

8 CONCLUSIONS

Presented below are conclusions based primarily on findings regarding various performance measures and trends for the Boston region. The basis of the conclusions also includes findings from congestion monitoring and research which, though they were conducted by other agencies and research organizations in the country, shed light on our own region's experiences regarding congestion and travel demand.

The findings for the Boston region (given in detail in Chapters 3 through 7) are summarized in Chapter 9, where this report's recommendations are also presented. These conclusions provide a frame that informs the nature of the recommendations.

Congestion and economic growth in the region have been closely related – According to figures used in the Regional Transportation Plan, employment in the Boston Region MPO area grew by about 52 percent between 1970 and 2000 and by 22 percent between 1980 and 2000.¹ The Plan also notes that suburban job growth outpaced that of the urban core during this period. Along with this economic growth came more congestion: between 1982 and 2001, daily vehicle-miles traveled (VMT) grew by 38 percent, and annual person-hours of delay more than tripled.²

Travel in the region will most likely continue to grow in the future as the region's economy grows – Every new job that is created in this region adds 14,500 miles of travel to the system annually.³ As this region moves out of the recent recession and new jobs are added to the economy, VMT—and delay—should also be expected to grow.

Operational strategies can extract additional capacity from the region's arterial roadways and limited-access highways – As building new capacity is not always possible or desirable, it is important to maximize the capacity of the existing infrastructure. Mitigating the effects of roadway events (incident management) and improving the system's operational efficiency for all roadway users, including bus riders, are the two key areas where this strategy reduces congestion. Operational efficiency strategies include HOV lanes, traffic signal coordination, intersection redesign, intelligent transportation system strategies, and reversible commuter lanes.

Public transportation is already a very important contributor to congestion relief in this region, and it can continue to be one in the future – Annual person-hour delay on the roadways of this region is 70 percent lower than what it could have been without public transportation.⁴ Annual passenger-miles on public transportation tripled between 1982 and 2001,⁵ largely due to expansions of commuter rail service and of park-and-ride lots. Between

¹ Central Transportation Planning Staff, *2004–2025 Regional Transportation Plan of the Boston MPO*, September 11, 2003, p. 2-2.

² David L. Schrank and Timothy J. Lomax, *Annual Urban Mobility Report*, Texas Transportation Institute (TTI), the Texas A&M University System, sponsored by the American Road and Transportation Builders Association – Transportation Development Foundation and the American Public Transportation Association, September 2003. Available at <http://mobility.tamu.edu/ums>.

³ Based on employment growth (as provided by the Regional Transportation Plan) and VMT (as listed in Schrank and Lomax, *Annual Urban Mobility Report*, 2003).

⁴ Schrank and Lomax, *Annual Urban Mobility Report*, 2003.

⁵ *Ibid.*

1995 and 2002, over 12,000 spaces were added to the MBTA park-and-ride system, an increase of 57 percent. Between 1992 and 2002, total MBTA ridership increased by 9 percent.

Travel demand management can be part of the integrated solution to reduce congestion and improve mobility – Though the impact on congestion of TDM measures, such as ridesharing, shifting the time of travel, and telecommuting, is limited, they can improve mobility for certain traveler markets and help reduce VMT as part of the mix of solutions.

Regulatory policies to manage urban growth and form can reduce congestion – According to the 2004–2025 Regional Transportation Plan, the MPO region had 2.5 percent more developed land in 1999 than in 1991.⁶ The Plan also notes that this rate “averages out to about 7.6 acres a day. The majority of the new land consumption was for single-family housing [and] most of this development took place on formerly agricultural and forested lands.”⁷ Furthermore, based on a Metropolitan Area Planning Council analysis of land use/sprawl trends, in the 1990s more land was developed per increase in population in the suburbs than in the Inner Core communities. This lower-density development results in higher VMT and is also difficult to serve by traditional public transportation modes. “Smart growth” practices, transit-oriented development, access management, and funding incentives, can reduce VMT and delays by affecting development densities and promoting sustainable development. In this region, land use is controlled at the local level, but a number of initiatives have already been taken at the state level in that direction.

Addressing safety can have secondary beneficial effects on congestion – Safety and congestion have a cause-and-effect relationship. Often, addressing safety has beneficial effects on congestion as well.

Key conclusion – The single most important conclusion that can be drawn from the regional data analysis contained in this report is that *congestion and mobility are complex issues that require a multimodal and comprehensive program of strategies and policies to address them, including growth management tools*. Hopefully, the preceding conclusions convey the thinking that led to this key conclusion and provide decision-makers and planners with some guidelines that, together with the findings in this report and the recommendations presented in the next chapter, will help them address congestion in the short and long run.

⁶ CTPS, 2004–2025 Regional Transportation Plan, p. 2-2.

⁷ Ibid.