



Connecting the Commonwealth

Key Public Transportation Projects and
Their Benefits for Massachusetts

MASSPIRG Education Fund

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Executive Summary

Massachusetts' transportation system is in trouble. High gasoline prices are draining consumers' pocketbooks, traffic congestion wastes valuable time and energy, and our cars and trucks produce pollution that harms Bay Staters' health and contributes to global warming.

Public transportation makes a vital contribution to Massachusetts' transportation system, relieving congestion, reducing our dependence on oil, curbing pollution, stimulating the economy, and helping to sustain healthy, vibrant communities. While Massachusetts has made many important transit investments over the last several decades, many important projects have been left on the drawing board.

Massachusetts needs a transportation system that meets the needs of the 21st century—one in which public transportation plays an even bigger role than it does today. To get there, we need to start investing now in critical public transportation projects.

Massachusetts residents drive more miles, spend more on gasoline, experience more congestion, and produce

more global warming pollution from transportation than they did two decades ago.

- Vehicle travel on the Commonwealth's highways increased by approximately 57 percent between 1980 and 2007. The number of vehicle miles traveled per person has increased by 39 percent over that same period of time.
- Massachusetts residents spent about \$4.3 billion more on gasoline in 2007 than they did in 1998, a product of more miles being driven in less efficient vehicles, coupled with higher gasoline prices.
- Congestion on Bay State roads has continued to get worse. In 2005, Boston area residents spent about 93 million hours in traffic delays, while congestion cost the area's economy about \$1.8 billion.
- Transportation is a leading source of global warming pollution in Massachusetts. Massachusetts' transportation

system produced 19 percent more carbon dioxide in 2005 than it did in 1990.

Public transportation helps address Massachusetts' energy, transportation and environmental challenges.

- Public transportation pays dividends for Massachusetts residents and our economy.
 - In 2006, public transportation in Massachusetts saved approximately 153 million gallons of oil, saving consumers more than \$400 million at the pump.
 - Public transportation prevented more than 21 million hours of traffic delay—equivalent to about 2,400 person-years—in the Boston metropolitan area in 2005, saving the economy more than \$400 million in wasted time and lost productivity.
- Public transportation is helping to reduce global warming pollution in the Commonwealth, averting about 1.2 million metric tons of carbon dioxide pollution in 2006.
- Travel via public transportation in Massachusetts has increased at a faster rate than automobile travel since the early 1990s—with the number of passenger miles traveled on transit jumping 34 percent between 1993 and 2006.
- Transit ridership continues to increase. In the first five months of 2008, ridership on the Bay State's transit lines jumped 6 percent versus the year before, compared with a 1.7 percent drop in vehicle travel.
- However, nearly 74 percent of Massachusetts residents drive to work alone while only 8.6 percent take public

Figure ES-1. Year-Over-Year Change in Transit Ridership vs. Vehicle Miles Traveled, January-May 2008 versus January-May 2007

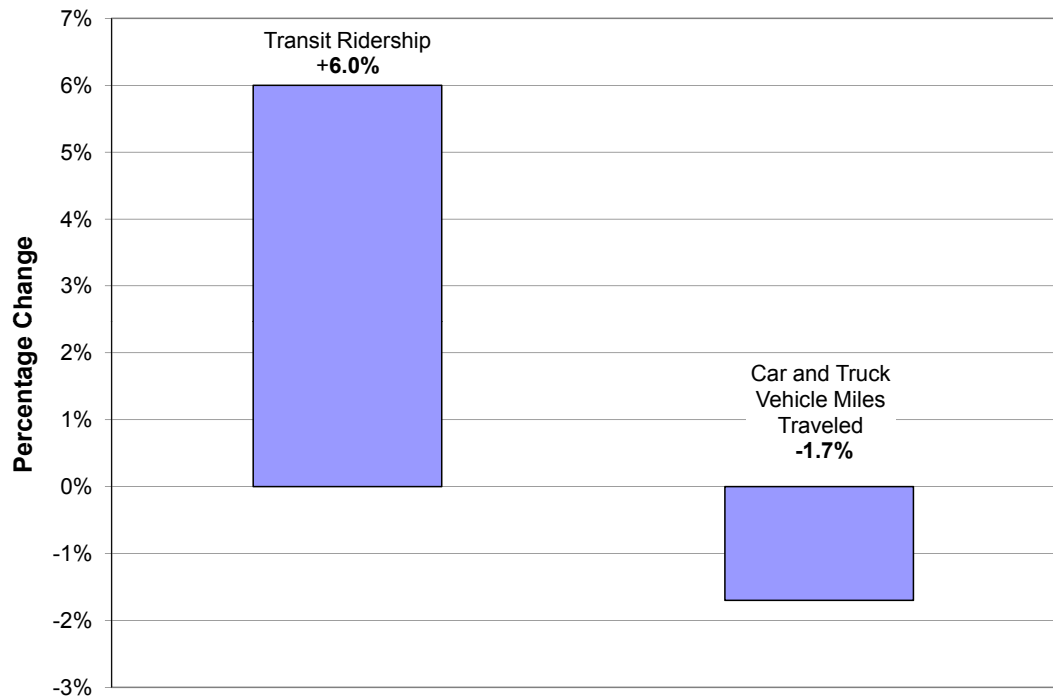
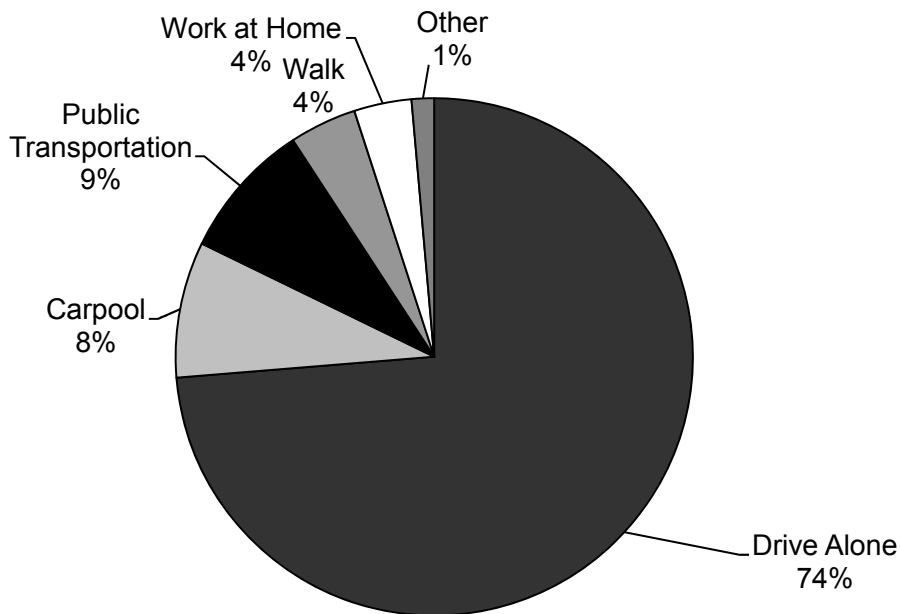


Figure ES-2. Means of Travel to Work in Massachusetts, 2006



transportation, meaning that there are plenty of opportunities to entice new riders to transit.

There are dozens of worthy public transit improvements that would give Bay Staters alternatives to the rising cost of driving, reduce congestion by removing cars from the road, save oil and reduce pollution. Many of these projects have been stuck on the drawing board for decades but their importance is greater than ever.

A comprehensive transit system for Massachusetts would include the following (not in order of priority):

Greater Boston

- Extending the MBTA Green Line, improving transportation service to the state’s most densely populated city, Somerville, as well as neighboring Medford.

- Connecting the MBTA Blue Line and Red Line at Charles/MGH station and extending the Blue Line to Lynn—easing connections in downtown Boston, providing more travel options, and improving links between Lynn and Boston.
- Improving the quality of service along the MBTA’s Fairmount commuter rail line—which runs through some of Boston’s most transit-dependent and economically challenged neighborhoods—and adding several new stations.
- Completing the final phase of the Silver Line, improving transit connections in downtown Boston.
- Building high-capacity transit from Mattapan to a connection with the Silver Line at Dudley Square, and potentially converting the entire Silver Line Washington Street corridor to light rail service.

- Building a high-quality, rail-based Urban Ring that would connect the “spokes” of the MBTA transit system, speeding travel around the Boston area and drawing thousands of new transit riders each day.

Regional Rail

- Restoring commuter rail service to Fall River and New Bedford and eventually Cape Cod, linking the South Coast to the Greater Boston rail network.
- Connecting fast-growing southern New Hampshire to the MBTA commuter rail network.
- Introducing commuter rail service between Springfield, Hartford and New Haven, reducing congestion on I-91 and providing better transportation options to residents of the Pioneer Valley.
- Improving passenger rail service in the Worcester area, including improved service on the Worcester-Boston commuter rail line and possible extensions of the commuter rail network to Springfield, New London, Providence and Ayer that would provide new regional travel options and allow rail to be used by commuters working in Worcester.
- Connecting the north and south halves of the MBTA commuter rail network, allowing commuter rail riders to reach a greater variety of destinations, improving the efficiency of the MBTA commuter rail system, and paving the way for continuous intercity rail service along the entire East Coast.

