Tolling and Road Pricing: Post COVID-19

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In Brief: COVID-19 Transportation Revenue Losses Compel Urgent Action with Expanded Use of Tolling

Societal response to the COVID-19 virus has substantially reduced all sources of transportation funding, impacting sales taxes, motor fuel taxes, other travel-related taxes (such as tourism excise fees), and toll revenue. Reductions in transportation revenue are measured in the billions of dollars nationwide. States and the U.S. Department of Transportation (USDOT) should consider comprehensive use of tolling and road pricing on existing interstate highways, freeways and key arterials to backstop lost revenue and prevent the return of saturated congestion. Enacting tolls on federally funded highways has been largely prohibited since the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991; however, exceptions have been made for the construction of new toll roads, tolled express lanes, and reconstruction of bridge and tunnel structures. These programs have demonstrated the ability to use tolls to actively reduce and manage congestion, provide faster travel, and produce revenue used to deliver attractive programs and make needed repairs. This formula must be replicated for the expanded use of tolls across the country's existing highway infrastructure. Using the combination of congestion reduction and improved infrastructure paid by those who use the roads, states can find public acceptance through sound tolling and congestion pricing programs which offer clear time savings and reliability benefits to the public.

However, this future benefit is not possible given current limitations in federal law (Title 23, Section 129) as embodied by the Fixing America's Surface Transportation (FAST) Act. To deliver a future where our highways are fully utilized — but not oppressively congested — and to shift toward users paying for the critical infrastructure needed to move people and goods rather than general tax funds, congressional action for the replacement of the FAST Act in 2020 must expand the authorization for states to toll existing routes.

In Detail: The Case for Expanded Use of Tolling in 2020

COVID-19 FINANCIAL IMPACTS

COVID-19 HAS SIGNIFICANTLY DEPRESSED REVENUE FOR TRANSPORTATION

The COVID-19 pandemic – and governmental responses deploying a broadly-implemented slowdown of economic activity – has had enormous negative impacts on transportation activity and funding. For highways, motor fuel taxes and toll collections dropped suddenly to less than half of previously anticipated levels used for budgeting purposes. Transit farebox collections dropped between 50 percent and 90 percent from anticipated levels, sales taxes have declined over 30 percent, and even longer-term property tax revenue is anticipated to be affected.

For example:

- Washington State Department of Transportation estimates a loss of $100 million per month (a 38 percent shortfall).[1]
- Colorado Department of Transportation estimates a loss of $250 million over the next four years.[2]
- Los Angeles Metropolitan Transportation Authority estimates a loss of $800 million in sales tax revenue, $50 million in farebox revenue, and $25 million in express lanes revenue in 2020.[3]
- Illinois Department of Transportation estimates a loss of $300 - $560 million in 2020, despite recently doubling the gas tax.[4]

Eventually, fundamental traffic and mobility concerns will return, but the means to anticipate, plan and respond to growing traffic during and after recovery will be hindered by the lack of revenue. This will become especially true in 2021 and 2022 as tax receipts lag and agencies must respond with appropriate budgeting cutbacks – exactly when problematic congestion is likely to grow with returning traffic volumes.

[1] Washington State Department of Transportation letter to congressional delegation, April 17 2020, https://policy.transportation.org/wp-content/uploads/sites/59/2020/04/WA-April-17.pdf

[2] Colorado Department of Transportation presentation on COVID-19 State Budget Gap Impacts on Transportation, April 2020, https://wp-cpr.s3.amazonaws.com/uploads/2020/04/cdot-covid-funding.pdf

[3] Los Angeles Metropolitan Transportation Authority letter to the board of directors regarding Financial Update on COVID-19, April 13 2020, http://boardarchives.metro.net/BoardBox/2020/200414_Financial_Impacts_COVID_19.pdf

[4] Illinois Economic Policy Institute report, COVID-19 and Transportation Funding in Illinois, May 6, 2020. https://illinoisepi.files.wordpress.com/2017/09/covid19-and-transportation-funding-in-illinois-final.pdf

COVID-19 MAY HAVE LONG-TERM IMPACTS ON EXPRESS LANES

Within the realm of tolled facilities, the COVID-19 slowdown has had the greatest negative impact on congestion-priced express lanes. Express lanes charge a variable premium price in exchange for free-flow travel, adjacent to traffic-heavy general-purpose (GP) lanes. If GP lanes are uncongested, express lanes offer little to sell at a premium.

