



ADDRESSING CONCERNS WITH CONGESTION PRICING

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Congestion pricing, a variable toll that highway users pay based on the volume of traffic, offers a solution to the inefficiencies and high travel costs of highway congestion in the United States.¹ Despite congestion pricing's potential, some worry that moving from a fuel tax to congestion pricing would be unpopular because of concerns over pricing, privacy, and equity. Recent research published by the Mercatus Center at George Mason University describes ways to address these concerns that may make congestion pricing an effective and popular public policy.

THE PROBLEMS WITH CONGESTION AND A REALISTIC SOLUTION

Congestion occurs when scarce space on a road is overused, and it forces commuters to spend more time on the road at the expense of time at work or home. The increased air pollution affects the environment and can bring down the value of property along congested roads. Highway congestion also has large adverse effects on the growth rates of GDP, employment, labor earnings, and commodity freight flows.²

In 2014, congestion on highways alone cost commuters in the United States \$160 billion.³ The average annual traffic delay that drivers experience in urban areas has doubled in length over the past three decades.⁴

Governments have attempted to alleviate congestion with little success:

- Government transportation projects such as rail often experience cost overruns while doing little to alleviate congestion.⁵
- Government projects to expand highways are able to alleviate traffic congestion for a short while, but eventually traffic volume increases and traffic congestion returns. This creates additional costs to drivers.⁶
- Cities attempt to expand mass transit, but these investments still fail to reduce congestion on the roads, especially in the most densely populated cities.⁷

Variable tolls (also called congestion pricing) can solve the problem of congestion.⁸ Under this system, toll prices change based on how many cars are on the road. Tolls will be set higher during peak driving hours and lower (or at zero) during off-peak hours when there are fewer cars. Drivers will thereby have more incentive to drive at off-peak times, when they do not contribute to the congestion problem.

Congestion pricing does present some public policy concerns, including risks to data privacy and the potential to shift tax burdens to low-income individuals. Congestion pricing must also overcome political opposition. However, policymakers have ways to squarely address these issues.⁹

CONGESTION PRICING AND PRIVACY CONCERNS

To determine toll prices at various times, information on traffic volume would be constantly collected through license plate scans, driver IDs, and other means. Some critics are concerned about how and where the data on drivers will be collected and stored. While privacy concerns are much greater with congestion pricing than with fuel taxes, Mercatus scholars have found that these concerns can be alleviated while still reducing traffic:

- Charging drivers for vehicle miles traveled (a VMT charge) could allow for data to be collected based on location and time, and the information could remain stored in the car via an onboard unit, rather than on remote servers.¹⁰
- Travel details could be sent monthly to a private firm that would convert the data into a bill that would then be matched to an account for payment. After the bill is paid, the data would be deleted.¹¹
- Laws in Oregon currently restrict how collected data can be used and how long it can be stored. The State of Oregon also has a private company manage the data.¹²
- Successful models can also be found in London. The use of updated GPS technology allows for affordable ways to store up-to-date road pricing information and allows information to stay within the vehicle.¹³

In an era when government agencies have not always honored the trust placed in them when handling confidential information, it is understandable that many commuters may still be concerned about the privacy of their data. But as the current models are expanded and commuters see the benefits of the programs, their concerns about how transportation data is handled may be alleviated.

CONGESTION PRICING AND EQUITY CONCERNS

The effects of congestion pricing on equity vary based on where commuters live, work, attend school, and shop and on how much they have to travel.¹⁴

- A distributional analysis of the effects of comprehensive tolling compared to fuel taxes considered whether more high-income or low-income drivers were using the road and who was affected by noise and air pollution. The results were mixed.¹⁵
- Excise taxes such as fuel taxes are regressive because poorer people spend a larger portion of their budget on necessities like gasoline for their cars, yet they pay the same percentage in fuel taxes as those who are wealthier. In comparative studies, congestion pricing was found to be no more regressive than a fuel tax, while congestion pricing succeeds in reducing congestion (unlike fuel taxes).¹⁶
- If this type of congestion pricing system replaces fuel taxes, there are also concerns that costs and benefits for each driver will vary.¹⁷ Economists have long argued that the capacity of the road is normally determined by peak-time traffic, so peak-time travelers should pay higher tolls because they receive the greatest benefit from additional capacity. Peak-time drivers who pay the toll will benefit from continued use of the road, while drivers who try to avoid higher tolls will have to use less preferred travel methods or times or even travel less.

