

Tolling Backgrounder

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Why Tolling?

For more than a half century, transportation infrastructure has been funded primarily through state and federal motor fuel taxes. But, as inflation and the introduction of increasingly fuel-efficient vehicles erode fuel tax revenue, transportation officials have begun looking at other ways to maintain, repair, and improve the country's aging infrastructure.

The federal Highway Trust Fund, a major source of funding for highways and bridges, is primarily funded by the 18.4 cent per gallon federal gas tax, last increased nearly 25 years ago. “Because it is not adjusted for inflation, the federal gas tax has experienced a cumulative loss in purchasing power of 33% since 1993 – the last time the federal gas tax was increased,” a 2009 [federal report](#) found. The introduction of increasingly fuel efficient vehicles and the advent of electric vehicles has further eroded gas tax revenue. According to a January 2016 [Congressional Budget Office](#) report, both the highway and transit accounts of the Highway Trust Fund will be insufficient to meet the trust funds’ obligations by 2021, even after passage of the federal Fixing America’s Surface Transportation (FAST) Act ([P.L. 114-94](#)) in 2015.

Connecticut faces similar problems. The legislature created the Special Transportation Fund (STF) more than 30 years ago to hold funds dedicated for transportation. The STF’s main revenue source is the state gas tax. The [Office of Policy and Management estimated](#) in early 2017 that the STF would be insolvent in FY 22.

Many transportation advocates are looking for alternative transportation funding mechanisms, such as mileage based user fees, in which motorists are charged for each mile they drive, or tolls, in which only motorists who use the tolled road pay the tolls.

Proponents of tolls believe it would be easier to persuade the public of a system that requires only users of particular roadways to pay (and which can also be used to manage traffic flow) than mileage based user fees, which apply to all drivers no matter where they drive. Its supporters also note that nearly every state along the east coast has tolls in place.

Opponents of tolling say they should not have to pay again for roads that have already been built, or to pay tolls without a corresponding reduction or elimination of the gas tax. They also argue that tolls place an unfair burden on residents who most often use the tolled roads, particularly on low-income people, and that trucking companies will raise the price of goods they transport on tolled roads.

The state Department of Transportation (DOT) and the Governor's Transportation Finance Panel have each studied installing electronic tolls on Connecticut highways. In 2016, the Transportation Finance Panel recommended tolling as one of several options to preserve and maintain the state's highway system. Charts summarizing some of the findings of DOT and the Transportation Finance Panel can be found at the end of this report.

We answer some general questions about tolling in Connecticut below.

Toll Operation

How would tolling work?

In all the tolling proposals, tolling would be "all-electronic." Overhead gantries would track cars equipped with electronic transponders (e.g., "EZ-Pass") as they pass beneath them at speed. Drivers would receive a monthly bill. The Massachusetts DOT converted the Massachusetts Turnpike to such a system in late 2016 (see below).

What if a driver does not want to get a transponder?

Cameras on the gantries would photograph the license plates of their vehicles and bills will be mailed to them.

Will there be toll booths or toll plazas at which vehicles must slow down or stop?

No.

How soon can tolls be operational?

Estimates range from between three to six years after legislative approval, depending on the size of the project.

Will the federal government allow Connecticut to install tolls?

The short answer is yes. Generally, federal law limits the imposition of tolls on existing federal-aid highways, especially interstate highways. But recent federal laws have expanded states' abilities to allow tolling in certain instances, such as when increasing capacity by adding a new lane to an existing interstate highway ([23 U.S.C. § 129](#)).

Federal law also has created several pilot programs, such as the Value Pricing Pilot Program, in which participating states can get federal approval to toll, provided they use “congestion pricing” to manage traffic flow and reduce traffic congestion. Congestion pricing is the practice of charging higher tolls when traffic is heaviest and lower or no tolls at other times. It is meant to reduce traffic on the tolled road by encouraging drivers who do not want to pay the toll to (1) drive at less busy times, (2) use other routes, or (3) take public transportation

Connecticut, one of the states taking part in the Value Pricing Pilot Program, received federal funding to study the possibility of tolling portions of I-95 and I-84. Preliminary [studies](#) have been completed. If Connecticut decides to proceed under this program, it would need additional Federal Highway Administration (FHWA) approvals.

Does the Value Pricing Pilot program require the state to use congestion pricing?

