

What Is the Cost of Doing Nothing?

For Economy, It Could Be Huge

By TED McENROE

If this were 1860, Boston Foundation President and CEO Paul Grogan would be standing underwater. The Back Bay office building in which he works sits on land that didn't exist 150 years ago. This image underscores the rationale behind a new report on the state's crumbling transportation infrastructure that turned the traditional discussion of how to address the state's transportation problem on its head. "There is no question that creating something like the Back Bay today would be difficult from a legal, financial and logistical standpoint," Grogan and Daniel O'Connell, president and CEO of the Massachusetts Competitive Partnership, note in the preface to *The Cost of Doing Nothing: The Economic Case for Transportation Investment in Massachusetts*. "But would we even have the foresight and courage to make such an investment?" Today, the Back Bay is the heart of a vibrant city, a residential, retail and business center that is an engine of economic activity. But it would not have been so, if not for the leadership and public investment that made the massive public works project happen. One can only wonder what Boston, the Commonwealth's capital city, would be like today without the Back Bay.

Released in January, *The Cost of Doing Nothing* looks at what will happen if the Commonwealth fails to take significant action to address its transportation infrastructure needs, for today and tomorrow. The report finds the state at a crossroads. While data show that Massachusetts is slowly recovering from the recession—with improving job growth, a strengthening economy and an improving housing sector—the report suggests that the recovery could easily stall if the state does nothing to repair and improve its transportation infrastructure. "If we fail to act, and act soon, to address the critical infrastructure needs we face, this report shows that the consequences for our economy and our communities across the state would be devastating," said Grogan, noting the need to divert dollars from other needs to address increased congestion and high operating costs.

Ted McEnroe is Director of Public Relations at the Boston Foundation.

Immediate expenses are only half of the equation, adds O'Connell. "Transportation is a critical element of the climate for businesses that need to expand to grow jobs and the economy," he said. "A modern and well-maintained transportation infrastructure is one of the important factors that employers consider when locating or expanding operations."

How Much Will It Cost?

Putting a dollar figure on the cost of doing nothing is not a simple task. Indeed, some aspects defy measurement. There's no real way, for example, for researchers to estimate the economic cost to the state if businesses make decisions not to come to Massachusetts in coming years. It is possible, however, to estimate the losses current Bay State businesses face due to congestion (seen in lost productivity) and deteriorating infrastructure. And the result is eye-opening—some \$17 billion to \$26 billion worth of eye-opening. And this is just one impact of a failure to invest in the transportation system.

To get to these numbers, the Boston Foundation and the Massachusetts Competitive Partnership turned to AECOM, a global provider of technical and management support services. Researchers there used the Highway Economic Requirements System, State Version (HERS-ST), a highway investment/performance model application developed by the Federal Highway Administration. The model is used to analyze current conditions and helps to determine future system needs. Based on engineering principles, it simulates future highway conditions and performance levels and identifies deficiencies.

The results highlight the challenge ahead. Competing funding priorities and strained government coffers limit the resources available to maintain existing assets in a state of good repair and to expand and upgrade the system to keep pace with the Commonwealth's economy as it grows and evolves. That failure to maintain the system and accommodate growth yields a strained transportation network with rising levels of road and transit congestion, potholes that are patched but not rebuilt, disabled transit vehicles that strand travelers, and declining system reliability.



In order to compete effectively in a swiftly changing economy, Massachusetts must address its looming transportation problems and anticipate the infrastructure needs of the near and distant future.

Estimated Benefits of Maintaining State's Roadways in 'State of Good Repair' (2010-2030)

	Range of Savings (in Billions of Discounted 2008 Dollars)*	
	Low	High
Travel Time Savings	\$11.1	\$14.9
Operating Cost & Safety Savings	\$6.6	\$11.1
Total Benefits	\$17.7	\$26.0

The AECOM researchers calculated the costs of three major impacts from declining highway infrastructure alone:

- Facilities that are not in a state of good repair lead to increases in operating costs for cars, trucks and railroads and heighten the likelihood of crashes—translating into costs associated with property damage, injury and loss of life. By 2030, these operating and safety costs are expected to total \$6.6 billion to \$11.1 billion (in 2008 dollars).
- Increased congestion translates into greater travel times, diverting valuable time from productive work or the non-work activities that support a high quality of life. By 2030, these losses in travel time are expected to cost the Massachusetts economy between \$11.1 billion and \$14.9 billion (in 2008 dollars).
- The diversion of resources to mitigate the effects of rising congestion and operating costs will reduce the productivity of business in Massachusetts. This translates into losses in income and jobs. It is estimated that between 12,300 and 15,600 jobs will be lost in Massachusetts due to its deficient highway transportation network by 2030.