CONGESTION PRICING: COSTS AND BENEFITS CONSIDERED

The current fuel tax system funds highway construction and maintenance. The federal government taxes gasoline at about 18 cents per gallon and diesel fuel at 24 cents per gallon.¹⁸ States also impose their own taxes on gasoline and diesel fuel. However, these taxes are not designed to reduce traffic congestion and the problems that come with congestion. Congestion pricing can help alleviate the problems that a fuel tax fails to address.

When highway use is toll free, drivers only consider their own costs, not other costs to society. When there is no toll, drivers only consider their costs, like gas and travel time, to use the congested highway. This causes social marginal costs (a combination of private and external costs) to exceed social marginal benefits (a combination of private and external benefits), which results in an inefficient overuse of the highway.¹⁹

- Congestion pricing through tolls helps reduce the inefficient use of highways.²⁰ A toll can be set to equate social marginal costs and benefits, allowing for more efficient use of highway resources.
- Equating social marginal costs and benefits means drivers consider the costs they bear and the externalities they put on other drivers by driving on the congested road.
- With congestion pricing, drivers are encouraged to consider not only the costs to drive on the road, but also the congestion they may add, since the toll increases as the road becomes more congested.

Congestion prices can be adjusted to the flow of traffic. Under a VMT charge, drivers pay a toll that is based on a combination of congestion and distance driven on the road.²¹ In addition, truckers could be charged by axle weight to account for their trucks' damage to the road. Truckers would then be incentivized to shift to vehicles with more axles, which would do less damage to roads and help reduce maintenance costs.²²

Even when costs and benefits are explained to commuters, opposition to congestion pricing can still persist. Policymakers can overcome this opposition by examining how drivers and policymakers understand costs and benefits when using congestion pricing. This can be achieved through voluntary programs or pilot programs of congestion pricing. One example of a voluntary program is the VMT pricing model implemented by the Oregon Department of Transportation in 2015, where participants receive a tax credit for participating.²³

CONGESTION PRICING WORKS WITH OTHER HIGHWAY TRANSPORTATION REFORMS

Congestion pricing can be an important part of a broader agenda to improve the transportation system in ways that benefit society.

Reforms to highway spending are also important. If tolls are used to maintain the road and improve its quality, other reforms to highway spending will also be needed. Some drivers will prefer more spending on other modes of transportation, while others will prefer to see highway capacity expanded. These differences in preferences are not unique to congestion pricing, however, and they must be considered whenever highway funding is increased or changed.

Governments should be more transparent in how they spend taxpayer dollars on transportation. The important point for taxpayers to understand is that all transportation revenues (including those gained from tolls) are fungible; toll revenues must be spent as promised and not used for other types of spending.²⁴ If taxpayers cannot trust elected officials to spend tax revenue as promised, the perceived benefits of congestion pricing drop significantly.²⁵ This implies that state transportation departments should take a customer service approach toward drivers and make processes as transparent as possible.

Other technological improvements can also help reduce congestion. Cars and smartphones are now able to warn drivers of traffic problems and suggest alternate routes, allowing drivers to spend less time in their cars. New technology, including widespread adoption of driverless vehicles, could also reduce highway congestion by greatly improving the flow of traffic and reducing vehicle accidents without significantly increasing the monetary cost of commuting.²⁶

POLICY LESSONS AND CONCLUSIONS

Congestion pricing through a VMT charge will hopefully become more popular as drivers learn more about its benefits and as concerns of policymakers and the public are alleviated.

Congestion pricing systems will continue to improve, and drivers will learn from experiences with the systems. Objections that VMT charges are regressive could be addressed with reductions in other regressive taxes, like gas taxes or sales taxes.²⁷ VMT charges could eventually be made permanent and replace the gas tax altogether.

LINKS

1. <https://www.mercatus.org/publication/tolling-freeway-congestion-pricing-and-economics-managing-traffic>
2. <https://www.mercatus.org/publications/economic-growth-congestion-autonomous-vehicles>
3. <https://www.mercatus.org/publication/tolling-freeway-congestion-pricing-and-economics-managing-traffic>
4. <https://www.mercatus.org/publication/how-private-sector-can-improve-public-transportation-infrastructure>
5. <https://www.mercatus.org/publication/political-incentives-and-transportation-funding>
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8. <https://www.mercatus.org/publication/improving-efficiency-and-equity-highway-funding-and-management-role-vmt-charges>
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