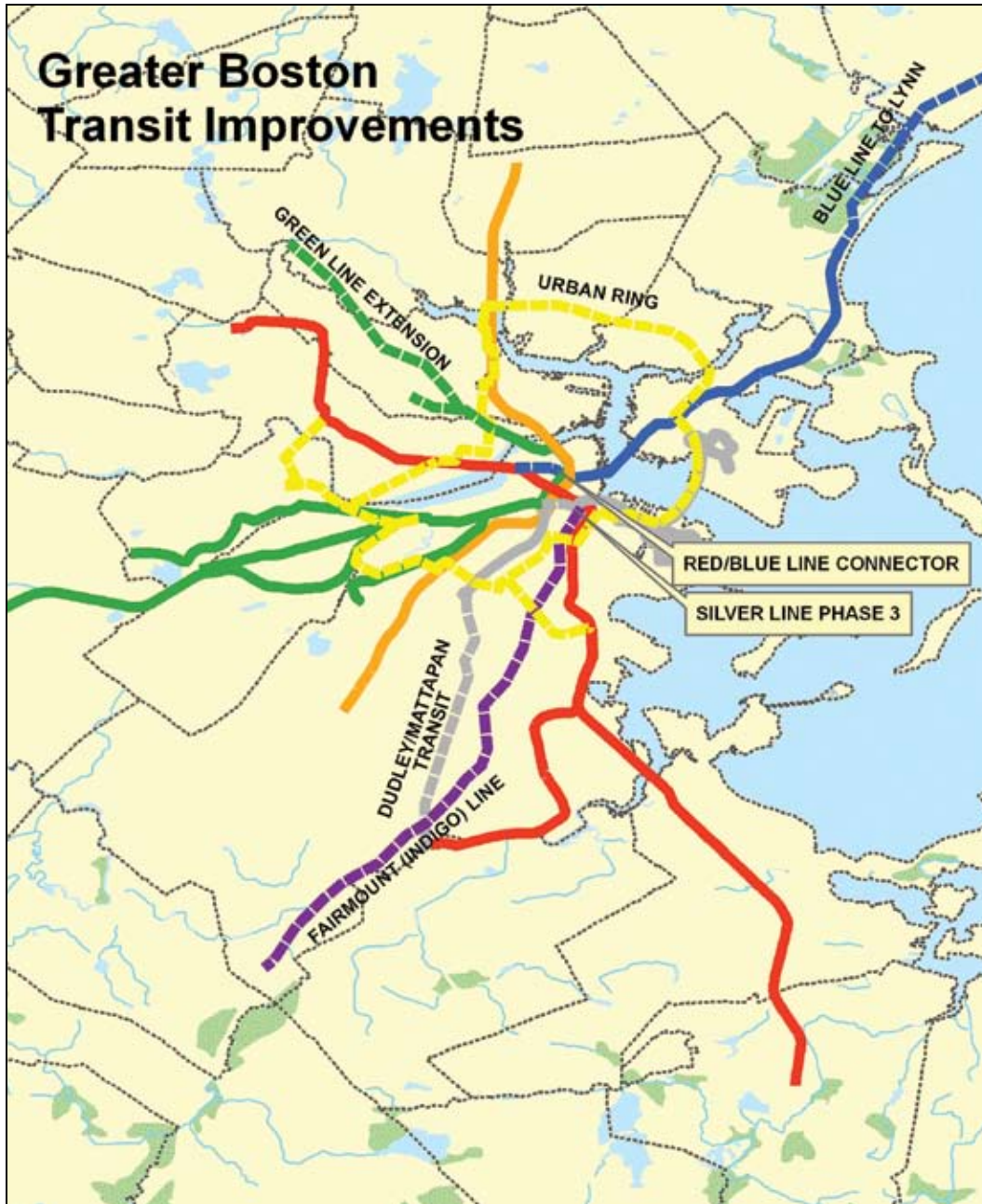
High Speed Rail: Construction of high-speed rail along Massachusetts’ federally designated high-speed rail corridors—eventually linking Boston with Montreal, Albany, and Auburn, Maine; and Springfield with New Haven and New York City—via trains traveling 125 miles per hour or more.

Bus Service: Improvements in bus service across the Commonwealth, particularly service provided by Massachusetts’ regional transit authorities (RTAs). With adequate and predictable funding, RTAs can provide Bay State residents with efficient and affordable alternatives to driving.

Massachusetts faces a transportation funding crisis, which could prevent the Commonwealth from making the investments required to build a 21st century transit system. The Commonwealth should do the following to address both and future current transportation needs:

- Develop a statewide public transportation plan that sets out an ambitious, long-term agenda for transit system improvement and expansion. The plan should identify needed projects, estimate a price tag, and propose both a project schedule and sources of funding. A comprehensive plan is needed both to highlight the scale of investment needed and to minimize competition for scarce resources among various projects.
- Develop and implement a solution to the Commonwealth’s transportation funding crisis, including measures to increase revenue, such as the state fuel tax and/or open-road tolling, and dedicate a portion of that revenue to sustainable funding for transit providers.

Greater Boston Transit Improvements





- Make sure both project delivery and operation of transportation agencies are as cost efficient as possible, including implementation of recommendations made by the Massachusetts Transportation Finance Commission and the Metropolitan Area Planning Council's MetroFuture planning process.
- Urge the U.S. Congress to revamp federal transportation policy when the federal transportation funding law comes up for reauthorization in 2009. Revisions should include shifting resources from highway expansion to transit projects and focusing federal money on strategic goals such as transportation system efficiency and safety, energy conservation, environmental improvement, and the creation of compact, sustainable communities.
- Work with New England states to develop a long-range rail transportation vision for the region and identify potential sources of funding.
- Focus scarce state transportation dollars on needed transit system improvements as well as maintenance and repair of existing transportation infrastructure.

Introduction

In February 1970, in the midst of the nation's Interstate highway building boom, Massachusetts Gov. Frank Sargent appeared on television to announce a momentous decision: he was calling an immediate halt to all new highway construction inside Route 128 and ordering a thorough review of Boston's transportation needs.

The Boston Transportation Planning Review, completed in 1972, recommended a revolutionary new approach to the region's transportation future—one that abandoned a massive expansion of Boston's expressway network in favor of greater reliance on public transportation and strategic highway investments.

Sargent's announcement was daring and controversial, the first of its kind in the United States. But history has smiled upon his initiative—indeed, no single act may be more responsible for creating the thriving metropolitan area that Boston represents today. Instead of large swaths of Cambridge, Somerville, Brookline and Jamaica Plain being consigned to the wrecking ball, those areas have been reborn as vibrant communities. By investing in

transit improvements—including extension of the Red Line, relocation of the Orange Line and the restoration of commuter rail lines—the MBTA increased its daily subway ridership by nearly 50 percent between 1976 and 2003. And Massachusetts' new approach to transportation has served as a model followed by cities across the country.

Today, Massachusetts needs similar bold leadership. Our transportation system remains too dependent on oil, damages the environment and public health, is increasingly costly for Bay State residents, and often fails to get people where they need to go quickly and efficiently. At the same time, Massachusetts faces a transportation funding challenge that affects both the maintenance of our bridges and roads and our ability to provide reliable and efficient transit service across the Commonwealth.

The first step Massachusetts must take is to envision the transportation network the Commonwealth will need to grow and thrive in the 21st century. Public transportation will and must play a central role in that vision. With investments in transit,

Massachusetts can fill important gaps in our current transit network, knit together our cities and towns, sustain economic development, and position Massachusetts well for the challenges ahead.

The transit investments described in this report are vital to making the vision of clean, efficient and reliable public transportation in Massachusetts a reality. Yet no single project described here is enough to achieve that vision. Too often, debates over transit system improvements in Massachusetts devolve into pitched battles between backers of various projects, each anxious to secure their piece of the pie.

These are precisely the kinds of battles that can impede progress toward a better transportation future. To reinvent our

transportation system for the 21st century, Massachusetts needs more commuter rail and more inner-city buses, more light rail and more bus rapid transit, more investments in Greater Boston and new transportation options elsewhere in the Commonwealth.

Nearly four decades ago, Massachusetts set a bold course toward a new transportation future—one that has paid great dividends for the Commonwealth and its citizens. Now is the time for citizens and decision-makers to embrace a new vision for a public transportation network that can address the challenges of the 21st century while sustaining our economy for the long haul.

The Case for More and Better Public Transportation in Massachusetts

Over the last few decades, Massachusetts residents have driven more miles in our cars and trucks, become more dependent on oil, and spent more time in traffic. Automobile dependence is increasingly a drain on our economy, particularly given the recent spike in gasoline prices.

In some ways, however, Massachusetts is lucky. Thanks to more than 150 years of investment, Massachusetts has a relatively expansive public transportation network—particularly in the Boston area. In an era of rising gasoline prices, our public transportation system gives Massachusetts a “leg up” on other states, insulating Bay Staters from the impact of higher oil prices and providing an attractive amenity for businesses and individuals considering moving here.

Still, as anyone who has ridden public transportation in the Commonwealth—or anyone who has lacked access to it—can tell you, Massachusetts’ transit systems fall far short of their potential. The costly legacy of the Big Dig, coupled with the continued budget pressures facing transit agencies around the Commonwealth, have resulted in years—sometimes decades—of

delay for key transit projects and increasing challenges in keeping the state’s existing transit system operating efficiently and safely. Addressing these challenges, and improving public transportation in the Bay State, must be a top priority for public officials in the years ahead.

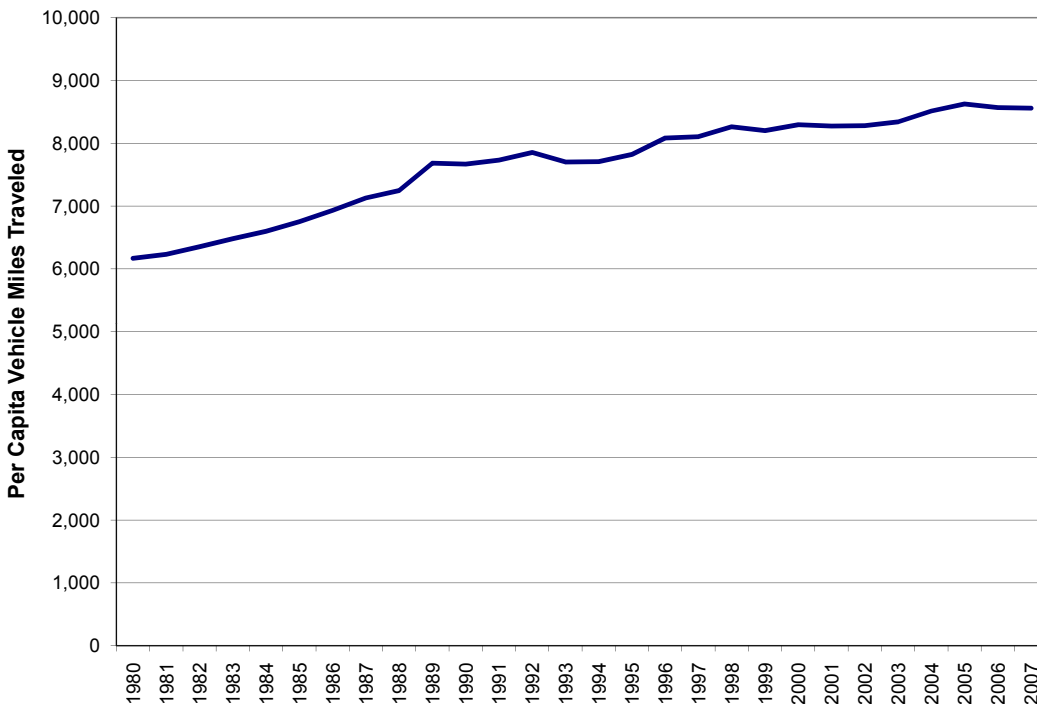
Travel Trends: More Driving, Rising Transit Ridership

Automobile Travel

Massachusetts residents drive far more than they did several decades ago—both in terms of total miles and miles per person, leading to more congestion, greater dependence on oil, and increased emissions of global warming pollution.

