

Maintaining an Effective Transportation System

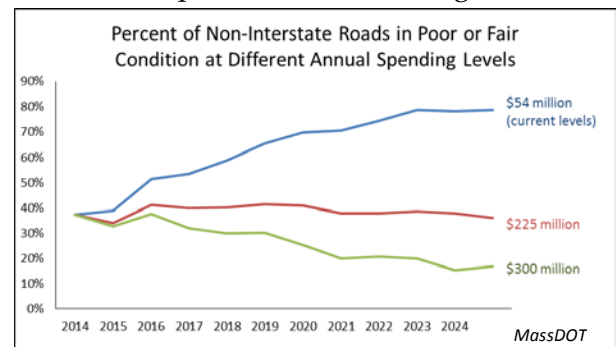
By Phineas Baxandall

To build a strong economy that expands opportunity, a state needs a transportation system that works. Over many years, Massachusetts communities have come together to build and maintain a system of roads, public transit, sidewalks, ferries, airports and bike paths. The quality of this infrastructure largely determines the convenience and reliability of travel in the Commonwealth. State investment in transportation can boost economic productivity and improve access to jobs, school and other opportunities. According to business leaders, including the President and CEO of the Boston Region's Chamber of Commerce, "improving transportation is the top public policy priority for the business community."¹ But information from the Department of Transportation (MassDOT) suggests that current levels of investment are not enough to keep our roads, bridges and public transit system in good working order.

Road Surfaces

Well-maintained roads save time and money. By one estimate, deteriorated roads cost an average motorist in Massachusetts \$483 each year in additional operating costs, a total of \$2.3 billion annually for the entire state in additional vehicle repair costs, accelerated vehicle depreciation, increased gas consumption and increased tire wear.² According to a study by the American Association of State Highway and Transportation Officials, every \$1 spent to keep a deteriorated road in good condition also avoids \$6 or more in future costs to later rebuild the road.³

Official evaluations rate 37 percent of state-owned road miles in "Poor" or "Fair" condition in Massachusetts.⁴ MassDOT currently invests an average of \$54 million annually to repave roads. But at this level, they project road conditions will deteriorate further, with 79 percent of roads in poor or fair condition by 2025. Merely preventing current road conditions from worsening would require a four-fold increase in investment. Increasing annual investment six-fold to \$300 million annually would reduce the percent of poor or fair road miles to 17 percent, below half the current level.



Bridges

Massachusetts residents depend on a system of over 5,000 bridges.⁵ When bridges fall into disrepair, they can become unsafe or weight restrictions and lane closures may be imposed, slowing commerce and increasing traffic congestion.

Recent efforts to improve bridges in the Commonwealth demonstrate the impact of effective investment. Back in 2008, state engineers had identified 543 state bridges as "structurally deficient," meaning they found major defects with a weight-bearing component of these bridges.⁶ MassDOT expected an increase

to 697 structurally deficient bridges by 2016 at planned levels of investment.⁷ But in the wake of a tragic bridge collapse in Minnesota, the Commonwealth launched a \$3 billion Accelerated Bridge Program to repair, replace, maintain and preserve bridge spans around the state. As of the end of 2015, the number of these structurally deficient bridges had declined to 415.⁸

The Accelerated Bridge Program was a one-time initiative financed outside of the normal transportation budget that wraps up this year.⁹ Based on existing levels of capital and preservation spending (about \$173 million annually), MassDOT projects that the number of structurally deficient bridges will increase to over 700 in 2025. The agency estimates that avoiding an increase in the number of structurally deficient bridges would require increasing spending to about \$240 million a year. MassDOT projects that fixing almost all the bridges and keeping the number of structurally deficient bridges close to zero by 2025 would require \$395 million annually.¹⁰

Public Transit

The Massachusetts Bay Transportation Authority (MBTA) provides almost 400 million annual trips to riders across the region,¹¹ making possible a dense and vibrant regional economy that otherwise would be overwhelmed by auto traffic congestion. Like the other 15 Regional Transit Authorities across the state, the agency provides vital travel options for people unable to drive or who lack access to a car.

