



# OLR RESEARCH REPORT

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## **GAS TAXES AND ROAD AND BRIDGE CONDITIONS IN CONNECTICUT AND MASSACHUSETTS**

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You asked about the role Connecticut's and Massachusetts' gas taxes play in funding highway and bridge repair and the condition of highways and bridges in those states.

### **SUMMARY**

Connecticut's gas tax is composed of two separate taxes, a 25-cent per gallon excise tax and a "gross receipts tax" (now 26.4 cents per gallon), for a total of 51.4 cents per gallon. Massachusetts' gas tax, which had been fixed at 21 cents per gallon for more than 20 years, increased to 24 cents per gallon on July 31, 2013. (The Massachusetts tax also includes an additional 2-cent fee that is used only to clean up underground fuel storage tanks.)

Gas tax revenue in each state is deposited into a fund dedicated primarily to paying debt service on bonds issued to fund transportation projects. In Connecticut, this is the Special Transportation Fund (STF); in Massachusetts, the Commonwealth Transportation Fund (CTF). Money from other sources is also deposited into these funds. In Connecticut, these sources include certain motor vehicle license and permit fees, receipts, and other revenue. In Massachusetts, these include a portion of the state sales tax and motor vehicle fees. (Massachusetts also collects tolls on some of its roads, most notably the Massachusetts Turnpike. Massachusetts can use this revenue to operate and maintain only the tolled roads.)

The amount of revenue the gas tax in each state generates is one of several factors that determine the states' ability to pay for highway and bridge repair and maintenance. Other factors include the amount and cost of work that needs to be done, the number of vehicles paying the gas tax, and the amount of money available from other state or federal sources.

Even though Massachusetts' gas tax is lower than Connecticut's, it generated \$662 million in 2011, about one-third more than the \$493 million Connecticut's tax generated in 2012. One reason for this may be that Massachusetts has twice as many registered motor vehicles as Connecticut. According to the Federal Highway Administration (FHWA), there were about 5.63 million vehicles (private and commercial cars, buses, trucks, and motorcycles) registered in Massachusetts in 2011, compared to about 2.79 million in Connecticut.

The states differ in other ways with regard to funding transportation repair and maintenance. Connecticut, unlike Massachusetts, uses some of its STF revenue for Department of Transportation (DOT) operating costs, including the "Pay As You Go" program, which helps maintain highways and bridges. According to the Massachusetts Department of Transportation (MassDOT) budget director, Massachusetts does not use its CTF money for road repair or maintenance.

Despite the differences in their gas taxes, neither Connecticut nor Massachusetts has been able to generate enough revenue to keep pace with necessary road and bridge repair. Recent studies in each state compared the amount of money needed to keep roads and bridges in "a state of good repair" with the amount of money available to achieve this. According to FHWA, a state of good repair means that roads and bridges, individually and collectively, are functioning as designed and regularly maintained and replaced.

In January, 2011, the Connecticut Transportation Strategy Board (TSB) reported a "state of good repair gap" of about \$2 billion in Connecticut. It estimated that the gap would increase to more than \$4.5 billion in 2017. In 2007, the Massachusetts Transportation Finance Commission found a \$9 billion gap between the amount of money needed to bring highway infrastructure in that state into a state of good repair and the amount of state and federal funding expected for that purpose.

Several groups, including transportation advocates, a newspaper, and an engineering organization, have compared road and bridge conditions in the 50 states. These studies have generally found that Massachusetts

roads appeared to be in better shape than those in Connecticut, while the opposite seems to be true with respect to bridges. However, the studies do not all agree. For example, a 2013 report, based on 2011 statistics, found Connecticut had a slightly higher percentage of roads in good condition, and a 2013 study found that the number of structurally deficient bridges had increased in Connecticut and decreased in Massachusetts in the previous two years. We provide links to these reports below.

## **GAS TAXES**

### ***Connecticut***

The Connecticut gas tax comprises a 25-cent per gallon excise tax and a petroleum products gross earnings tax, also known as the gross receipts tax. Petroleum products distributors pay the latter on the initial sale in the state of gasoline and other petroleum products (e.g., aviation fuel, propane, and kerosene), which typically occurs at the wholesale level. This tax is passed on to consumers at the pump. Diesel motor fuel, which is exempt from the gross receipts tax, is taxed at 54.9 cents per gallon, effective July 1, 2013.