Researchers then note other economic impacts that are harder to put a dollar value on: travelers going longer distances to avoid congestion chokepoints; transportation reliability concerns that increase time needed for on-time delivery and may inspire some shippers to hold larger inventories (at their expense) to compensate; and the environmental impacts of congestion on air and water quality and greenhouse emissions. It all adds up to an economic nightmare.

A Growing Problem

The extent of the current problem is well-documented, and the projected growth in our reliance on highway infrastructure further highlights the need for operational improvements and capacity expansion. Congestion is not limited to the road system, and the problems are not limited to Greater Boston. Among the projections:

- Highways and roads in Massachusetts supported more than 54.5 million vehicle miles traveled in 2010. The volume is expected to rise to 86.5 billion vehicle miles by 2050.
- Trucks, which carry 87 percent of all freight in the state, moved 37.9 billion ton-miles of shipping in 2010, with a value of \$297.9 billion (in 2007 dollars). By 2040, these numbers are expected

to more than double, to 82.6 billion ton-miles of freight, with a value of \$663.8 billion (in 2007 dollars).

- As freight volumes and loads rise, the state's aging multimodal freight transportation infrastructure will struggle to compete due to congestion, clearance problems (from older bridges, overpasses and tunnels that were not designed for today's freight movements), and weight restrictions (particularly on older infrastructure rail).
- The limited ability of the Massachusetts Bay Transportation Authority to add capacity to meet projected ridership growth raises concerns that potential riders will be forced to take autos for their travel, adding to road congestion. Possible impediments to transit-oriented development in key growth areas like downtown Boston, the Back Bay, the Longwood medical area, the Seaport, and Kendall Square could force businesses back out of the city.
- The MBTA's aging locomotive fleet, already showing signs of wear, will be due for retirement by 2025. The aging of the fleet has had a noticeable effect on the reliability of the commuter rail system, and obtaining funding for and carrying out scheduled overhauls and vehicle replacements are critical to ensuring reliable, on-time passenger service and maintaining the market.
- The state's other regional transit authorities, while not facing the constraints of the MBTA, struggle to provide consistent non-peak service—a lack of reliability that limits their potential as an alternative to the auto in communities across the state.

The problems are widespread. AECOM notes that all Massachusetts regions will feel the effects of the state's eroding transportation infrastructure. But each needs a different package of investments to sustain and foster business activity in the region.

The Regional Picture

The eastern regions of the Commonwealth, for example, rely more on just-in-time delivery for service industries and time-sensitive manufactured goods; the western regions host greater concentrations of traditional manufacturing and thus rely on moving bulk commodities that are less time-sensitive. The southeast region has the highest share of freight-dependent jobs of any region at 51 percent.

In eastern Massachusetts, the decline of transportation and the related rise in business expenses can tip the balance between the advantages of urban centers like Boston (large pools of labor, access to airports, specialized technical and professional services, and large client bases) and their disadvantages (higher living and business costs). As long as firms and people perceive that the advantages outweigh the negatives, firms and people will locate in the urban area, and the metro economy will grow and thrive. When the negatives just equal the benefits, the urban economy will languish. When the negatives outweigh the benefits, existing businesses choose to expand elsewhere, and population growth slows.

Investments to expand travel capacity or improve the travel time of public transit service reduce the negatives associated with congestion, thus influencing the urban area's size and density of people and firms. Without the ability to reliably move large numbers of specialized skilled labor in, out and within the urban economy on a daily basis, Greater Boston's economic potential is constrained. This holds true for other types of infrastructure as well. Each infrastructure investment in the Boston regional travel network—such as the South Coast Rail project, extensions of the existing MBTA system, or MBTA improvements that relieve bottlenecks and add capacity at core areas—expands the ability of the economy to manage density. These benefits are capitalized into the property values at the locations where the benefits are consumed, while improving access and mobility supporting the economic vitality of the region. Access to urban cores is directly related to job retention and growth across the state.