More than 55 billion miles were traveled on Massachusetts roads in 2007—up from just 35 billion miles in 1980. While some of the increase is due to population growth, the average Bay Stater is also driving many more miles each year than three decades ago. Vehicle travel per capita on the

Figure 1. Per Capita Vehicle Miles Traveled, Massachusetts¹



Commonwealth's highways has increased by 39 percent since 1980. (See Figure 1.)

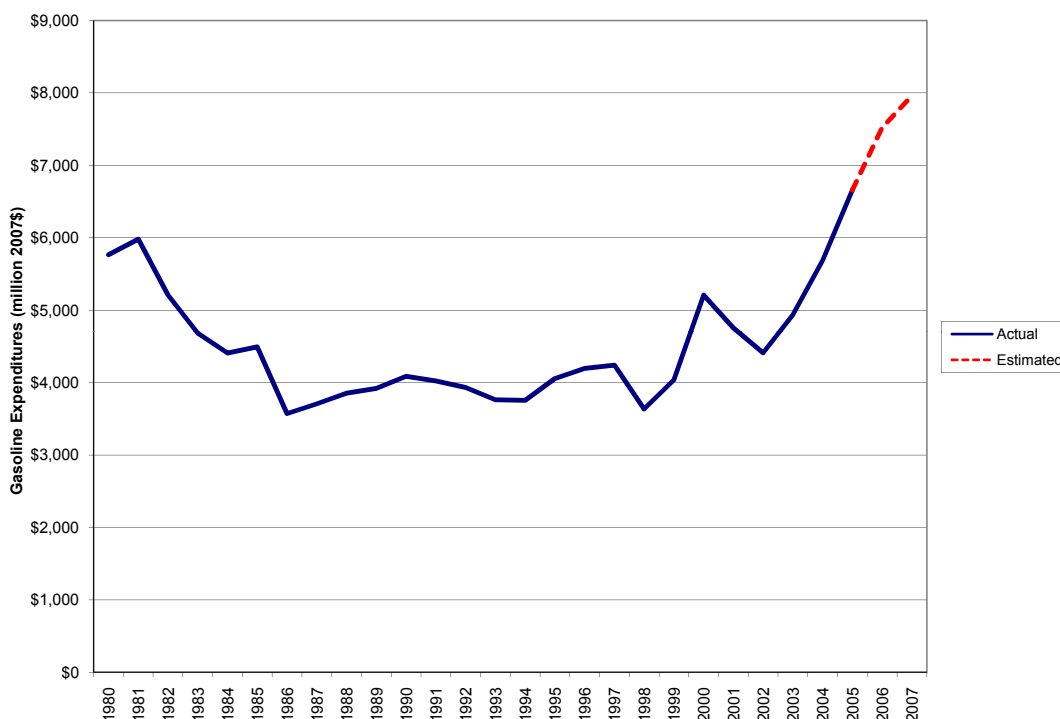
The increased travel on Massachusetts highways has led to worsening traffic congestion. Residents of the Boston metropolitan area (which extends into Rhode Island and New Hampshire) spent approximately 93 million hours in traffic congestion in 2005—a five-fold increase since 1982.² In the Springfield metropolitan area (which extends into Connecticut), travelers spent about 4 million hours in congestion in 2005, a three-fold increase from 1982.³

Congestion imposes real costs on Massachusetts' economy. Between the cost of wasted time and wasted fuel, congestion cost the Boston metropolitan area approximately \$1.8 billion in 2005 and the Springfield area approximately \$71 million.⁴ This does not count lost economic opportunities as businesses and skilled workers decide to locate elsewhere rather than contend with Massachusetts' bad traffic.

Increasing vehicle travel has also helped lead to a recent increase in the amount of money that Commonwealth residents must spend on fuel. It may be difficult to remember now, but a combination of low gasoline prices and improved vehicle fuel economy actually led to a substantial drop in the amount of money that Massachusetts residents spent on gasoline between the early 1980s and the late 1990s. By 1998, Massachusetts residents were spending 40 percent less each year on gasoline in inflation-adjusted terms than they had in 1981, despite a dramatic rise in vehicle travel over that time.⁵ (See Figure 2, next page.)

The expectation that the era of cheap gasoline would continue, however, led Massachusetts residents (as well as public officials responsible for energy and development policy) to make choices that increased the Commonwealth's dependence on oil, including the proliferation of SUVs on Bay State highways. In 1998, passenger

Figure 2. Inflation-Adjusted Spending on Gasoline, Massachusetts⁶



cars (as opposed to SUVs and other trucks) made up 73 percent of all motor vehicles registered in Massachusetts. By 2006, the percentage of passenger cars had declined to 61 percent. By the end of that eight-year span, there were 470,000 fewer cars registered in Massachusetts, but 570,000 more SUVs.⁷

As a result, when gasoline prices started to spike in 2004, Massachusetts families were hit hard and many were left with few good alternatives. Massachusetts residents now spend more than twice as much each year on gasoline as they did a decade ago, costing Massachusetts families an estimated \$4.3 billion in additional annual costs in 2007 compared with 1998.⁸ The dramatic rise in gasoline prices in 2008 will

lead to even more pain for Massachusetts families.

Not every Massachusetts community, however, has been equally hard hit by rising gasoline prices. Residents of communities with access to transit tend to drive fewer miles each year than those living in auto-dependent areas, meaning that they spend less on transportation generally, and are less vulnerable to rising fuel prices. (See Figure 3.)

Rising vehicle travel—not just in personal vehicles but also in the form of increased freight traffic—has also increased Massachusetts’ emissions of global warming pollution. In 2005, Massachusetts’ transportation network emitted 19 percent more carbon dioxide than in 1990.¹⁰

Public Transportation

While Bay Staters are driving more miles than in the past, they are also taking more and longer trips on public transportation. Between 1993 and 2006, the number of passenger-miles traveled annually on public transportation in the Commonwealth increased by 34 percent—a rate of growth higher than that of automobile travel.¹¹ The biggest bumps in travel via transit came as a result of service expansions, particularly the restoration of commuter rail service along the Kingston/Plymouth and Middleborough/Lakeville lines in late 1997. (See Figure 4, next page.)

In recent years, transit ridership has reached a plateau, but with higher gasoline prices, that is beginning to change. Over the first five months of 2008, transit ridership in the Commonwealth was up by 6 percent over the year before.¹³ Over the same period, vehicle travel in the Commonwealth declined by 1.7 percent.¹⁴ (See Figure 5, next page.) At a time of rising gasoline prices, Massachusetts' transit systems provided an important alternative for thousands of travelers.

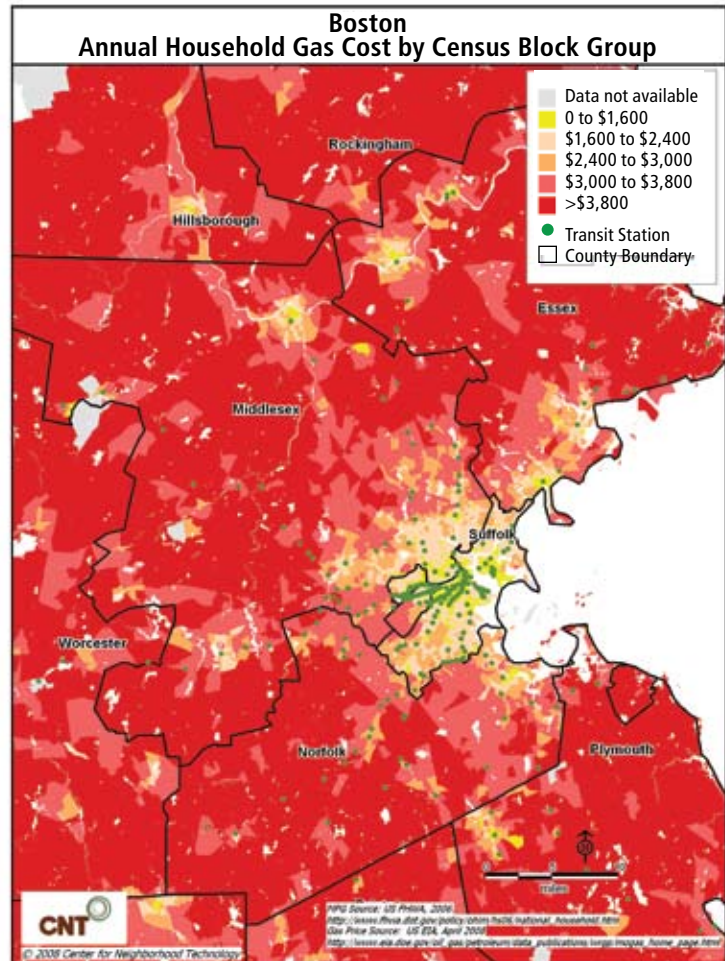
But while transit ridership is on the rise, too many Massachusetts residents still find themselves without good alternatives to driving. Among Bay State commuters, for example, 74 percent drive to work by themselves, compared to just 8.6 percent who take transit.¹⁵ (See Figure 6.)

Providing more and better public transportation options would allow more Massachusetts residents to choose transit—reducing congestion, curbing pollution, and minimizing the Bay State's dependence on oil.

The Benefits of Transit in Massachusetts

Public transportation provides a wide

Figure 3. Annual Household Gasoline Expenditures in 2008⁹



range of benefits to Massachusetts—saving oil, reducing congestion, and reducing emissions of global warming pollution, while serving as an important economic asset for the Commonwealth.

In 2006, public transportation in Massachusetts saved approximately 153 million gallons of oil that would have otherwise been burned in vehicles, saving consumers more than \$400 million at the pump.¹⁷ Those cost savings were based on an average gasoline price in 2006 of \$2.68 per gallon. At gasoline prices of \$4 per gallon, the savings would have been nearly \$600 million.