The gasoline excise tax has held steady at 25 cents per gallon since 2000; the gross receipts tax increased from 7% to 8.1% on July 1, 2013 (CGS § [12-587\(b\)\(1\)](#)). (The actual effective rate for the gross receipts tax is 8.81% because the amount on which the tax is owed includes the revenue from the tax itself.)

Because the gross receipts tax is statutorily capped when the price of gasoline on its first sale in the state reaches \$3 per gallon (CGS § [12-587\(a\)\(2\)](#)), motorists pay 26.4 cents per gallon (\$3 multiplied by 8.81%) in addition to the 25-cent excise tax, for a total state gas tax of 51.4 cents per gallon. (We do not include in either state's total gasoline tax the additional federal gas tax of 18.4 cents per gallon.)

The revenue from the Connecticut gas tax goes into the STF. According to the state comptroller's annual report, STF revenue for FY 12 totaled \$1.233 billion, of which \$492.8 million came from the motor fuels excise tax (including the diesel tax) and \$227 million from the gross receipts tax. (Other revenue streams flowing into the STF in FY 12 included \$235.4 million from motor vehicle receipts (e.g., registration fees) and \$136 million from certain license and permit fees, including certain motor vehicle fines.)

According to the Office of Fiscal Analysis (OFA), in FY 12, 36.4% of the STF was used to pay debt service on bonds issued to fund transportation projects; 24.5% was used for DOT's operating expenses and for highway and bridge renewal, and 21.3% for bus and rail operations. The remaining funds were spent on fringe benefits and Department of Motor Vehicle expenditures. (By comparison, Massachusetts used 63% of its CTF to pay debt service in 2011.)

DOT's operating expenses include personnel and contractual costs, operating subsidies for bus and rail service, fuel, electricity, repair parts, highway supplies, road salt, and the Pay As You Go program. According to DOT, Pay As You Go supports the maintenance of the state's transportation infrastructure and funds non-bondable transportation projects, including some resurfacing, liquid surface treatment, pavement crack repair, line striping, bridge inspection operations, bridge joint repair and painting, and major maintenance operations, as well as motorist assistance.

According to OFA, DOT's highway and bridge renewal program is funded at \$5.38 million in each of FY 14 and 15; the Pay As You Go program is funded at \$9.7 million in FY 14 (the FY 14 allocation includes a \$10 million carry forward) and \$19.7 million in FY 15.

### ***Massachusetts***

Massachusetts increased its tax on gasoline and diesel fuel from 21 cents per gallon to 24 cents per gallon (a 14% increase) on July 31, 2013. The tax had been 21 cents per gallon since 1991. The law that increased the gas tax by three cents also requires that it increase by the rate of inflation starting in 2015 (2013 Mass. Acts Chapter 46).

The Massachusetts gas tax is deposited in the CTF, which, like the STF, is primarily used to pay off bonds issued to fund transportation projects. In 2011, the gas tax contributed about \$662 million to the CTF total of \$1.4 billion. Massachusetts used 63% of the CTF for debt service.

According to MassDOT budget director Paul Jay, road repair is not part of MassDOT's operating budget. Instead, funding for such work is mostly secured through bonding. "As MassDOT pays for the capital expenditures of the maintenance and repair of roads and bridges, the state will go out and float bonds to cover these expenditures," Jay said. "Some of these bonds can be backed by the gas tax and other state fees and revenues."

## **TRANSPORTATION INFRASTRUCTURE “FUNDING GAPS”**

### ***Connecticut***

The ability of any state to finance needed highway and bridge repair depends on the magnitude of the need and the amount of federal and state funds available for those purposes.

In 2011, according to a TSB report, Connecticut had a \$2 billion “state of good repair funding gap” -- the difference between the amount of money needed to maintain, restore, or replace transportation infrastructure and the estimated amount of federal and state funds available for the purpose. The TSB estimated the gap would grow to more than \$4.5 billion in 2017.

The TSB proposed a 10-year state funding program totaling \$7.5 billion to preserve roads and bridges and make important improvements to the transportation infrastructure. Even this amount, TSB said, would fall far short of the \$15 billion to \$20 billion that DOT estimated it would need to pay for its unfunded projects.

### ***Massachusetts***

In 2007, the Massachusetts Transportation Finance Commission declared that that state’s highway system “has been neglected for years, and ...will fail if we do not take prompt and decisive action.”