Prior to COVID-19, express lanes demonstrated significant annual revenue generating capability, as shown in the following examples with 2018 reported revenues:

- SR-91, Orange and Riverside Counties, California: $110 million
- North Tarrant Express, Fort Worth, Texas: $153 million
- I-635 LBJ, Dallas, Texas: $125 million
- I-95 Express, Fairfax County, Virginia: $92 million

Even with a return to economic productivity, unemployment levels are not expected to quickly return to their low, pre-COVID-19 levels. Remote work-at-home routines are expected to flatten the urban-area commuting peak levels, and at least some migration out of major commercial activity areas is expected. Unemployment, remote-work and population shift all can decrease the rationale for express lanes, albeit some traffic may increase due to anticipated reluctance to use public transit.[5] These factors are particularly problematic for private public-private partnership investors in major express lanes projects (the last three of the four examples above), and they all significantly limit the ability to fund new express lane facilities with toll revenue.

As Fitch Ratings prophetically stated in December 2019, "Although express lanes performed extremely well under the U.S.'s prolonged economic expansion, only Orange County Transportation Authority's (OCTA) SR-91 Express Lanes were open during the Great Recession of 2007–2009. A lack of robust historical recessionary performance data results in limited visibility as to how express lanes will perform in the next recession." Fitch later notes that, "In comparison to standard toll roads, OCTA's Express Lanes had 29 percent higher traffic losses and 41 percent higher revenue losses through the recession, respectively."[6]

North Carolina Turnpike Triange Expressway

Why Not Tolls on All Lanes? Past Failures to Toll Existing Routes

For over a decade, researchers and industry experts have been urging governments to look to user fees other than the motor fuel tax, as increasing fuel efficiencies and electric motors point to near- and long-term declines in highway revenue. Among the potential solutions to fuel tax declines, only tolling is considered a near-term implementation option.

Tolls can be applied in multiple strategies, to include congestion pricing on freeways or arterials in highly congested areas, as well as tolls on entire roadway segments, which could be applied anywhere within the U.S. Despite the technological advances in all electronic payment that have made tolling and congestion pricing both practical and a means to resolve the decline in motor fuel tax revenue, they have thus-far failed to become the national highway funding solution.

It should be noted that the USDOT defines "tolling" and "pricing" slightly differently. Whereas both impose fees on motorists to use a highway and generate revenue in the process, "tolls" are oriented specifically towards revenue generation whereas "pricing" seeks to manage congestion and other external costs as a primary goal. Given the context of COVID-19 and necessary responses, the use of "tolls" and "pricing" is interchangeable in this document, noting that their revenue and management goals are never mutually exclusive.[7]

[5] Badger, Emily. *Transit Has Been Battered by Coronavirus. What's Ahead May be Worse, New York Times*, April 9, 2020, https://www.nytimes.com/2020/04/09/upshot/transit-battered-by-coronavirus.html

[6] Fitch Ratings' special report, Managed Lanes Driven to Strong Performance, December 3, 2019, https://www.fitchratings.com/research/us-public-finance/managed-lanes-performance-strong-untested-in-recession-03-12-2019

[7] U.S. Department of Transportation's Tolling and Pricing, https://www.fhwa.dot.gov/ipd/tolling_and_pricing/

FEDERAL LEGISLATION LIMITATIONS

Title 23 of the U.S. Code, Section 129, outlines broad restrictions on the use of tolls on interstate and other highways built with federal tax dollars. Section 129 does provide for some exceptions, including tolling new capacity (such as express lanes), to fund reconstruction or replacement of bridges or tunnels, or to fund three full interstate corridor reconstruction under the Interstate System Reconstruction and Rehabilitation Pilot Program (ISRRPP).[8] Notably, tolling existing federally funded highways without reconstruction is possible under the Value Pricing Pilot Program (VPPP), but this program is limited to 15 states, with each application requiring discretionary approval by the U.S. secretary of transportation.

These restrictions and allowances are due for review and may change within the broader context of the FAST Act reauthorization, currently due to expire in September 2020. Since ISTEA was enacted in 1991 and all reauthorizations that have occurred since, the restriction and allowance of tolling and pricing has changed in each iteration.

STATES PREVIOUS FAILURE TO EXECUTE TOLL PILOT PROJECTS

Many states have attempted to use the broader allowance for tolling existing routes under the terms of ISRRPP and VPPP over the past decade, but none have notably succeeded.

ISRRPP Examples. In 2010, the Commonwealth of Pennsylvania moved to introduce tolls on Interstate 80 under the ISRRPP. This proposal identified primarily out-of-state trucks as the intended target of tolls, as they are the major source of traffic on this route. The Federal Highway Administration rejected the application as the resultant funding was not going to be used in accordance with Section 129 guidelines. Three other states, Virginia, North Carolina and Missouri, were granted permission to implement tolls under the ISRRPP, but none of the states were able to muster the political will to move forward. All three approvals have since been withdrawn.