Yes.

Will the state have to repay federal highway money it has already received or forego such money in the future if it installs tolls?

No, according to FHWA correspondence with the state DOT.

How may the state use toll revenue?

Federal law limits how a tolling authority (e.g., DOT or a toll operator) may use toll revenue. It requires the authority to use revenue for:

1. debt service with respect to the projects on or for which the tolls are authorized, including funding of reasonable reserves and debt service on refinancing;
2. a reasonable return on investment of any private person financing the project;

3. any costs necessary to improve and properly operate and maintain the tolled road, bridge or tunnel, including reconstruction, resurfacing, restoration, and rehabilitation;
4. if the toll facility is subject to a public-private partnership agreement, payments that the party holding the right to toll revenues owes to the other party under the agreement; and
5. if the public authority certifies annually that the tolled facility is being adequately maintained, any other purpose for which federal highway funds may be used ([23 U.S.C. § 129\(a\)\(3\)\(A\)](#)).

Under the Value Pricing Program, the purposes for which net toll revenues may be used, after paying operating costs, include addressing and mitigating the adverse impacts of tolls on low-income drivers, such as by providing toll discounts or credits, and for support of public transit projects.

A Value Pricing Pilot program tolling agreement between FHWA and a state would require annual audits to ensure that the toll revenues have been used properly.

Can the state set different toll rates for in-state and out-of-state residents?

Yes, but the rates must meet certain federal standards. There cannot be a great discrepancy between the tolls charged Connecticut drivers and those charged drivers from other states (See “The Interstate Commerce Clause and the ‘Evansville Test,’” below).

Can the state charge tolls only at its borders?

The federal government is very unlikely to approve border tolls, which may be challenged as violating the U.S. Constitution’s Interstate Commerce Clause. (see “[Tolling of Interstate Highways: Issues in Brief](#),” Congressional Research Service, February 13, 2013, page 4).

Which Roads is the State Thinking of Tolling?

In its January 2016 study, the Transportation Finance Panel estimated the costs of tolling on:

1. I-84 from Hartford to New York,
2. I-95 from New Haven to New York,
3. I-95 from New Haven to Rhode Island,
4. Connecticut River bridges in the Hartford area,
5. Route 2 in East Hartford and Glastonbury,

6. the I-91/691/Route 15 Interchange in Meriden,
7. Route 9 in the Middletown area, and
8. Route 11 from Salem to Waterford.

DOT's studies, prepared by consultant CDM Smith and released in the fall of 2016, considered tolling (1) I-95 between New York and New Haven and (2) I-84, primarily along the three-quarter mile Hartford Viaduct. (The I-84 study also considered one scenario in which 11 tolling gantries would be spaced approximately six miles apart along I-84 from the New York border to Hartford (see Tables 4 and 5).)

How Much Would Drivers Pay?

The Transportation Finance Panel did not specify toll rates, but assumed that the state would employ congestion pricing, and that toll rates would increase by 5% every five years.

DOT's [preliminary study](#) of tolling I-95 and possibly Route 15 (the Merritt and Wilbur Cross parkways) between New York and New Haven generally assumed a peak toll rate per gantry of 50 cents and an off-peak rate of 35 cents. The study presumed there would be 12 gantries on I-95 and 10 gantries on Route 15.

A full-length trip on I-95 during peak travel times between New York and New Haven would therefore cost \$6; a trip during non-peak hours would cost \$4.20. The same trips on Route 15 would cost \$5 and \$3.50, respectively.

DOT's preliminary I-84 tolling study considered a number of tolling options (see Tables 4 and 5), with peak toll rates ranging from 50 cents to \$1, and off-peak rates ranging from 35 cents to 75 cents.

What Percentage of Toll-Paying Vehicles Would Be from Out-Of-State?

According to the Governor's Transportation Finance Panel, approximately 30% of tolls would be paid by out-of-state drivers, with a slightly higher percentage (34%) in the major corridors (I-95 and I-84) and a smaller percentage (about 12%) in other locations.

What Percentage of Tolls Would Trucks Pay?

Again, according to the Transportation Finance Panel, although heavy trucks comprise between 10% and 12% of traffic on the interstates, they would pay about 24% of toll revenue. (Tolls could be set higher for trucks because they cause greater wear and tear of roads and bridges.)

