas-powered cars? Any new tax structures will face challenges in providing stable revenue, incentivizing the right behavior, fairly and equitably impacting all taxpayers, and being implemented. To reflect these needs, we created a framework for evaluating new transportation funding policies.

Of course, funding is only one part of the equation. Our transportation system should be judged based not only on how it raises funds, but also how that money is spent. This framework, however, is targeted exclusively at the revenue side of the equation.

Our framework is principally targeted toward state governments, but federal, regional, and local governments can still benefit from this analysis in measuring their own policies. Any new funding scheme will likely require a layered approach in which all levels of government provide thoughtful engagement, and in which each level of government may have distinct goals that require both policy coordination and shared implementation infrastructure. This tool is meant to guide that discussion.

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The framework

1. Revenue stability
2. Incentives & outcomes
3. Equity
4. Feasibility/Scalability

Revenue stability

Revenue stability is the driving goal of most discussions about alternatives to the gas tax. State legislatures and departments of transportation are looking for revenue streams that can provide long-term, stable funding to transportation projects. Every funding scheme is dependent on some outside force for long-term stability, including:

- 1. Car-dependent:** Stable revenue stream as long as cars remain the dominant mode of transportation.
- 2. Self-governing:** The scheme is either pegged to non-vehicle factors or has a mechanism for adjusting to a system that is less dependent on cars.
- 3. Appropriations-dependent:** Stable revenue stream as long as the legislature and executive continue to appropriate adequate revenue to it.

Incentives & outcomes

How will your new funding scheme change road user behavior? Every scheme changes the incentives for people's vehicle purchasing decisions, causing people to do one or more of the following, to different degrees:

- 1. Mode shift:** Reduces car use and increases the use of transit, passenger rail, walking, bicycling, or other such modes of transportation. Useful for reducing negative impacts from driving and making more efficient use of road right of way.
- 2. Electrification:** Pushes road users to adopt electric vehicles rather than fossil fuel-powered vehicles.
- 3. Vehicle size:** Strengthens incentives for road users to adopt smaller, more energy- and fuel-efficient vehicles.
- 4. Status quo:** Nothing. Road user behavior is unaffected by the new scheme. People continue to drive gas-powered vehicles at the same rate they would have absent the new funding scheme, all else being equal.



Equity

Racial and social equity are not a binary “yes or no” question. Any transportation funding scheme can be more or less equitable, depending on how it is rolled out. So instead of “equitable” or “inequitable,” schemes should be evaluated on whether they adequately address the [history of inequities](#) built into our transportation system. In addition to achieving as much community engagement as possible, schemes should look to address the following issues, which we pulled from a [2019 TransForm report](#):

- 1. Affordability:** Will the scheme make transportation more expensive for some members of vulnerable communities, and by how much?
- 2. Access to opportunity:** Will the scheme improve access for vulnerable communities to the many and diverse places they need or want to go?
- 3. Community health:** Will the scheme reduce air pollution and the health problems that accompany it by reducing driving?

Feasibility/Scalability

Every new transportation funding scheme requires several elements to work well, including technology, administrative capacity, public acceptance, jurisdictional control, and accurate revenue projections. But even the most proven systems can have issues being expanded (or scaled) in order to fund the entire transportation system. Funding schemes can be:

- 1. Feasible and scalable:** Rollout is possible right now and can easily be scaled to fund most of the costs associated with the transportation system.
- 2. Feasible, but not scalable:** The scheme is feasible, but not capable of being expanded to fund the whole transportation system. Pairing it with one or two others could combine to provide adequate system-wide funding.
- 3. Infeasible and unscalable:** Rollout is impossible in the near term. One or more of the elements of this scheme will block its implementation entirely unless provided structural reform.