VPPP Examples. In 2007, New York City entered into an agreement with the USDOT to implement congestion pricing in Manhattan by 2009. This agreement included not only authorization but also grant funding to initiate the program. However, due to intergovernmental concerns within New York, the proposal was ultimately withdrawn. Twelve years later, New York City again applied for approval to toll under the VPPP; however, the application has yet to be acted upon by the USDOT.

I-495 Express Lanes, Springfield, Virginia

Why Tolls? – Past Successes in Tolls

Of the programs which permit the use of tolling on entire roadways, only Section 129 authorizations for reconstruction of bridges and/or construction of new lanes of capacity have proceeded. Most projects have been well received and accepted because they offer the benefits of congestion relief and travel time reliability through sustainable capacity management in exchange for payment of tolls.

For example, Rhode Island has implemented tolls for bridge reconstruction by limiting tolls to commercial vehicles. Washington implemented tolls on SR 520 to help fund reconstruction of the floating bridge across Lake Washington while also substantially reducing congestion through variably priced tolls. Over 50 express lanes projects in 11 states have implemented pricing on federally funded highways.

Notwithstanding the current depressed traffic conditions on express lanes, toll roads and toll bridges, the use of tolling is tested and proven: the public is willing to pay for value delivered. Likewise, public opinion regarding existing toll roads throughout the U.S. has remained high for a critical reason: U.S. toll agencies continuously make noticeable, meaningful improvements with the net revenues they collect. As one example, the Illinois Tollway is undergoing its third systemwide expansion and has substantially rebuilt the 294-mile system since the 1990s. Its facilities are regarded by the public as in the best condition and with the best-moving traffic of all freeways in Illinois. Tolls have been increased several times through this expansion period, with broad public acceptance as drivers receive additional value for their money.

[8] U.S. Federal Highway Administration's Section 129 General Toll Program Questions and Answers, October 2018
https://www.fhwa.dot.gov/ipd/tolling_and_pricing/tolling_pricing/section_129_faqs.aspx

Expanded Tolls - the Enhanced Value Proposition

If tolls are to be used to address funding shortfalls due to COVID-19, clearly there must be tangible benefits offered in exchange for the new tolls. And we will need the new revenue right now. A new value proposition must be offered.

A MANAGED SYSTEM THROUGH PRICING: PROVIDING THE BENEFITS OF TIME SAVINGS AND TRIP RELIABILITY FOR ALL LANES

With history as a guide, traffic and congestion will return, even if they are absent today. Select cities in Asia and Europe have already returned to pre-COVID-19 traffic levels, and trends indicate the U.S. will soon follow suit. However, traffic will return without the necessary motor fuel tax and other revenue to adequately fund maintenance, operations and capacity improvements that the renewed traffic will demand. COVID-19 responses led to substantial lost revenue in 2020 and expected but unpredictable long-term effects to travel behavior may exacerbate the collection of transportation revenue from existing sources. Further, delayed and cancelled projects as a result of revenue reductions have a cascading effect over the long term on the ability to meet rising traffic demand.

The answer to this dilemma is to leverage the transportation management strategy of express lanes to a new focus on managing the system. By building a congestion pricing system using toll collection on all-lanes of urban expressways, implementing agencies will be providing the time savings and reliability benefits of express lanes to all travelers on the highway system.

Congestion pricing generates revenue in exchange for the value of improved travel, and revenue is needed right now. Although limited in application around the world and none on an expressway system as just discussed, urban-based congestion pricing systems such as those in Singapore, London, Milan, Stockholm, and proposed for New York City can produce substantial revenue. For example, 2019 revenue production for urban pricing systems included:

- London: $301 million
- Stockholm: $94 million
- New York City: $800 million - $1.1 billion (projected)

Although urban-based congestion pricing and toll roads have been subject to substantial reductions in revenue due to stay-at-home orders, these systems do not suffer the specific weakness of express lanes' reliance on building new capacity and continually congested general-purpose lanes. In an urban-based system, travelers are charged for using roads or expressways within zone boundaries. Provided the priced zone is still attractive for trip-making, then revenue will rebound after a recession as the desire to access the zone rebounds. Pricing will control congestion in the zones and will also encourage the use of transit.

Congestion pricing and the resultant smoother travel keeps people and goods moving, reduces CO_2 emissions, and provides economic incentives for efficient, cost-effective travel. It is the only payment mechanism in transportation where the outcome is also the primary benefit to the consumer.