Public transportation also plays an

Figure 4. Passenger-Miles Traveled via Transit, Massachusetts¹²

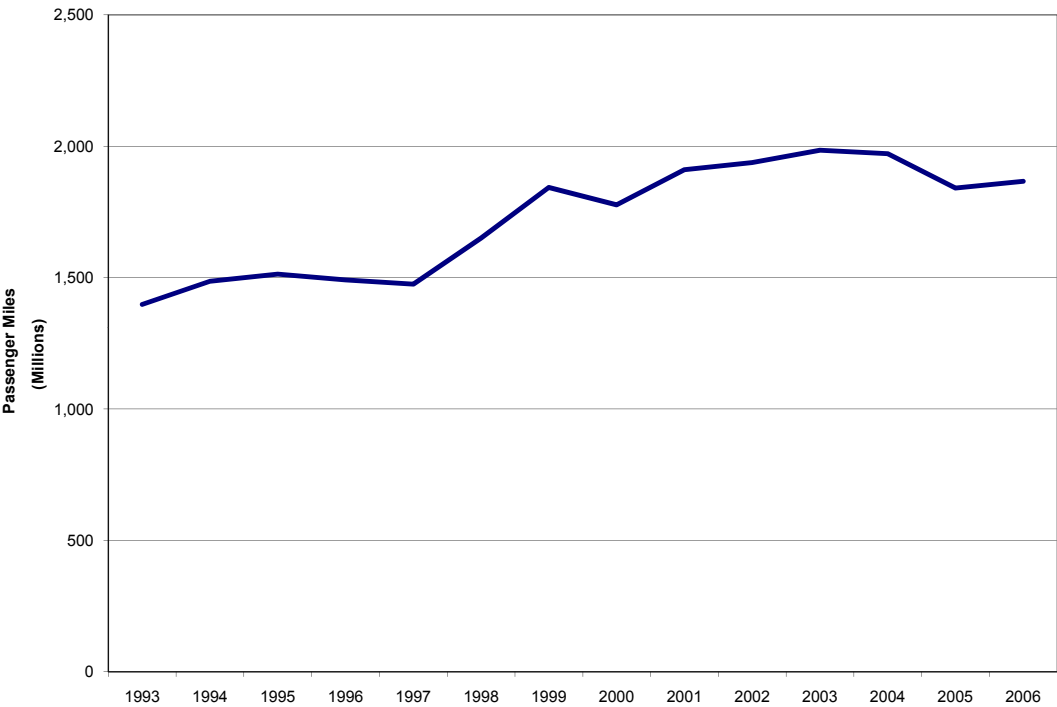


Figure 5. Year-Over-Year Change in Transit Ridership vs. Vehicle Miles Traveled, January-April 2008 versus January-April 2007

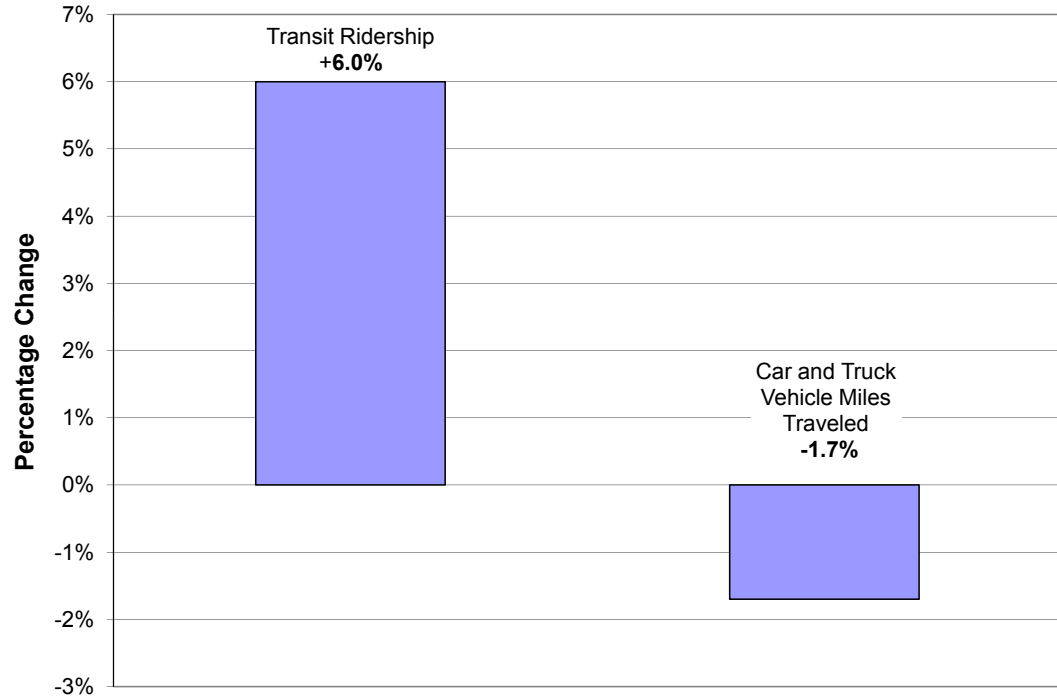
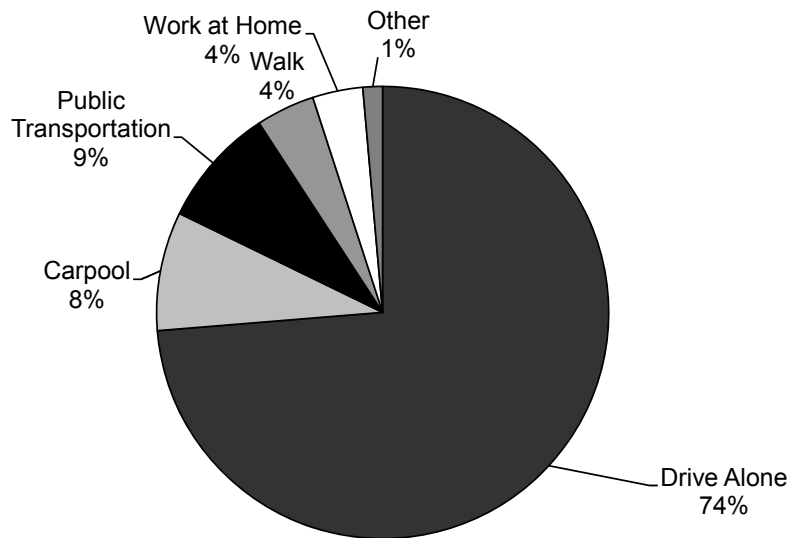


Figure 6. Means of Travel to Work in Massachusetts, 2006¹⁶



important role in reducing traffic congestion. A 2007 study by the Texas Transportation Institute estimated that public transportation prevented more than 21 million hours of traffic delay—equivalent to about 2,400 person-years—in the Boston metropolitan area in 2006, saving the economy more than \$400 million in wasted time and productivity.¹⁸

In addition, public transportation is helping to reduce global warming pollution in the Commonwealth, averting about 1.2 million metric tons of carbon dioxide pollution in 2006.¹⁹

Public transportation provides a host of other important, if difficult to quantify, benefits. Transit provides a source of mobility to the poor, elderly, children and disabled, many of whom cannot afford a car or cannot drive. Investments in transit have helped spark the economic revitalization of areas around transit stations, helping to create vibrant communities that are less dependent on the automobile—a big advantage for economic development in an era of higher fuel prices. Transit riders are free from the responsibilities of driving, meaning that they can use their time to read, chat, catch up on the day's news or,

in an increasing number of transit vehicles, use wireless Internet to check e-mail or do important work.

Every day, residents across the Commonwealth count on transit to get where they need to go—whether they are college students in western Massachusetts using Pioneer Valley Transportation Authority buses to get to class, families taking commuter rail trains to beach outings on the North Shore, baseball fans packing Green Line cars to get to Fenway Park, or the hundreds of thousands of commuters who take transit to work each morning. And even those of us who don't take transit every day can rely on it in a pinch—when a sudden snowstorm hits that makes driving unsafe, during periods of major road construction, or when gasoline prices are high.

In short, public transportation is a vital resource for Massachusetts—one that will become even more important in a world of higher oil prices and increased concern about congestion and global warming. Investing in transit can build on this important public asset and position Massachusetts for even greater benefits in the years to come.

A Vision for the Future of Public Transportation in Massachusetts

Massachusetts has made significant investments in transit over the last two decades, but there remain many transit projects—some of which have been on the drawing board for decades—that can bring significant benefits to the Commonwealth. The projects listed in this section are in various stages of development. Some of them are already in the planning stages and could come on line within the next decade. Others will require longer-term planning and investment. Still others are mere concepts requiring more evaluation. This is not a comprehensive list, but rather serves as an example of transit investments that can address key needs in Massachusetts, from reducing traffic congestion and pollution to promoting smart growth and community revitalization.

The projects listed in this section are not in order of priority. Transit investments must be evaluated on a range of criteria, from their impact on air quality and global warming emissions to their potential to spark economic development and improve quality of life. Investments in high-speed rail, for example, deliver different benefits to different constituencies

than investments in improved bus service for inner-city neighborhoods.

All of the projects described here, however, are part of an integrated vision for the future of public transportation in the Commonwealth—a vision that Massachusetts should strive to make happen through strategic investments in the years to come.

Goals of Transit Investments in Massachusetts

Any transit investment strategy for Massachusetts should have a blueprint to guide it—a set of goals that the state wishes to achieve. The Commonwealth should set a target of, by 2025 at the latest, completing investments that would achieve the following goals:

- 1) Fill in obvious gaps in public transportation systems, ensuring that all those who live in areas with the

population and ridership to support public transit have access to high-quality transit service.

- 2) Improving the connectivity of existing transit systems, making it easier for travelers to reach a wide variety of destinations quickly and affordably.
- 3) Creating an integrated, New England-wide rail transportation network, with Massachusetts at its hub, that serves both commuters and inter-city passengers within New England and connects the region to important destinations elsewhere.
- 4) Expanding access to transit in lightly served areas of the Commonwealth, including smaller cities, suburbs and rural areas, providing an appealing alternative to driving.
- 5) Improve the quality of existing transit service to make Massachusetts' transit systems second to none in efficiency, convenience, safety and comfort.

Achieving these goals will create a Massachusetts that is more economically vibrant, less dependent on oil, less impacted by traffic on the roadways, and capable of meeting the transportation challenges of the 21st century.

Greater Boston

The MBTA is one of America's premier transit systems. On an average weekday, more than 1.3 million trips are taken on the MBTA's vast network of commuter rail lines, subways, trolleys, boats and buses.²⁰ In terms of transit ridership per capita, the Boston metropolitan area ranks fifth in the

nation, behind only New York, the San Francisco Bay Area, Washington, D.C., and Honolulu.²¹ Just as much as the region's highway or telecommunications networks, the T is the lifeblood of the Greater Boston economy.