How Much Money Would Connecticut Tolls Generate?

The Transportation Finance Panel and DOT each prepared estimates of tolling revenue. Tables summarizing these findings are on pages eight through 12 of this report.

Governor's Transportation Finance Panel

The Transportation Finance Panel's [final report](#), issued in January 2016, estimated that tolling could raise total net revenue (i.e., the amount available to pay for major investments after deducting from gross revenue the costs of building tolling infrastructure and operating the tolling system) of about \$18.3 billion over 20 years (from the start of tolling in 2022 through 2040). The report estimated that the state could raise about \$15 billion from the three major travel corridors (I-84 from New York to Hartford; I-95 from New York to New Haven; and I-95 from New Haven to Rhode Island) and lesser amounts from the other tolling locations (see Table 1).

DOT Tolling Studies

DOT consultant CDM Smith released preliminary studies of tolling I-95 and I-84 in September and October 2016, respectively.

The consultant proposed [five alternative tolling strategies for I-95](#) between New Haven and New York. It found, depending on the strategy used, that average annual net revenue would range from \$260 million to \$367 million for state-operated tolls (see Table 2) and from \$247 million to \$357 million for tolls operated by a third-party contractor (see Table 3).

The consultant proposed [seven alternatives for tolling portions of I-84](#), and found, depending on which option is selected, that average annual net revenue would range from \$33 million to \$174 million for state-operated tolls (see Table 4) and from \$30 million to \$162 million for tolls operated by a third-party contractor (see Table 5).

Tolls, the Interstate Commerce Clause, and the “Evansville Test”

The Interstate Commerce Clause (U.S. Const., Art. 1, § 8, cl. 3) gives Congress the power to regulate commerce among the states. Under the “dormant Commerce Clause” principle, states may regulate commerce only if they do not materially burden or discriminate against interstate commerce.

The U.S. Supreme Court has held that state user fees, such as tolls, are valid under the Commerce Clause as long as they “bear a reasonable relationship to the government's costs,” *Evansville-Vanderburgh Airport Auth. Dist. v. Delta Airlines, Inc.* (405 U.S. 707 (1972)). Under the so-called Evansville Test, a toll is reasonable if it (1) is based on some fair approximation of use of the facilities, (2) is not excessive in relation to the benefits conferred, and (3) does not discriminate against interstate commerce (*Northwest Airlines, Inc. v. County of Kent*, Michigan, 510 U.S. 355, (1994)).

In 2011, the U.S. District Court in Rhode Island relied on the Evansville test to find that the Rhode Island Turnpike and Bridge Authority did not violate the dormant Commerce Clause when it offered discounted toll rates to Rhode Island residents (*Cohen v. Rhode Island Turnpike and Bridge Authority*, 775 F. Supp. 2nd. 439 (2011)).

Conversion of the Massachusetts Turnpike to All-Electronic Tolling

All electronic tolling (AET) began on the Massachusetts Turnpike (I-90) on October 28, 2016.

[Under the Massachusetts system](#), the Turnpike is divided into two segments: the Western Turnpike (from Weston to New York) and the Metropolitan Highway System (from Weston east, including the Central Artery, Callahan, Sumner, and Ted Williams tunnels, and the Tobin Bridge). Tolls collected on each segment can only be spent on that portion of the highway. Massachusetts law (and bond covenants) requires that toll revenue only be used to pay debt or the cost of owning, maintaining and repairing the turnpike.

Motorists on the Mass Pike pay one of three AET rates. Drivers who have EZ-Pass pay one of two different rates, depending on whether they have a Massachusetts pass (“EZ Pass MA”) or one from another state. A third, higher rate (Pay by Plate) is charged motorists whose vehicles do not have a transponder.

The following table shows the toll paid by a motorist driving on the turnpike from the New York/Massachusetts border to Copley Square in Boston, a distance of about 130 miles.