Like urban pricing zones, congestion-priced highway facilities maintain traffic flow and reduce congestion over the long term. This can partially negate the need for expensive capital projects oriented towards expansion, and instead allow for the modernization and sustainable optimization of existing facility networks and footprints. Whereas express lanes offer the driver a choice of which lane to use, the managed roadway system offer drivers choices throughout the trip: traveling at off-peak times, using less optimal routing, taking transit or sharing a ride, or paying a fee that provides for a congestion-free trip.

Popularity Rises After Congestion Pricing Implementation

%	London, U.K.[a]	Stockholm, Sweden	Oslo, Norway	Gothenburg, Sweden	Trondheim, Norway
Approval Before Implementation	40	30	30	29	26
Approval Post Implementation	59	52	41	42	37
Approval Swing	19	22	11	13	11

[a] Initial congestion zone only. Excludes Western Extension.
Source: *National Public Radio*

I-405 Express Lanes, Bellevue, Washington

As noted by Fitch Ratings, a primary goal of congestion pricing systems is to reduce auto travel during times when demand exceeds network capacity. Effective pricing can bring supply and demand in balance without adversely affecting revenues.[9]

RESPONDING TO PUBLIC CONCERNS

Adding or increasing a toll is never popular, yet viewed through the lens of trading an uncertain congestion cost measured in lost time for a monetary price that provides an improved service that saves time may be received more favorably. The value proposition: sustainable relief from traffic delays on improved, better maintained roadways.

Public opinion greatly improves after the implementation of congestion pricing (Fitch Ratings, December 2019). The inherent benefit of reduced traffic congestion becomes very apparent upon opening but is difficult to demonstrate prior to operation.

Any agency could act now to get congestion pricing up and running sooner rather than later by following New York's example: determine where and how pricing would be applied, and then advance concurrent processes to streamline the development. For example, the agency could conduct program management concurrent with environmental clearance, systems engineering and pricing infrastructure installation/integration.

TIMELY REPLACEMENT OR REPAIR OF EXISTING INTERSTATES

States without heavily congested urban centers do not need congestion pricing or express lanes, but they need their own improvements. These can range from additional traffic capacity and system interchange improvements, to improved maintenance and safety provisions, or to upgraded facilities to carry more and heavier freight. As such, the use of tolling tailored to revenue generation still provides for the core goals and outcomes necessary in a post-COVID-19 world.

In small urbanized states such as Connecticut or large western rural states such as Wyoming, the needs to accommodate freight movements and collect fees to adequately maintain truck routes commensurate with the wear and tear that trucks impose are a major driver in funding needs and considerations of tolls.

Clearing the Road for Funding Solutions

STATE AND FEDERAL ROLES

Tolling can help any agency enhance its revenue collection, providing a necessary and timely alternative to revenue sources proven vulnerable due to COVID-19. It is best oriented towards existing infrastructure – pricing all lanes of freeways, for example, and not just constructing new express lanes as is currently allowed under federal law.

The states and the federal government each have a role. For their part, states must develop toll and congestion pricing programs that offer a clear value proposition to their citizens that appropriately balances congestion management and revenue generation for each application in exchange for the toll money to be received.

States that deploy congestion pricing now can leverage the fresh start our freeway system has received due to COVID-19. If we manage our traffic right, then we do not have to go back to stop-and-go conditions. Passenger and freight drivers will benefit from reliable travel times, the states will benefit from diversification of revenue sources, and the and non-travelers benefit indirectly from the network efficiency gains that result in lower delivered costs of goods and services.

A CHANGE IN FEDERAL LAW IS NEEDED – AND NOW IS THE TIME

The federal government has its role, too. The only options for future major reconstruction or improvements on existing toll-free facilities will be with tolls – which as noted, are currently prohibited under Title 23 U.S. Code with a few exceptions. The U.S. Congress must release the general prohibition on pricing existing freeway facilities in the reauthorization of the surface transportation program later this year, allowing each state the flexibility to implement appropriate pricing programs to sustainably manage away congestion and generate needed revenues. Now is the time, and it must be with urgency.

[9] Fitch Ratings' special report, Cordon Pricing Holds Promise for U.S. Cities: Lessons Learned from Congestion Zones Abroad and What Is Next, December 3, 2019, https://www.fitchratings.com/research/infrastructure-project-finance/cordon-pricing-holds-promise-for-congested-us-cities-lessons-learned-from-congestion-zones-abroad-what-is-next-03-12-2019

READY TO GO

With restrictions under Title 23 removed, and either grant or low-interest loan funding available to encourage broad, rapid adoption, congestion pricing systems could be operational in 2022 in certain markets, providing sustainably efficient people and goods movement before we return to saturated traffic conditions — and a long-term source of revenue. With these changes, the U.S. will emerge stronger as the corona virus pandemic recedes.

ABOUT WSP

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