Examples of policy evaluations

Vehicle miles traveled (road pricing)

Revenue stability	<p>Car dependent Stabilizes revenue only in the long term, and only if we stick with EVs. Could stabilize in the long term if we peg to inflation.</p>
Incentives & outcomes	<p>Mode shift</p>
Equity	<p>Affordability Increased expenses for low-income drivers. Access to opportunity Decreased congestion may increase transit access. Community health Mode shift incentives may reduce air pollution.</p>
Feasibility/ scalability	<p>Feasible and scalable Depends on rollout; success may be hindered by technology challenges, data privacy concerns, and high administrative fees.</p>

Tolling/High Occupancy Toll (HOT) lanes

Revenue stability	<p>Car dependent Like VMT, it increases only as driving (overall number of cars) does.</p>
Incentives & outcomes	<p>Mode shift</p>
Equity	<p>Affordability Toll-free driving remains an option. Access to opportunity Creates a two-tier system for road access based on ability to pay. Community health Mode shift incentives may reduce air pollution.</p>
Feasibility/ scalability	<p>Feasible, but not scalable Polling indicates this is the most popular scheme, but technical barriers to implementing at scale prevail.</p>

Congestion pricing

Revenue stability	<p>Car dependent Revenue generation ability unproven, has never funded an entire system.</p>
Incentives & outcomes	<p>Mode shift</p>
Equity	<p>Affordability Cost-free driving remains an option. Access to opportunity Creates a two-tier system for road access based on ability to pay. Community health Mode shift incentives may reduce air pollution.</p>
Feasibility/ scalability	<p>Feasible, but not scalable Proven as a partial funding solution, but has never funded an entire transportation system.</p>

Increase gas tax with inflation

Revenue stability	<p>Self governing Automatically replaces lost revenue, it works in the short term, and supported by economists.</p>
Incentives & outcomes	<p>Electrification, vehicle size, & mode shift</p>
Equity	<p>Affordability Remaining car owners penalized. Access to opportunity Decreased congestion may increase transit access. Community health Disincentivizes high-polluting modes of travel.</p>
Feasibility/ scalability	<p>Feasible and scalable Not popular but technically feasible. TRB has dismissed it as politically infeasible.</p>

Vehicle miles traveled & externality (social cost) pricing

Revenue stability	<p>Car dependent Like vehicle miles traveled, it increases only as driving does. Only works if we stick with EVs.</p>
Incentives & outcomes	<p>Electrification, vehicle size, & mode shift (depending on details)</p>
Equity	<p>Affordability Price exactly reflects road costs; opportunities to avoid fees. Access to opportunity Decreased congestion may increase transit access. Community health High-polluting vehicles directly penalized; health goals in mind.</p>
Feasibility/ scalability	<p>Infeasible and unscalable Pricing highly variable, in need of further study.</p>

Flat vehicle registration fees, especially on EVs

Revenue stability	<p>Self governing Could make up for revenue decreases due to EVs and can be adjusted as further mode shift occurs.</p>
Incentives & outcomes	<p>Mode shift & vehicle size</p>
Equity	<p>Affordability Increased costs may burden vulnerable communities. Access to opportunity Those who can afford to pay retain access, those who cannot lose access. Community health No effect on health unless high-polluting vehicles aren't charged more.</p>
Feasibility/ scalability	<p>Feasible and scalable Already in place; new scheme would just need to increase fees.</p>

General revenue subsidies

Revenue stability	<p>Appropriations dependent Stable against outside forces, but subject to government appropriations processes.</p>
Incentives & outcomes	<p>Status quo</p>
Equity	<p>Affordability Depends on structure, but if subject to progressive taxation could benefit affordability.</p> <p>Access to opportunity No change to access unless revenues are spent to do so.</p> <p>Community health No change to health unless revenues are spent to do so.</p>
Feasibility/ scalability	<p>Feasible, but not scalable Systems already in place, though would require immense political capital to scale.</p>

Parking fees

Revenue stability	<p>Car dependent Not very stable; goal would be to decrease revenues over time by decreasing parking.</p>
Incentives & outcomes	<p>Mode shift</p>
Equity	<p>Affordability Lower-cost parking remains an option.</p> <p>Access to opportunity Disincentivizes parking lots; increases walkability and transit access.</p> <p>Community health Decreases pollution related to parking.</p>
Feasibility/ scalability	<p>Feasible, but not scalable Systems already in place, though would require immense political capital to scale.</p>