In central Massachusetts, which is in the midst of an economic transition from traditional industries to its own mix of knowledge industries such as health care and education, the issues are different. Supporting the region means sustaining the remaining existing industries while fostering connections between the health care and education cluster in Central Massachusetts and that in Eastern Massachusetts. As Worcester and Boston become more integrated economically, they can begin to compete as a larger economy in the global market. Once again, transportation is key.

Take one example: Worcester's \$32 million renovation of the intermodal Union Station building is a major initiative that anchors development and fosters a connection with Boston. The MBTA currently operates thirteen round-trip trains per day between Union Station and Boston, with more to be added in the future. This train service accommodates more than 1,000 daily passengers. The bus pavilion will have a transfer hub to service approximately 230 buses a day. The transfer station design has been incorporated as part of the surrounding Innovation District. Enhancing the Worcester commuter rail corridor will also help strengthen the region's economic growth.

Farther west, where the region's "Knowledge Corridor" faces the challenge of retaining the younger workers its educational institutions are preparing for the 21st-century economy, and tourism remains a great opportunity, the focus of transportation investment is more on fostering access rather than providing capacity. By promoting north-south routes that cross state boundaries, the region is using its transportation investments to expand the diversity of economic opportunity within the functional region. For example, the Knowledge Corridor-Restore Vermonter Project will restore Amtrak's intercity passenger train service to its original route by relocating the Vermonter to its former route on the Pan Am Southern Railroad. This project offers a shorter and more direct route for the Vermonter between Springfield and Northfield and improves access to densely populated areas along the Connecticut River. The anticipated benefits, including a twenty-five-minute reduction in travel time, an associated

24 percent gain in Vermonter ridership and greater reliability, collectively support economic revitalization and reduce traffic congestion by offering a reliable alternative.

In Springfield, Interstate 91 is a major north-south highway and a main artery of the Knowledge Corridor. The viaduct that carries I-91 parallel to the Connecticut River is deteriorating and will require a major investment in order to maintain access across Massachusetts and into Vermont.

Cost-Benefit Analysis

We should not overlook the short-term benefits of capital investments in transportation. AECOM cites research that shows Massachusetts delivers \$2.04 in output for every dollar of investment. It also notes that capital expenditures by the state Department of Transportation and the MBTA have created nearly 25,000 jobs annually and \$1.23 billion in payroll.

What makes a comprehensive transportation investment package even more critical, however, is the opportunity it offers to strengthen productivity in what is acknowledged to be a state with high wages and high business costs. AECOM documented the cost of doing nothing for highway infrastructure, but there are intrinsic connections among transportation modes as well.

- Performance losses in transit can impose costs on highway travelers. As transit capacity is reached, more travelers will be forced onto the roads. Growing capacity constraints for the MBTA and the inability of regional transit authorities to expand service limit their ability to offset or serve as a relief valve for highway congestion.
- Airports and seaports in Massachusetts are gateways to the global economy. If people and goods cannot efficiently reach these gateways, the Massachusetts economy cannot grow or sell its products to a global market.
- Landside access to the state's marine ports and airports is critical to using these gateways to the global economy. Air and marine carriers select ports (air or marine) with efficient inland distribution networks for imports.

The Cost of Doing Nothing report boils it down to a simple conclusion: In order to compete effectively in a swiftly changing economic atmosphere—and to continue to be a place that is attractive to businesses and residents—the Commonwealth must not only address its looming transportation problems, but it must anticipate the tremendous infrastructure needs of the near and distant future. That's why so many nonprofit, civic and business institutions are working together to address immediate transportation needs to ensure the state's future economic growth and vitality.

As lawmakers decide how much of an investment to make in transportation, the intended message here is clear: not investing in transportation will have its price, as well. 🌱

This article includes excerpts from The Cost of Doing Nothing: The Economic Case for Transportation Investment in Massachusetts, which can be downloaded from the Boston Foundation website (www.tbfo.org).