“Massachusetts roads and bridges have been chronically underfunded, which has resulted in decades of deferred maintenance,” the commission found. “This long-term neglect has led to a daunting backlog of road and bridge needs that becomes more expensive and disruptive every year” ([Transportation Finance in Massachusetts: An Unsustainable System.](#))

The commission estimated the cost of maintaining the state’s transportation infrastructure over 20 years would exceed available funding by \$15 billion to \$19 billion, while there was a gap of about \$9 billion between the amount of money needed to bring the state’s roads and bridges into a state of good repair and funding expected for that purpose.

## **Reason Foundation Report on State Highway Expenditures**

In "[Are Highways Crumbling? State and U.S. Highway Performance Trends, 1989 - 2008](#)" the Reason Foundation, a libertarian organization, examined the condition of the nation's highways. It found, among other things, that state spending on state-controlled highway systems increased about 60% per mile, adjusted for inflation, between 1989 and 2008.

However, Connecticut's spending per mile, adjusted for inflation, decreased by 35.2% during that time, ranking it last among the 50 states, while Massachusetts increased its per mile spending during those 20 years by 68.2%, ranking it 13<sup>th</sup> best among the states.

The report found the reverse situation for the percentage of deficient bridges. The report stated that the percentage of deficient bridges in Connecticut decreased by 24.5% during the 20-year period, while increasing in Massachusetts by 9%. The study ranked Connecticut 7<sup>th</sup> best and Massachusetts 48<sup>th</sup> best among the states in that category.

### **CONNECTICUT AND MASSACHUSETTS ROAD AND BRIDGE CONDITIONS**

National surveys and studies examining the conditions of state roads and bridges have generally found that Massachusetts roads appeared to be in better shape than those in Connecticut, while Connecticut bridges seemed to be in better condition than those in Massachusetts. However, these findings are not universal.

For example, a 2013 *USA Today* report found Connecticut had a slightly higher percentage of roads in good condition. Studies of road conditions usually rate them as "poor," "fair," or "good." According to FHWA, roads in poor condition are deteriorated and typically require structural repair or replacement; roads in fair condition have isolated surface defects and require minor rehabilitation, and roads in good condition have no significant defects. (Some organizations indirectly compare road conditions by estimating the average annual cost to drive on them.)

Another organization, Transportation for America, found the number of “structurally deficient” bridges increased in Connecticut in the preceding two years, while the number of such bridges in Massachusetts decreased during that time. (Substandard bridges can be “structurally deficient” or “functionally obsolete.” The former require significant maintenance, rehabilitation, or replacement, and must be inspected at least annually; the latter no longer meet current standards (e.g., a bridge has lanes that are too narrow or a low load-carrying capacity).

We present the findings of several of these studies below. Because the studies may consider different time frames and use different analytical tools or measurements, the findings may differ.

***The American Society of Civil Engineers (ASCE) 2013 Report Card***

ASCE, the country’s oldest national civil engineering organization, issues a “[report card](#)” of the nation’s infrastructure every four years. Table 1, below, describes its findings on roads and bridges in Connecticut and Massachusetts. As the table indicates, Connecticut’s bridges, but not its roads, appear to be in better shape than those in Massachusetts. The annual cost to motorists of driving on Massachusetts roads was slightly higher than it was on Connecticut roads.

**Table 1: Percentage of Poor Quality Bridges and Roads and the Cost of Driving on Poor Roads to the Average Motorist**

<b><i>Infrastructure Type</i></b>	<b><i>Condition</i></b>	<b><i>Connecticut</i></b>	<b><i>Massachusetts</i></b>
<b>Bridges</b>	Structurally deficient	9.6%	9.6%
	Functionally obsolete	25.4%	43.2%
<b>Roads</b>	Roads in poor or mediocre condition	73%	42%
	Annual cost to motorist of driving on roads in need of repair	\$294	\$313

## **TRIP May 2013 State Fact Sheets**

TRIP is a national nonprofit transportation research organization that [reported in May 2013](#) on state road and bridge conditions and the annual cost to motorists of driving on roads needing repair. Table 2 displays some of its findings for Connecticut and Massachusetts. The study found that Massachusetts' roads were in better shape than Connecticut's, and that it cost motorists slightly less to drive on Massachusetts roads in need of repair than on similar roads in Connecticut. It also found that Massachusetts had a greater percentage of problem bridges than Connecticut.

