



**Greater Boston**  
Chamber of Commerce



## Boston at a Standstill:

### The Cost of Congestion and its Impact on the Regional Economy

By bringing new companies and employees into the region, the thriving and expanding Greater Boston economy has also exposed an increasing strain on the region's transportation infrastructure. The demand exceeds the capacity of the current road system, and that problem is exacerbated by an unreliable and underdeveloped public transportation system that forces people into cars. The result: gridlock on area roads and a threat to the region's continued and future economic success.

Congestion plagues Greater Boston drivers at all hours of the day, adds unnecessarily to commute times, and is getting worse every year. In 2017, drivers spent an average of 60 hours in congestion during peak commuting hours up from 58 hours in 2016, making Boston the seventh most congested city in the U.S. Only commuters in Los Angeles, New York, San Francisco, Atlanta, Miami, and Washington, D.C. spend more time in congestion.<sup>1</sup> This ranking is even more striking when considering that some of the cities ahead of Boston have far lower levels of ridership on public transit systems. Average daily ridership on the transit systems in Atlanta and Miami, for example, is less than half the ridership of the MBTA.<sup>2</sup>

The effects of congestion during commutes is not only lost time; there is the real effect of billions in lost productivity and, for some workers, lost wages. A worker making the average annual income for the Boston region could earn \$1,300 in 60 hours, but instead loses this time as traffic lengthens their daily commute. With over 1.8 million individuals relying on cars for their daily commute, the region as a whole misses out on \$2.4 billion in potential earnings or lost productivity each year.<sup>3</sup> This cost would be even greater if environmental impacts are taken into account.

#### **Congestion Costs the Region Billions**

While more workers in Greater Boston use public transportation than the national average – 13 percent compared to the national average of five percent – if public transportation is inadequate or unreliable, it can contribute to the congestion problem by shifting people to other modes of transportation. The car is by far the most popular option for commuters in Greater Boston, largely because it offers a more flexible and shorter commute. In fact, three-quarters of workers in the region rely on a car for their daily commute, with 90 percent of these drivers commuting alone.<sup>4</sup>

#### Highlights

**7<sup>th</sup>**

Most Congested City in US

**\$1,300**

Average Loss Per Worker

**\$2.4B**

Total Estimated Loss for Greater Boston

**60**

Average Annual Hours in Congestion

**75%**

of Workers Commute Via Car

<sup>1</sup> INRIX Research, [INRIX Global Traffic Scorecard](#), February 2018.

<sup>2</sup> American Public Transportation Association, [Public Transportation Ridership Report](#), November 2017.

<sup>3</sup> Greater Boston Chamber of Commerce calculations, see "Methodology & Sources" section for details.

<sup>4</sup> US Census Bureau, 2012-2016 American Community Survey 5-year estimates, [Table B08126: Means of Transportation to Work by Industry](#). Available at [American Fact Finder](#), accessed February 2018.

For these car commuters, every hour spent in congestion has a cost. For some, like self-employed and hourly earners, it is a loss of potential income. For others, it is lost time and productivity whether it be a professional or personal activity. Since the time spent in congestion is time commuters cannot spend doing other things, it is possible to quantify the value of that using earnings data. In 2017, the cost of congestion during peak commuting hours is valued at approximately \$2.4 billion for the Boston metropolitan area. For an individual commuter making the average annual income for the area, the cost is \$1,300 per year.<sup>5</sup>

### Impact on Industries

The impact of congestion varies across industries. Each industry's reliance on cars to commute, average earnings, and workforce size impact the total opportunity costs to its workers. In some industries, such as construction, nearly 90 percent of workers commute by car, likely due to the frequent change in job sites and the need to transport equipment and materials between these sites. Other professions that are more concentrated in downtown office spaces, such as professional services, have fewer car commuters and more workers relying on public transit as their primary mode of commuting.

As detailed in Table 1, the region's largest industry, education and healthcare, includes nearly 500,000 car commuters who experienced an opportunity cost of over \$500 million in 2017 due to congestion. The region's smallest industry, agriculture, has less than 5,000 workers who experienced an opportunity cost of \$4 million in 2017.

Workers in lower-paying industries, such as arts, entertainment and recreation or retail trade, have smaller losses in potential earnings, but workers may more directly feel this loss. These industries have higher numbers of hourly and part-time workers, so time spent commuting can directly impact earnings by reducing the number of hours worked or eliminating the ability to obtain a second job. Furthermore, low-income workers are disproportionately burdened by the added direct costs of congestion, such as the increased costs for fuel or child care. On the other hand, higher paying industries, such as financial or professional services, rely on a higher percentage of salaried employees whose earnings are not directly tied to additional hours worked. In these industries, the loss of productivity to the firm may be a more significant opportunity cost than the loss of potential earnings to the worker.