<i>Transaction Type</i>	<i>Toll Paid (\$)</i>
EZ Pass MA	5.95
EZ Pass (out-of-state)	7.60
Pay by Plate (no transponder)	11.50

Governor's Transportation Finance Panel Final Report, January 15, 2016

Table 1: Annual Toll Revenue Estimates, Governor's Transportation Finance Panel (in \$ millions)

<i>Highways Tolled</i>	<i>Year Tolling Begins</i>	<i>Total System Capital Cost</i>	<i>Average Annual Gross Revenue</i>	<i>Average Annualized Operating and Capital Costs</i>	<i>Average Annual Net Revenue</i>	<i>Total Net Revenue Through 2040</i>
I-95, New Haven to New York	2022	142	468	48	420	7,980
I-95, New Haven to Rhode Island	2024	82	173	17	156	2,660
I-84, Hartford to New York	2022	82	244	20	224	4,260

According to the panel, the total cost of improving each corridor, and the resulting improvements, are as follows:

- **I-95 (New Haven to New York): \$9.435 billion** (adding a travel lane in each direction between New York and New Haven, and rehabilitating existing pavement and bridges; reconfiguring the Route 15/Route 7 interchange in Norwalk; building a new northbound tunnel and widening the southbound tunnel in the Heroes Tunnel (West Rock Tunnel in New Haven/Hamden)).
- **I-95 (New Haven to Rhode Island): \$1.71 billion** (highway widening).
- **I-84 (Hartford to New York): \$13.85 billion** (replacing the Hartford Viaduct (an estimated \$5.3 billion) and the Waterbury I-84 "Mixmaster" (an estimated \$7.1 billion); road widening).

(The panel noted that some of the funding for these three projects would come from sources other than tolls, including the federal and state governments.)

DOT Toll Studies, 2016

The following tables show the results of DOT's studies of tolling (1) I-95 from New Haven to New York and (2) I-84 in Hartford and west to New York.

Tables 2 and 4 indicate revenue estimates for state-operated tolls; Tables 3 and 5 show the estimates for tolls operated by a third-party.

Table 2: Toll Estimates, I-95 Corridor, DOT Congestion Relief Study (State-Operated)

<i>Tolling Alternative</i>	<i>Toll Rates (\$)</i>	<i>Cost of Full Length Trip (\$)</i>	<i>Average Annual Gross Revenue (\$ millions)</i>	<i>Average Annual Net Revenue (\$ millions)</i>	<i>Net Toll Revenue Over 25 years (\$ millions)</i>
Existing I-95	Peak: 0.50 Off-peak: 0.35	Peak: 6 Off-peak: 4.20	274.8	260.5	6,512.5
Existing I-95	Peak: 0.80 Off-peak: 0.56	Peak: 9.60 Off-peak: 6.72	380.5	367.1	9,178.4
Existing I-95 and Route 15	Peak: 0.50 Off-peak: 0.35	I-95 Peak: 6 Off-peak: 4.20 Rt. 15 Peak: 5 Off-peak: 3.50	382.4	361.3	9,032.9
Widened I-95 (additional lane between Bridgeport and Stamford)	Peak: 0.50 Off-peak: 0.35	Peak: 6 Off-peak: 4.20	286.4	271.9	6,797.4
Widened I-95 and Existing Route 15	Peak: 0.50 Off-peak: 0.35	I-95 Peak: 6 Off-peak: 4.20 Rt. 15 Peak: 5 Off-peak: 3.50	387.8	366.5	9,162.4

Table 3: Toll Estimates, I-95 Corridor, DOT Congestion Relief Study (Third-party Operated)

<i>Tolling Alternative</i>	<i>Toll Rates (\$)</i>	<i>Cost of Full Length Trip (\$)</i>	<i>Average Annual Gross Revenue (\$ millions)</i>	<i>Average Annual Net Revenue (\$ millions)</i>	<i>Net Toll Revenue Over 25 years (\$ millions)</i>
Existing I-95	Peak: 0.50 Off-peak: 0.35	Peak: 6 Off-peak: 4.20	274.8	247.9	6,197.8
Existing I-95	Peak: 0.80 Off-peak: 0.56	Peak: 9.60 Off-peak: 6.72	380.5	357.0	8,925.2
Existing I-95 and Route 15	Peak: 0.50 Off-peak: 0.35	I-95 Peak: 6 Off-peak: 4.20 Rt. 15 Peak: 5 Off-peak: 3.50	382.4	341.1	8,528.8
Widened I-95 (additional lane between Bridgeport and Stamford)	Peak: 0.50 Off-peak: 0.35	Peak: 6 Off-peak: 4.20	286.4	258.9	6,473.4
Widened I-95 and Existing Route 15	Peak: 0.50 Off-peak: 0.35	I-95 Peak: 6 Off-peak: 4.20 Rt. 15 Peak: 5 Off-peak: 3.50	387.8	346.2	8,653.9