**Table 2: 2013 TRIP study of Roads and Bridges; Annual Cost to Motorist of Driving on Roads in Need of Repair**

<b>Condition</b>	<b>Connecticut</b>	<b>Massachusetts</b>
Roads in Poor or Mediocre Condition	70%	61%
Structurally Deficient or Functionally Obsolete Bridges	35%	53%
Annual cost to motorist of driving on roads in need of repair	\$563	\$523

### **USA Today/TRIP Analysis**

[USA Today](#), in collaboration with TRIP, published an analysis of 2011 FHWA data on July 29, 2013. As Table 3 shows, it found Connecticut had a slight edge over Massachusetts in the percentage of roads in good condition.

**Table 3: USA Today Analysis of Roads and Bridges in 2011**

<b>State</b>	<b>% structurally deficient bridges</b>	<b>% roads, poor condition</b>	<b>% roads, fair condition</b>	<b>% roads, good condition</b>
Connecticut	10	47.9	40.2	11.9
Massachusetts	10	13.3	76.5	10.1

## **US PIRG Report on Road Roughness**

The information in Table 4 on the percentage of roads in poor, mediocre, fair, and good condition is from "[Road Work Ahead](#)," a 2010 report by the U.S. PIRG Education Fund. The report's findings are generally consistent with the other studies cited.

**Table 4: Percentage of Roads in Poor, Mediocre, Fair, and Good Condition (2008)**

<b>State</b>	<b>Poor</b>	<b>Mediocre</b>	<b>Fair</b>	<b>Good</b>	<b>National Rank (1=best)</b>
Connecticut	5	11	58	26	39
Massachusetts	10	16	45	29	45

## **Transportation for America: State of Our Bridges**

The information in Table 5 is from the 2013 report "[The Fix We're in For: The State of Our Bridges](#)," by Transportation for America. The study examined the degree to which bridges conditions changed since 2011. As the table shows, the study found that Connecticut's bridge conditions worsened, while those in Massachusetts improved.

**Table 5: Changes in Connecticut and Massachusetts Bridge Conditions, 2011-2013**

<b>Category</b>	<b>Connecticut</b>	<b>Massachusetts</b>
% structurally deficient bridges in 2011	9.2	11
% structurally deficient bridges in 2013	9.7	9.6
More/fewer deficient bridges since 2011	16 more (4% worse)	70 fewer (12.4% better)

## **HYPERLINKS**

Transportation Strategy Board, *Strategic Framework for Investing in CT's Transportation Infrastructure*,

[http://www.ct.gov/opm/lib/opm/tsb/reports\\_tsb/strategic\\_needs\\_statement\\_final.pdf](http://www.ct.gov/opm/lib/opm/tsb/reports_tsb/strategic_needs_statement_final.pdf), last visited on September 6, 2013

Massachusetts Transportation Finance Commission, *Transportation Finance in Massachusetts: An Unsustainable System*,

[http://www.t4ma.org/site/wp-content/uploads/TFC\\_Findings.pdf](http://www.t4ma.org/site/wp-content/uploads/TFC_Findings.pdf), last visited September 4, 2013

Reason Foundation, *Are Highways Crumbling? State and U.S. Highway Performance Trends, 1989 - 2008*,

[http://reason.org/files/us\\_highway\\_performance\\_20\\_year\\_trends\\_full\\_study.pdf](http://reason.org/files/us_highway_performance_20_year_trends_full_study.pdf), last visited September 4, 2013

American Society of Civil Engineers, 2013 Infrastructure Report Card,

<http://www.infrastructurereportcard.org/>, last visited September 4, 2013

TRIP, State Information and Reports, <http://www.tripnet.org/state-info-reports.php>

USA Today, "America's Crumbling Roadways,"

<http://www.usatoday.com/story/news/nation/2013/07/28/roads-bridges-decaying/2594499/>, last visited September 4, 2013

USPIRG, *Road Work Ahead*, <http://www.uspirg.org/reports/usp/road-work-ahead>, last visited September 4, 2013

Transportation for America, *The Fix We're in For: The State of Our Bridges*,

<http://t4america.org/docs/bridgereport2013/2013BridgeReport.pdf>, last visited September 4, 2013

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