**Table 1: Boston's 2017 Congestion Cost**

Industry	Car Commuters	Average Hourly Earnings	Average Loss Per Worker	Estimated Industry Loss (in millions)
Agriculture, forestry, fishing and hunting, and mining	4,930	\$14.64	\$878.16	\$4.3
Construction	110,031	\$22.24	\$1,334.19	\$146.8
Manufacturing	186,503	\$29.80	\$1,787.71	\$333.4
Wholesale trade	46,433	\$24.89	\$1,493.63	\$69.4
Retail trade	193,858	\$11.53	\$692.08	\$134.2
Transportation, warehousing, and utilities	72,756	\$22.54	\$1,352.39	\$98.4
Information	44,940	\$30.55	\$1,832.80	\$82.4
Finance, insurance, and real estate	132,795	\$32.16	\$1,929.46	\$256.2
Professional, scientific, and management services	240,088	\$29.97	\$1,798.33	\$431.8
Educational services and health care	498,450	\$20.58	\$1,234.70	\$615.4
Arts, entertainment and recreation	145,657	\$8.76	\$525.72	\$76.6
Other services	82,514	\$12.85	\$771.26	\$63.6
Public administration	74,933	\$30.90	\$1,853.80	\$138.9
<b>Total/Regional Average:</b>	<b>1,833,888</b>	<b>\$21.66</b>	<b>\$1,299.61</b>	<b>\$2,383.3</b>

<sup>5</sup> Greater Boston Chamber of Commerce calculations, see "Methodology & Sources" section for details.

### **Commuting on I-93 South**

The significant growth in congestion has occurred despite a substantial highway infrastructure investment during the Big Dig. This investment was crucial to revitalizing Downtown and creating the Seaport neighborhood, but did not significantly increase capacity into and out of Boston. The Expressway heading south of the city ranks as one of the worst roads nationally on several congestion measures in the 2017 INRIX Global Traffic Scorecard:

**10<sup>th</sup>**

**Most Congested Corridor in U.S.**

**25.1 mph**

**Average speed for the evening commute  
from Boston**

### **Recommendations**

Congestion is not a new issue for Boston, but the problem has intensified in recent years. Over the last 35 years the metro area has added more than 500,000 car commuters, growth of approximately 46 percent; by contrast, the region's population grew by approximately 29 percent during that same period. As a result, drivers now spend nearly twice the time in congestion than the 31 hours in 1982.<sup>6</sup>

As Greater Boston's labor force is projected to grow by up to 175,000 between 2010 and 2040,<sup>7</sup>

the effects of congestion will only get worse without a clear plan to improve and expand the state's entire transportation infrastructure.

To address this growing problem, the Greater Boston Chamber's recommendations are to:

**Explore a long-term, reliable revenue source for both roads and public transit.** Rather than ad-hoc fare and gas tax increases, the state should develop a long-range plan to fund investments in transportation infrastructure. This revenue should be derived from a steady and reliable source. It would be a mistake to rely on the volatile income tax to fund transportation, including funding it through the proposed graduated income tax on high earners, which will be especially sensitive to fluctuations. To meet its needs, the region requires sustained, reliable investments but the instability of the income tax would place transportation funding at risk. To ensure steady, dedicated investment, a revenue plan should rely on user fees that cannot be siphoned away from transportation spending into other accounts.

**Establish a clear transportation infrastructure plan that anticipates regional growth.** In January 2018, the Urban Land Institute (ULI) released a report on the region's public transportation options, and it pointed to "the absence of a broader vision for the future of transportation in Greater Boston" as one of the key reasons for our current problems. The Chamber agrees with ULI's recommendation to "synthesize regional transit plans into a single vision, timeline, and action plan."<sup>8</sup>

The lack of a clear, comprehensive transportation plan will not only delay modernizing the current system to meet the current demands, it will also make it harder for our transportation infrastructure to keep pace with the region's economic growth.

<sup>6</sup> Texas A&M Transportation Institute, [Urban Mobility Scorecard](#), August 2015.

<sup>7</sup> Metropolitan Area Planning Council, [Population and Housing Demand Projections for Metro Boston](#), January 2014.

<sup>8</sup> Urban Land Institute, A ULI Advisory Services Panel Report, [Greater Boston, Massachusetts, October 1-6, 2017](#), January 2018.

## Conclusion

Employers and workers alike want to be in Boston despite the transportation challenges because the region offers world-class talent, plentiful opportunities for career growth, a top-notch education system, a good quality of life, and much more. To maintain that position, the region must address the strain on our transportation system.

While congestion in Boston is already impacting commuters, without investment and planning it will almost certainly become more severe. This reality makes expanding our transportation infrastructure to meet current demands, improving our public transportation system, and planning for the growing population and economy evermore urgent.

### Methodology & Sources:

Average employee and total industry losses are calculated using American Community Survey (ACS) data for means of transportation to work and average annual earnings.

The number of car commuters is based on ACS 2012-2016 5-year estimates for Boston-Cambridge-Newton, MA-NH Metropolitan Statistical Area. Average hourly earnings are based on ACS 2012-2016 5-year estimates for median annual earnings for Boston-Cambridge-Newton, MA-NH Metropolitan Statistical Area, divided by 2080 hours to calculate an hourly rate. The average hourly rate for “Arts, entertainment and recreation” is below the state’s 2017 minimum wage of \$11 due to part-time positions in this sector. All data is for the civilian population.

The estimates assume that all car commuters spend the average of 60 hours in congestion and earn the average annual earnings in their industry for the Boston-Cambridge-Newton, MA-NH Metropolitan Statistical Area. The total estimated loss is based on the median annual income for Greater Boston. It does not represent the sum of the individual industry calculations.

Note that the loss of potential earnings and/or productivity is just one factor in the total cost of congestion to the region. For example, this analysis does not include delays that occur outside of peak commuting hours or the direct cost to businesses which transport goods and services during peak hours.