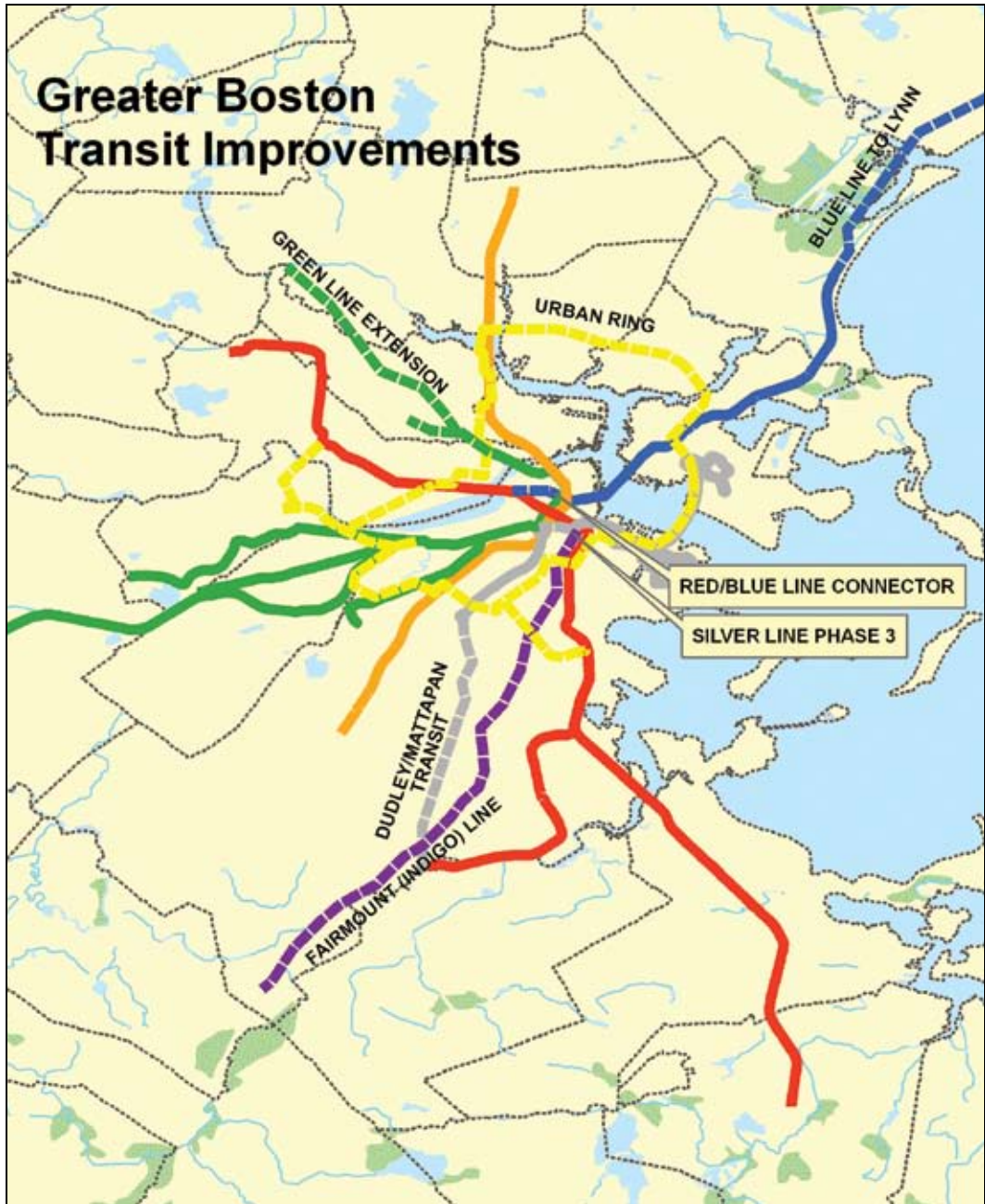
A series of transportation investments—some of them already far into the planning stages and others requiring more long-term effort—can help maximize the potential of public transportation to solve Greater Boston's 21st century transportation challenges.

Green Line Extension to Somerville and Medford

Somerville, Massachusetts, located just northwest of Boston, is the most densely populated city in New England and the sixth most densely populated municipality of more than 50,000 people in the United States.²² It is home to a major university (Tufts University, shared with neighboring Medford), a burgeoning arts community, and vibrant commercial districts. In other words, it is a perfect candidate for frequent, high-quality transit service.

Yet, the MBTA's rapid transit network has largely passed Somerville by. The city has a long transit history dating back to the 1850s, and at one time had several commuter rail stops. But until the MBTA Red Line was extended to Davis Square in 1984, Somerville had no stations on the core MBTA subway network (although stations at Sullivan Square on the Orange Line and Lechmere on the Green Line are located very near Somerville's southeastern boundaries.)

The idea of extending the MBTA's Green Line through Somerville to Medford has been discussed for more than 40 years.²³ Extension of the Green Line was part of the Big Dig transit commitments made by the Commonwealth in 1991. Yet, until recently, momentum on the project had stalled. In 2008, the Commonwealth committed to fully funding the Green



Line extension project, and the extension is scheduled to be completed by 2014.²⁴

As currently conceived, the extension will cut through Somerville, paralleling the route of the MBTA's Lowell commuter rail line, with six stations, ending in Medford at Mystic Valley Parkway.²⁵ A short spur line would run along the path of the MBTA Fitchburg commuter rail line to connect with Union Square, one of Somerville's main commercial hubs. The Union Square spur could be extended as far as Porter Square, where it could connect to the Red Line.

Extension of the Green Line will solve a host of problems in Somerville and Medford. The area's congested roadway network makes travel by both car and bus

slow and difficult. By 2025, the Green Line extension project is projected to increase the number of transit trips systemwide by 10,000 each day, eliminate 53,000 miles of vehicle travel daily, and save commuters 8,640 hours—the equivalent of more than 1,000 work days—of time each day.²⁶ Assuming that the trips averted by the project would have been made in vehicles achieving the projected average U.S. fuel economy for light-duty vehicles, the line will avoid approximately 890 metric tons of carbon dioxide pollution per year and nearly 100,000 gallons of gasoline consumption.²⁷

In addition, extension of the Green Line will improve access to several of Somerville's commercial hubs, including



Somerville's Ball Square is one of the areas that will be connected to the MBTA Green Line, enabling area residents to avoid vehicle trips on congested streets like Broadway (above) and stop-and-go trips on local buses.

Union Square and Ball Square, and provide a direct transit connection to Tufts University.

Because the extended Green Line would mostly travel over existing rights-of-way, the project is relatively low-cost as major transit expansion projects go. A 2005 draft report prepared for the Commonwealth estimated the total capital cost of the project at approximately \$438 million (2005 dollars).²⁸

The Green Line extension project is an attractive transit investment—a relatively low-cost line through a densely populated area that is starved for efficient and swift transit service. The Commonwealth has already committed the necessary funding to the project, but it will be important for Massachusetts to ensure that the project stays on track for completion in 2014.

Blue Line Extension to Lynn and the Red-Blue Line Connector

Long before even the old, elevated Central Artery was a gleam in transportation planners' eyes, Boston was the site of another "big dig." At the time of its construction

in 1904, the subway tunnel between downtown Boston and East Boston was the first tunnel underneath Boston Harbor. Over the years, the Blue Line, which runs through the historic tunnel, has been upgraded and expanded several times, eventually bringing subway service as far up the North Shore as Revere.

But despite its importance as a transit link to the North Shore and Logan Airport, the Blue Line falls short of its promise in several ways. The Blue Line and Red Line are the only two MBTA subway lines that do not connect in downtown Boston. As a result, traveling from the North Shore to Cambridge or Dorchester (or vice versa) requires two transfers, despite the fact that the final stop on the Blue Line, Bowdoin, is less than a half-mile away, and a straight shot down Cambridge Street, from the Red Line station at Charles/MGH.²⁹ At the other end of the line, the Blue Line falls just a few miles short of serving the densely populated city of Lynn, Mass., home to more than 80,000 residents and a historic downtown in need of economic revitalization.³⁰



The newly remodeled Charles/MGH Red Line station was built to accommodate a connection to the extended Blue Line.

Connecting the Blue Line to the Red Line at Charles/MGH station would allow for seamless connections in the heart of downtown Boston—easing congestion at transfer stations such as Government Center and State Street—and facilitating travel between the North Shore, the South Shore and Cambridge/Somerville. As with many of the other projects discussed in this report, the idea of connecting the Red and Blue lines has been on the agenda for a long time, with initial engineering work having taken place in the mid-1980s.³¹ When the MBTA recently rebuilt the Charles/MGH Red Line station, it designed the new station in such a way as to allow for the creation of an underground Blue Line station directly beneath it.

The Red/Blue Line connector is estimated to avert an additional 1,400 automobile trips per day, while providing other benefits including reduced congestion on other MBTA subway lines.³² The estimated capital cost of the project as of 2005 was \$222 million.³³ A 2003 analysis found the project to be “among the more cost-effective projects in terms of capital cost relative to new transit rider and to air quality improvements.”³⁴

At the other end, extending the Blue Line to Lynn would not only provide more frequent service to North Shore commuters heading to downtown Boston, but it would also provide an economic boost to the city of Lynn, which has faced its share of economic challenges. Older industrial cities such as Lynn are important to the future economic growth of the Commonwealth, with affordable housing stock and office space as well as compact downtown areas that are frequently walkable and could be well-suited to improvements in transit service. Previous extensions of the MBTA subway network, such as the Red Line and Orange Line extensions of the 1970s and 1980s and construction of the Silver Line along the South Boston waterfront in the 2000s, have helped spark

new economic development. In the case of areas such as Davis Square in Somerville and downtown Malden, this development has occurred in formerly struggling commercial districts.

Lynn, whose historic downtown is difficult to access via the area’s congested network of highways, could benefit from expanded access to rapid transit. Lynn currently has a commuter rail station, but the existing service does a relatively poor job of serving “reverse commuters”—those not commuting into Boston in the morning and out of the city in the evenings. While there are nine trains that pass through Lynn before 9 a.m. each weekday morning on the way to North Station in Boston, there are only four heading in the opposite direction.³⁵ Providing regular, rapid transit connections between Boston and Lynn would not only ease travel to and from Boston, but it also would encourage business growth and economic revitalization in Lynn.

The idea of extending the Blue Line to Lynn has been debated for decades. When the Blue Line was extended to Wonderland in the early 1950s, the extension was done along the right-of-way of a former narrow-gauge railway—a right-of-way that continues all the way to Lynn and provides one option for extending the Blue Line. An alternative routing of the extension would take the Blue Line parallel to the commuter rail tracks that currently extend to Newburyport and Rockport. Construction along the former narrow gauge railway route is estimated to cost approximately \$400 million, while the commuter rail alignment would cost approximately \$600 million.³⁶

The MBTA’s 25-year plan, last revised in 2003, lists the Blue Line extension to Lynn as a “high priority” project and estimates that it would increase transit ridership by 7,900 daily riders systemwide.³⁷

The Red/Blue Line connector is currently in the planning phases and is part of

the revised Big Dig transit commitments agreed to in 2006. Design on the project is scheduled to be completed by 2011. The extension of the Blue Line to Lynn is not included in the Big Dig commitments and the timeline for completion is less certain.