The MBTA's shutdowns last winter highlighted both how essential the agency is to daily life and how fragile and rickety its service has become. In order to fill annual operating shortfalls, the MBTA had long tended to defer spending on maintenance, modernization and the purchase of new vehicles.¹² As a result, vehicles are overdue for replacement, track signaling and power systems are obsolete, and stations are dilapidated, with many still inaccessible to people with disabilities. The agency contends with frequent breakdowns and additional time-consuming measures to ensure safety.

The transit agency's Fiscal and Management Control Board finds that, based on the resources currently available to fix the MBTA, the system faces a \$600 million shortfall over the coming five years. This amount does not include the costs to comply with federal mandates for safety and accessibility or otherwise upgrading or expanding capacity on existing routes.¹³ Efforts to improve the efficiency of operations and management might free up some fraction of these resources. On the other hand, the figure does not include investments to accommodate increased demand or create new routes and stations that would expand capacity for a growing economy.

Investments to operate more frequent service on Regional Transit Authorities would help make transit more attractive across the state. Currently, some RTAs lack service on Sundays or late evening. The Governor's proposed Fiscal Year 2017 budget would reduce RTA operating funds from \$82 million to \$80 million.

¹ James E. Rooney and Richard A. Dimino, "State's Economy Depends on Good Transit," *Boston Globe*, March 9, 2016.

² Based on 2013 estimates of the number of motorists, and current vehicle operating costs in Massachusetts and AAA estimates that apply the Highway Development Management model (HDM-4), "Massachusetts Transportation by the Numbers: Meeting the State's Need for Safe and Efficient Mobility." Dividing TRIP's \$2.3 billion total figure for additional vehicle operating costs by the 4,765,586 licensed drivers in the state listed by [Federal Highway Statistics 2013](#) yields \$483 per licensed driver. This figure does not include costs due to traffic congestion. TRIP is a nonprofit, founded in 1971, sponsored by road building companies, insurance companies, equipment manufacturers, distributors and suppliers; businesses involved in transit engineering and construction; and labor unions.

³ MassDOT, *Performance Report 2015*, (December 2015), p. 18, from Federal Highway Administration.

⁴ MassDOT, *Report of the Performance and Asset Management Advisory Council: Progress by MassDOT Highway Division on Integrated Asset Management*, (Jan. 15, 2016), p. 20. Includes non-interstate state roads. Conditions mechanically evaluated and defined by five-point scale Pavement Serviceability Index (PSI). Current spending based on a three-year average.

⁵ Massachusetts Department of Transportation, *Performance Report 2015*, (December 2015), p. 12.

⁶ Bridge figure and program description available at Mass.gov [website](#). See also, Federal Highway Administration, "Additional Guidance on 23 CFR 650.D," item 9.

⁷ Mass.gov website "Program Measures" for Accelerated Bridge Program (ABP).

⁸ Mass.gov [website](#) for Accelerated Bridge Program. See [Chapter 233 of the Acts of 2008](#), "An act financing an accelerated structurally-deficient bridge improvement program."

⁹ The Accelerated Bridge Program was financed by [chapter 233 of the acts of 2008](#). In 2016, the Administration has proposed a five-year \$50 million program for localities to fix small bridges.

¹⁰ MassDOT, *Report of the Performance and Asset Management Advisory Council: Progress by MassDOT Highway Division on Integrated Asset Management*, (January 15, 2016), p. 27.

¹¹ MassDOT, *Performance Report 2015*, (December 2015), p. 33.

¹² MBTA Advisory Board, "Born Broke: How the MBTA found itself with too much debt, the corrosive effects of this debt, and a comparison of the T's deficit to its peers" (April 2009); Transportation for Massachusetts, [Maxed Out: Massachusetts Transportation at a Financing Crossroads](#) (October 2011).

¹³ MassDOT presentation to the legislature, "Capital Plan Update: FMCB Meeting," February 26, 2016, posted Feb 29, 2016, slides 4, 5, 7.