Table 4: Toll Estimates, I-84 Corridor, DOT Congestion Relief Study (State Operated)

<i>Tolling Alternative</i>	<i>Toll Rates (\$)</i>	<i>Number of Tolling Locations</i>	<i>Average Annual Gross Revenue (\$ millions)</i>	<i>Average Annual Net Revenue (\$ millions)</i>	<i>Net Toll Revenue Over 25 Years (\$ millions)</i>
Hartford area, no change to current highway configuration	Peak: 1 Off-peak: 0.75	1	44.7	39.6	990.6
Hartford area, no change to current highway configuration	Peak: 0.50 Off-peak: .375	2	42.9	37.3	932.9
Hartford area, major reconstruction of Hartford Viaduct	Peak: 1 Off-peak: 0.75	1	38.0	33.2	828.9
Hartford area, major reconstruction of Hartford Viaduct	Peak: 0.50 Off-peak: 0.375	2	41.8	36.3	907
Hartford area, reconfigured through Hartford, new road added	Peak: 0.50 Off-peak: 0.375	2	43.6	38.0	951.2
Hartford to New York	Peak: 0.50 Off-peak: 0.35	11	186.8	174.6	4,365
Converting I-91 and I-84 HOV lanes to tolled lanes	Varies according to traffic conditions	1 each on I-91 and I-84	2.36	-1	-26

Table 5: Toll Estimates, I-84 Corridor, DOT Congestion Relief Study (Third-party Operated)

<i>Tolling Alternative</i>	<i>Toll Rates (\$)</i>	<i>Number of Tolling Locations</i>	<i>Average Annual Gross Revenue (\$ millions)</i>	<i>Average Annual Net Revenue (\$ millions)</i>	<i>Net Toll Revenue Over 25 Years (\$ millions)</i>
Hartford area, no change to current highway configuration	Peak: 1 Off-peak: 0.75	1	44.7	36.6	915.5
Hartford area, no change to current highway configuration	Peak: 0.50 Off-peak: 0.375	2	42.9	33.5	837.4
Hartford area, major reconstruction of Hartford Viaduct	Peak: 1 Off-peak: 0.75	1	38.0	30.7	768.2
Hartford area, major reconstruction of Hartford Viaduct	Peak: 0.50 Off-peak: 0.375	2	41.8	32.6	814.4
Hartford area, reconfigured through Hartford, new road added	Peak: 0.50 Off-peak: 0.375	2	43.6	34.2	853.9
Hartford to New York	Peak: 0.50 Off-peak: 0.35	11	186.8	162.6	4,064
Converting I-91 and I-84 HOV lanes to tolled lanes	Varies according to traffic conditions	1 each on I-91 and I-84	2.36	-0.8	-20

Additional Information

OLR Reports on Tolling

The OLR reports listed below primarily address tolling. Other OLR reports include tolling among other transportation funding mechanisms, such as mileage-based user fees (also known as vehicle miles traveled fees) and the gas tax. In addition, OLR Report [2016-R-0047](#) summarizes the findings of the Governor's Transportation Finance Panel's final report.

[2009-R-0122](#): "Backgrounder: Understanding Tolls in Connecticut." (Some information in this report may have been superseded.)

[2012-R-0530](#): "Changes to Tolling Requirements in MAP-21."

[2013-R-0394](#): "Backgrounder: Toll Roads and Public-Private Partnerships."

[2015-R-0048](#): "Questions about Tolling in Connecticut."

[2016-R-0276](#): "Results of I-95 Congestion Tolling Study."

Some older reports, such as a 1983 joint OLR/Office of Fiscal Analysis report on the elimination of tolls on the Connecticut Turnpike, the Merritt and Wilbur Cross parkways, and Hartford area bridges, are available from the Legislative Library.

Other Resources

Reports and presentations on tolling in Connecticut, as well as specific tolling studies, can be found on the following DOT website: http://www.dotdata.ct.gov/ct_congestion_site/index.html.

The FHWA website on tolling is: https://www.fhwa.dot.gov/ipd/fact_sheets/tolling_programs.aspx.

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