Extending the Blue Line at both ends will both improve the connectivity of the core MBTA subway network and extend the reach of the system to include a densely populated part of the Commonwealth with major transportation challenges. The Commonwealth should prioritize both projects as part of its “to-do list” for transit improvements in Massachusetts.

Fairmount Commuter Rail Line Improvements (Indigo Line)

The Dorchester and Mattapan neighborhoods of Boston are home to some of the most impoverished and transit-dependent areas in the city. Running through the midst of those neighborhoods is the Fairmount commuter rail line—a nine-mile

long line that is the only MBTA commuter rail line that exists entirely within the city of Boston. Fairmount line trains departing from Readville at the extreme southern border of the city make a 24-minute journey that ends at South Station, where passengers can connect with the Red Line, Silver Line, commuter rail, Amtrak and intercity bus services.

Yet, for decades, the Fairmount line has been woefully underused. The line has only three stops between its origin and terminus, and the stations in the Dorchester and Mattapan neighborhoods were (until recently) forbidding places, with little signage, few amenities, poor lighting, and infrequent service (including none on weekends). Indeed, the existence of the rail line was unknown to many residents of the nearby communities, who typically board buses traveling congested streets to connect with the Red Line and Orange Line subways that flank the Fairmount Line corridor.

The Fairmount line, however, remains



Upham's Corner in Dorchester is one of the areas that would benefit from improvements in service along the Fairmount commuter rail line.

an important potential transportation asset for the city—an asset that the MBTA is working to improve through what could be an ambitious revitalization project. Members of the abutting communities envision as the end result of the project the creation of an “Indigo Line” with the quality and level of service typical of existing MBTA subway lines.

Two decades ago, the Fairmount Line itself was almost discontinued by the MBTA. Rail service on the corridor was revived and augmented in the late 1970s to replace rail service on the Southwest Corridor that runs through the Roxbury, Jamaica Plain, Roslindale and Hyde Park neighborhoods in Boston while that corridor was thoroughly rebuilt. In 1987, when construction on the Southwest Corridor was complete, the MBTA moved to discontinue service on the Fairmount Line, but ultimately dropped those plans in the wake of strong community opposition.³⁸ The proposed improvements to the Fairmount Line would help realize the potential community advocates saw in the 1980s.

The first pieces of the revitalization plan have already been carried out, with the renovation of the commuter rail stations at Upham’s Corner in Dorchester and Morton Street in Mattapan. The new stations include improved lighting, high-level platforms for easier boarding, shelters and safety improvements.³⁹ The next step will be the addition of four new stations along the line serving the Newmarket area of Roxbury (home of the bustling South Bay shopping center), the Four Corners and Codman Square areas of Dorchester, and the Mattapan Square area of Mattapan. (A fifth station has also been proposed for Columbia Road in Dorchester.)⁴⁰

Along with the new stations and other upgrades will come more frequent service, which should attract much-needed economic development in the corridor. In anticipation of the improvements, non-profit organizations, housing developers

and others are already planning new projects near the rail line.⁴¹ The Fairmount Line improvements are part of the Big Dig transit commitments and are due to be completed by 2011.

One unresolved question regards the kind of trains that will be used in the corridor. Traditional diesel commuter rail trains are large, heavy, slow to stop and start, and produce significant amounts of pollution—all drawbacks on a short line with numerous stations running through a densely populated urban neighborhood. The use of diesel multiple-unit (DMU) cars—which do not use a separate locomotive—could reduce end-to-end travel times on the line by as much as 20 percent and increase ridership by 27 percent, while reducing fuel consumption and dramatically curbing air pollution.⁴² The use of DMU cars would also add to the “subway-like” feel of the service and represent a commitment to continued, high-quality transit service in the corridor.

The cost of the Fairmount Line improvements is estimated to be \$110 million, and purchasing new subway-like trains for the line could increase the cost further.⁴³ But, the investment in the Fairmount Line is certain to pay off for nearby residents, who have long put up with slow and arduous bus service, and provide a shot in the arm for the commercial districts along the line, while providing equitable transit service for a part of the city that has long desired it.

Connecting and Improving the Silver Line

The MBTA Silver Line has been among the most controversial transit projects in recent memory. And given Boston’s history of contentious planning for public projects, that is saying something.

The Silver Line emerged as a result of two separate needs: the need for an efficient transit connection between downtown Boston and the rapidly developing South



MBTA Silver Line buses traverse Boston's famously narrow downtown streets, providing slower service than an earlier rail line.

Boston waterfront and the need to provide “replacement service” along the Washington Street corridor for the Orange Line, which was relocated in 1987. The result thus far has been two transit lines that share the same color on MBTA maps and the moniker, “bus rapid transit,” but otherwise have very little else in common.

The Silver Line Waterfront branch from South Station to the waterfront and Logan Airport is widely regarded as a success. The Waterfront branch runs through a dedicated bus tunnel from South Station through the waterfront area, where it eventually connects to surface roads. The Washington St. section, however, runs in bus-only lanes on congested streets or in mixed traffic. While the service has increased ridership and provided a modest improvement in travel times over the bus

line that previously ran along Washington Street, it is a far cry from the direct, quick and frequent service that residents of the corridor had received from the elevated Orange Line.⁴⁴ Whereas the Orange Line ran from Dudley to downtown Boston in just 8 minutes, the Silver Line takes more than twice as long.⁴⁵

The MBTA is now planning to connect the two sections of the Silver Line—a move that has attracted a great deal of opposition based on the project’s cost, its potential disruption to nearby neighborhoods, and the belief among some area residents that light rail would provide superior service less expensively than bus rapid transit. Moreover, the future of the Silver Line has ripple effects on transit issues elsewhere in the city.

The Silver Line debate has grown so

contentious on all sides that it is important to take a step back and make several observations:

- **Linking the Washington Street corridor with Boylston Street station via a transit tunnel should be a priority**, enabling Silver Line buses or light rail cars to avoid city traffic—speeding transit commutes and reducing congestion on already packed downtown streets. Converting the Silver Line to light rail would allow for the use of existing abandoned tunnels running under Tremont Street, while bus rapid transit could operate through a new tunnel built under Charles Street South. In either case, a tunnel link to Boylston station would be a significant improvement over the status quo.
- **Rail transit is a better solution for the Washington Street corridor than bus rapid transit.** Bus rapid transit works well on the Waterfront portion of the Silver Line, enabling buses to branch out in several directions after departing the underground bus tunnel in South Boston and to use the Ted Williams Tunnel to reach Logan Airport. The main purpose of the Silver Line-Washington Street service, however, is to move large numbers of people in a straight line between Roxbury and downtown Boston—a job well suited for rail. Moreover, light rail vehicles could use existing abandoned tunnels rather than requiring the boring of a new tunnel beneath Charles Street South.
- **The Warren Street-Blue Hill Avenue corridor, running from Dudley Square to Mattapan Square, should receive frequent, high-capacity transit service**—ideally a light rail connection. Bus routes

in this section of the city have among the highest ridership in the city—the number 28 bus that runs from Mattapan Sq. to Ruggles station via Dudley draws more than 12,000 riders a day, nearly as many as the Silver Line.⁴⁶ Streetcars ran in this corridor until the 1950s and a restoration of high-capacity transit service would provide improved connections to areas such as Roxbury’s Grove Hall commercial area, the Franklin Park Zoo, and the Blue Hill Avenue business district.

- Using light rail on the Washington St. section of the Silver Line would preclude the “one-seat” ride between Roxbury and Logan Airport touted as a benefit of the Silver Line. However, other projects—including the proposed Urban Ring (see page 26)—could achieve this goal and do so without the need to carry travelers through downtown Boston.
- The eventual routing of the Silver Line, if it remains a bus rapid transit service, should not foreclose options for future use of the abandoned Green Line tracks and tunnels at Boylston station. One idea, for example, is to use the abandoned tunnels to re-route the Green E line into a new tunnel beneath Stuart Street, thereby reducing congestion in the central Green Line subway.

The Silver Line Phase 3 project serves an important need by speeding trips from the South End and Roxbury to downtown Boston and creating new transit connections in the downtown area. However, replacement of the current Silver Line-Washington Street bus service with light rail would provide better service (and possibly do so at lower cost), while extension of rapid transit from Dudley Square to Mattapan Square would provide improved

transit service to an already transit-oriented area of the city.

A High-Quality Urban Ring

Getting to downtown Boston on the T is a snap. Getting around it is a different story.

If you live in Chelsea but work in Somerville, live in Cambridge but work at the Longwood Medical Area, or live in Dorchester but commute to Jamaica Plain, traveling on the MBTA can be a time-consuming experience, requiring slow bus rides on congested streets, or travel into and back out of downtown Boston. For suburban commuters, the extra time spent traveling into and out of the core could make the difference between driving and taking the T to their destinations.

Construction of an “Urban Ring,” a circumferential transit line around downtown Boston, could provide a faster and more convenient option, connecting the radial “spokes” of the MBTA system, alleviating congestion at downtown subway stations, and vastly expanding the number of people who can use the MBTA to get to their destination.

Circumferential or parallel transit links around major cities are common the world over. Many of the world’s most successful transit systems—including those of London and Paris, as well as, to a lesser extent, New York City—have subway systems that bear greater resemblance to a pile of spaghetti than the starburst pattern of the MBTA. The many interlocking lines give passengers more than one good option for getting where they need to go, provide more connections with more destinations around the city, and provide important redundancy in the system in the case of a problem that causes the shutdown of any one subway line.

In Boston, the idea of an urban ring was first conceived of in the 1970s, but the idea truly gained steam in the 1990s with the growth of employment centers such as

the Longwood Medical Area and Kendall Square in East Cambridge, which sit along one “spoke” or another of the MBTA network.⁴⁷ In 1995, local government officials in Boston, Brookline, Cambridge, Chelsea, Everett and Somerville committed to work together in planning for the Urban Ring, including the land use and development policies that will maximize the benefits of transit investments in the Urban Ring corridor.⁴⁸

In 2001, the MBTA and federal Department of Transportation completed a Major Investment Study that laid out a three-phase plan for development of the Urban Ring:

- Phase 1 is to be the establishment of several limited-stop “crosstown” bus routes on existing rights-of-way. Three such routes now exist.
- Phase 2 of the project is to include the launch of “bus rapid transit” service—bus service that is similar in frequency and “feel” to rail service, and which often uses separate rights of way—along parts of the corridor, in addition to better connections with other modes of transit, such as commuter rail.⁴⁹
- Phase 3 will include the construction of rail transit along the western part of the corridor, running in an arc roughly from Dudley Square in Roxbury through the Longwood Medical Center and East Cambridge and eventually on to Assembly Square in Somerville.

The Urban Ring is thought of as one large project, but in reality, it is unlikely that many (if any) riders will ever travel more than halfway around the ring, since it will almost always be easier to take an existing MBTA subway line to those destinations. As a result, it is far more important

to provide effective transit connections along the most heavily traveled segments of the ring than to compromise service quality in the pursuit of a “one-seat ride” along the entire loop.

There are three segments of the Urban Ring that are particularly important based on projected ridership:

- The segment south and west of downtown Boston linking the southern branch of the Red Line with Boston Medical Center, Newmarket, Dudley Square, Ruggles, Longwood and Boston University.
- The corridor from Allston across the Charles River through Kendall Square and Lechmere to Assembly Square on the Orange Line.
- The northern corridor linking Everett, Chelsea and Logan Airport.⁵⁰

These corridors—and especially the first two—are ideal candidates for rail transit, with high potential ridership, dense development patterns and already-congested roadways. The proposal for the Everett-Chelsea-East Boston corridor would, in part, operate bus service over an existing rail right-of-way, suggesting that rail transit should be considered in this area as well.

The current proposal for a bus-based system in Phase 2 of the Urban Ring may not achieve the goal of providing reliable, frequent and fast transit service along the most heavily traveled portions of the corridor. Under the current proposal, buses would operate over separate rights-of-way over only about half the length of the Urban Ring.⁵¹ Key parts of the Urban Ring would be served either through dedicated bus lanes on existing city streets (an approach that has not worked well along the Washington St. segment of the Silver Line) or in mixed traffic, where buses would be

subject to traffic delays, making travel on the Urban Ring a less appealing option.⁵² Potentially more damaging, planning for Phase 2 of the project is progressing without consideration of the rail investments slated for Phase 3, leading to the potential for investments to be made now that preclude or increase the expense of providing rail service later on.

The Commonwealth and Boston residents and businesses stand to benefit from completion of the Urban Ring in whatever form, but the benefits of achieving full build-out—including rail service—are far greater. An estimated 170,000 riders are projected to use the Phase 2 Urban Ring, which would cost \$2.2 billion to build (with the majority of the money to be spent on a tunnel under the Longwood medical complex). The final, third phase of the project, however, would accommodate nearly 300,000 daily riders, according to a 2001 study.⁵³ The same study estimated that ridership on a light rail line that connected Dudley Square in Roxbury with Assembly Square in Somerville via Longwood and East Cambridge would top 200,000 daily riders by 2025.⁵⁴ That level of daily ridership would rival or exceed the ridership levels of the MBTA’s existing subway lines.⁵⁵

With a rail-based Urban Ring, trips that had once been difficult would become convenient—by 2025, a rail-based Phase 3 of the Urban Ring is predicted to chop 18 minutes off a projected 39 minute trip from Assembly Square to MIT, and 28 minutes off the 48 minute trip from Dudley Square to Kendall Square.⁵⁶ While Phase 2 would divert an estimated 13,000 automobile trips each day, Phase 3 would divert more than 37,000 trips, with substantial reductions in air pollution, energy consumption, wasted time, and congestion in the central part of the transit system.⁵⁷

The Urban Ring is envisioned as a phased project, but while there is a need for immediate transportation improvements

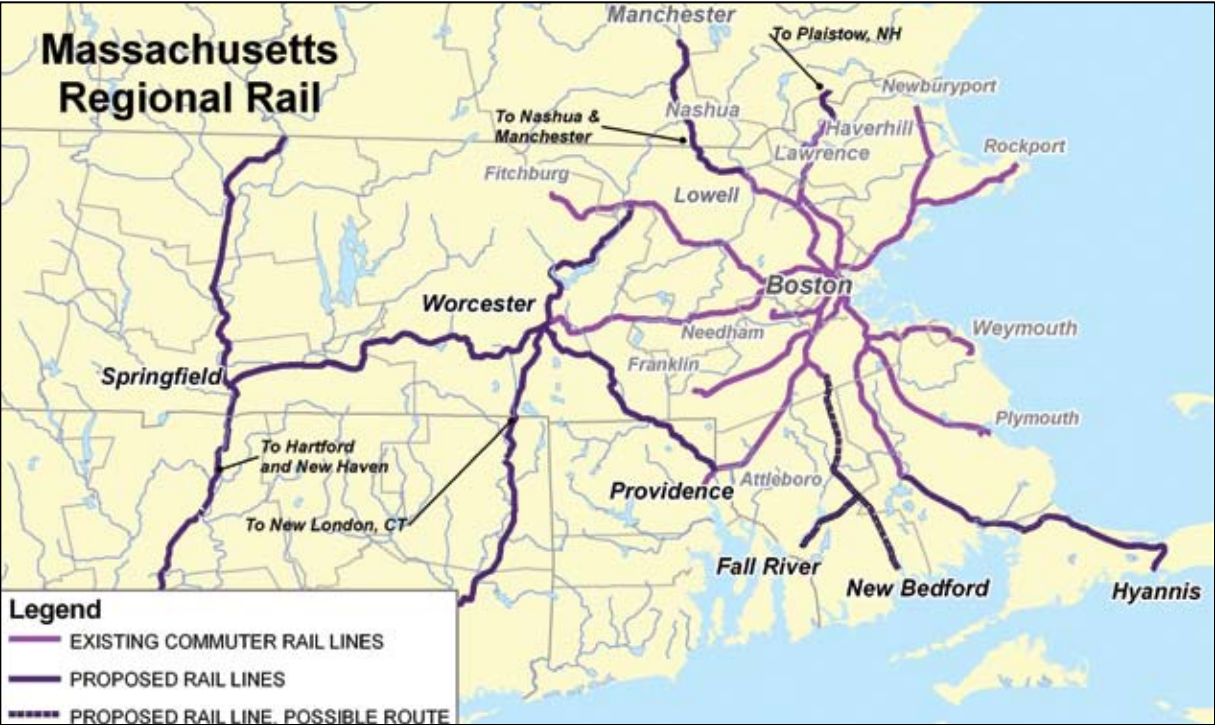
in the corridor it also makes sense for the Commonwealth to begin planning now for the eventual construction of rail transit at least along the segment of the ring from Dudley Square to Assembly Square. This is particularly important given the capital cost of constructing the Phase 2 tunnel from Dudley Square to Longwood. Any capital-intensive development on the corridor should be consistent with the vision of rail transit—and rail transit should be built now, rather than later, in parts of the corridor where it makes sense.

With the development of the Urban Ring, Massachusetts has the chance to solve long-standing transportation problems in the Boston area and to put a bold stamp on the region's future development. It is imperative that the state get it right the first time by investing in high-quality transit options that will deliver the greatest benefit for Boston-area travelers and the region's economy.

Regional Rail

Passenger rail transportation in Massachusetts serves a number of pressing needs. The MBTA's commuter rail lines bring tens of thousands of commuters to Boston-area jobs every day while connecting far flung portions of the metropolitan area. Amtrak's Acela service is a crucial transportation link with the New York-Washington, D.C. corridor, while Amtrak's Downeaster service has proven to be a popular connection with southern New Hampshire and coastal Maine. Amtrak's service from Boston to Albany and from Hartford to Vermont via Springfield provide infrequent but important rail links, while the state's freight rail network provides vital, but often unappreciated, benefits.

But for all its importance, Massachusetts' rail network falls short of its potential. Critical areas of the state, including



the Springfield area and the South Coast, do not have access to regular commuter rail service to metropolitan hubs. And with both automobile and air travel facing pressure from higher oil prices, there is a growing need to provide alternative transportation links throughout the New England region. Massachusetts has the capacity to be the hub of such a system, with existing railroad rights-of-way that cross the state and a strong foundation of passenger rail service from which to build.

The following series of investments would put Massachusetts on track to become the center of a New England-wide

rail transportation network. It would benefit Massachusetts as the hub of the regional economy, while providing commuters and other travelers with more options for their daily journeys.

South Coast Commuter Rail

Fall River and New Bedford—the two main cities of Massachusetts’ “South Coast”—have struggled economically in recent decades, never fully recovering from the demise of the twin pillars of the region’s economy, fishing and textiles. The region is also disconnected from much of the rest of the eastern Massachusetts

Improving MBTA Bus Service

The future of public transportation in the Boston area includes ambitious projects such as the Urban Ring and extensions of existing subway lines. But it must also include improvements in the operation of “bread and butter” transit services such as the MBTA’s bus network.

As of 2005, an average of more than 375,000 people boarded MBTA buses each weekday.⁵⁸ Unfortunately, for many bus travelers, service can be spotty and unreliable. For example, in 2008, MBTA officials admitted that drivers had dropped thousands of scheduled trips per month in an effort to cut costs without notifying customers.⁵⁹

The MBTA deserves recognition for its program to purchase cleaner vehicles and to improve communications, allowing for automated stop announcements on many MBTA bus lines. Among the measures that can be taken to improve bus service are the following:

- Make better use of communications technology to keep buses on schedule, prevent “bunching” of buses, provide real-time schedule information to passengers, and give buses priority at traffic signals.
- Experiment with the use of express buses to complement existing, highly used bus routes, and encourage the development of more bus-priority traffic lanes.
- Provide additional transit services, including better options for “reverse commuting” and limited late-night service in areas with high ridership potential.

The most important long-term step to improve bus service, however, is to address the MBTA’s financial crisis, thereby ensuring adequate funding to operate the bus network and reducing the temptation to reduce costs through service cuts.

economy, depending on congested highway links for its connection to metropolitan Boston.

The idea of connecting Fall River and New Bedford to the MBTA commuter rail network has been under discussion for two decades, but has gained significant momentum in recent years. There are several proposed alternatives for linking the two communities to the commuter rail network, including branch lines off of the existing Attleboro, Stoughton and Middleborough rail lines.⁶⁰ Completing the project will also require an expansion in capacity at Boston's South Station. The total cost of the project is estimated to be approximately \$1.4 billion.⁶¹

The Fall River/New Bedford extensions would attract significant numbers of new transit riders—up to 2,900 each day—averting approximately 200,000 vehicle-miles of travel daily.⁶² That translates into approximately 2.6 million gallons of annual gasoline savings and nearly 23,000 metric tons of averted carbon dioxide emissions.⁶³

Currently, the Commonwealth is in the midst of evaluating the alternatives for providing commuter rail service to the region, with the goal of choosing a route by 2009 and launching the restored service in 2016.⁶⁴ It is important that plans for the extension of commuter rail to the South Coast also reduce the risk for harm to sensitive ecosystems and species in southeastern Massachusetts and preserve the potential for future expansion of rail service in the area.

Ultimately, the extension of commuter rail service to the South Coast could be the first step in a revitalization of rail travel throughout southeastern Massachusetts and Cape Cod. The Commonwealth is already planning to study an extension of commuter rail service along existing tracks to Wareham and Buzzards Bay.⁶⁵ Eventually, rail service could be restored as far as Hyannis.⁶⁶

Commuter Rail Connection to New Hampshire

New Hampshire sends thousands of commuters to Massachusetts each morning, clogging Bay State highways and consuming vast amounts of fuel. A 2006 report found that 13 percent of commuters in the entire state of New Hampshire work in Massachusetts, with the vast majority of those commuters driving alone.⁶⁷ With the exception of a small corner of southeastern New Hampshire served by Amtrak's Downeaster, there is no direct rail service between New Hampshire and the Boston area.

Public officials in New Hampshire are taking steps to change that. City officials in Nashua have been pushing for years to restore commuter rail service between that city and Lowell (which is currently served by the MBTA's Lowell commuter rail line). Rail service could ultimately be extended north to Manchester (with a possible stop at Manchester Airport) and, eventually, Concord. The idea of restoring commuter rail is wildly popular with New Hampshire residents—a 2007 poll found that 87 percent of Granite State residents support the extension of passenger rail in the state.⁶⁸

The most recent proposal calls for introduction of a rail shuttle between Lowell and various points in southern New Hampshire, with the new service not to be operated by the MBTA. Boston-bound commuters would then switch to an MBTA commuter rail train for the remainder of the trip. By 2025, more than 1,600 daily riders would be projected to use the service.⁶⁹ The project has an estimated capital cost of \$77 million, which would increase to \$113 million if an additional spur to Wilton, NH, is added.⁷⁰ An alternative approach would simply extend the existing MBTA Lowell line north into New Hampshire, with the service being operated by the MBTA.

The Nashua-Manchester corridor is not the only place in New Hampshire that could benefit from a restoration of commuter rail service. There have also been discussions of extending the Haverhill commuter rail line approximately 5 miles over the border to Plaistow, NH, to serve commuters in that community.⁷¹

The restoration of rail service in New Hampshire has faced a number of roadblocks, which state officials are now working to surmount. In 2007, the state of New Hampshire created the New Hampshire Rail Transit Authority to plan for extension of commuter rail in the state. And the state adopted legislation in 2008 to ease the financial burden of restarting rail service.⁷² Funding still remains a major hurdle—New Hampshire is constitutionally prohibited from using gasoline tax revenue for transit projects, and has neither a state sales tax nor a state income tax. But should funding be found, rail advocates in

southern New Hampshire project that the rail shuttle service could be up and running as soon as 2010.⁷³

The main benefit of New Hampshire commuter rail for the Bay State would be a reduction in the number of vehicles on busy Massachusetts highways such as Route 3, I-93 and I-495, and the air pollution they cause. As a result, Massachusetts should help New Hampshire get new rail service up and running by exploring the possibility of extending Haverhill branch service to Plaistow and working with New Hampshire officials to assist in the restoration of service from Lowell to the Nashua-Manchester corridor.

Springfield-Hartford-New Haven Commuter Rail

Rail transportation has been an important cog in the western Massachusetts economy for more than 150 years. It was the cross-



I-93 heading south from New Hampshire is clogged with traffic each morning as commuters travel to jobs in Massachusetts. Extending commuter rail to southern New Hampshire would provide an alternative to congested highways.

ing of north-south and east-west railroads that originally gave Springfield its nickname, “the crossroads of New England,” and helped spur the development of the city’s industrial base. Even today, railroads have a significant presence in the regional economy, with CSX’s West Springfield railyard serving as a key freight rail facility for the Northeast.

Where railroads once fueled Springfield’s industrial growth, rail transportation is being considered today as a way to tap into the city’s modern strategic assets, including its proximity to the educational resources of the Pioneer Valley, and its location in the midst of a dense cluster of health care and financial services businesses that extends down the I-91 corridor to Hartford. Convenient, rapid transportation—particularly along the Springfield-Hartford-New Haven corridor and between Springfield and the northeastern hub cities of Boston and New York—is vital to fueling the growth of the region in the years to come.

Springfield still benefits from its crossroads location through its access to Amtrak service in multiple directions. Travelers in Springfield can board trains heading for Boston, New York, Washington, D.C., Chicago, or Vermont. What is missing, however, is frequent, high-quality service, particularly along the Springfield-Hartford-New Haven corridor, where travelers are looking for an alternative to the often snarled I-91. The current Amtrak service, for example, has only two weekday morning peak-period trains from Springfield to Hartford (the last of which leaves Springfield at 7 a.m.) and no morning rush-hour service in the opposite direction, meaning that it is of limited usefulness for would-be commuters.⁷⁴

For several years, state officials in Connecticut have engaged in planning for new commuter rail service that would link the three cities and other communities in the corridor, while providing improved transit

connections to Bradley International Airport. The new line, called the Connecticut Valley Knowledge Corridor Line, would also link residents of the Connecticut River valley with the Metro North commuter rail system, which serves New York City, and Shore Line East, which provides commuter rail service between New Haven and New London.

In 2005, the state of Connecticut proposed a “start-up service” plan that would include rush-hour trips at 30-minute intervals along the corridor, several new stations in Connecticut, and improvements in tracks and stations to accommodate the new service. The new service was estimated to attract more than 2,400 daily riders by 2025, which would remove a significant number of cars from area highways.⁷⁵ The estimated capital cost of the project is \$300 million (2005 dollars), of which approximately 90 percent would be paid by the state of Connecticut.⁷⁶

Connecticut has already allocated funding for the project, which is now in environmental review and may come on line as soon as 2011.⁷⁷ In 2008, the Massachusetts House passed a transportation bond bill that would include funding for planning the project as part of a bond bill that also provided funding for the Urban Ring and the commuter rail extension to the South Coast.

Massachusetts needs to ensure that Springfield benefits from the extension of commuter rail service in Connecticut by investing the necessary funds to complete the Commonwealth’s share of the project.

In addition to completing the commuter rail connection between Springfield, Hartford and New Haven, the Commonwealth should also consider the potential for rail transit north and east of Springfield. Freight rail tracks currently exist that could link Springfield to Holyoke, Deerfield, Greenfield and eventually destinations in Vermont. Extending commuter rail service



Massachusetts missed a golden opportunity to close the gap in Boston's rail network when it failed to link South Station (above) with North Station during the Big Dig.

between Worcester and Springfield would require significant investment to increase capacity along the existing rail line, which is a busy freight railroad, but would also provide commuters in western Massachusetts with new transportation options.

Establishing commuter rail service to Springfield can help the city take advantage of its strategic location in New England, help spur the redevelopment of downtown Springfield (including the long-stalled plans to renovate the city's historic but dilapidated Union Station), and ensure mobility throughout the region.

Creating a North-South Rail Connection

The Boston area's rail network is an artifact of the 19th century—a time when competing railroads were busy laying tracks along every possible corridor in the quest for profits. Each of those railroads originally established its own passenger terminal, but for the sake of efficiency, they eventually combined efforts to create two stations serving downtown, with the north-side

railroads establishing a terminal at North Station and south-side railroads sharing a terminus at South Station. Between the two stations was a one-mile gap, which continues to exist today.

The gap in the Boston area rail network is a major obstacle blocking more effective and efficient rail service in the Boston area and the Northeast. Most obviously, the lack of a direct connection makes it difficult to get from locations south of South Station to areas north of North Station. A commuter hoping to go from the South Shore to the North Shore via commuter rail, for example, must get off at South Station, transfer to the Red Line and then the Orange Line, and finally board another train at North Station. The extra time spent on connections makes it more likely that a commuter will decide to drive instead.

There are several cities with older rail networks that face similar problems—with New York City, in which trains run to either Penn Station or Grand Central Station, but not both—being a good example. But the gap in Boston's rail network is

the only one in the nation that interrupts intercity travel, preventing a direct ride on Amtrak from points south of Boston to northern New England.

The gap between stations also reduces the capacity and flexibility of the MBTA rail system, since trains cannot be quickly moved from one side of the system to the other and because trains must be stored at each “stub end” station for a time before reversing direction to start a new journey, thus reducing the effective capacity of the stations. South Station is already nearing its capacity, with expansion plans on the table, and North Station may face future capacity constraints as well.

Uniting the Greater Boston rail network is no easy task. There are several options.

North-South Rail Link: The most elegant solution to the disconnect in the region’s rail system is simply to close the gap in downtown Boston via a North-South Rail Link—a rail tunnel that would unite the two halves of the region’s passenger rail network. The benefits of the link would be substantial: planning conducted earlier in this decade estimated that the rail link would divert more than 50,000 automobile trips daily, save more than 16 million hours of travel time annually, and save more than 1 million vehicle miles each business day.⁷⁸ By 2025, that would amount to a savings of 10 million gallons of gasoline and 90,000 metric tons of carbon dioxide pollution per year, helping Massachusetts to achieve its goals of energy independence and reduced contribution to global warming.⁷⁹

However, the region missed a golden opportunity to make the project a reality during construction of the Big Dig, which shares the same corridor. The rail link was part of the original vision for the project, but restrictions on federal transportation funding resulted in the rail link being dropped from the plan.⁸⁰ As a result, construction of the North-South Rail Link would require yet another tunneling

project through the heart of downtown Boston and cost as much as \$8.3 billion (2010 dollars).⁸¹ Regardless of the history, building the North-South Rail Link would be an important step toward creating an efficient rail system for Massachusetts and the Northeast. It is, however, unlikely to happen soon, so the region should look at other alternatives.

“Second-Best” Solutions in Boston:

There is currently one rail link between the north and south halves of the rail system: the Grand Junction railroad that crosses the Charles River. The Grand Junction, however, is not currently used for passenger service, consists of only a single track, and would require major upgrades to provide passenger service. Moreover, the railroad bridge over the Charles is being considered as a possible route for the Urban Ring (see page 26).

Another alternative is to provide a direct transit link between North and South stations, such as a streetcar line running along the Rose Kennedy Greenway. Cities such as Seattle and Portland, Oregon, have recently built new streetcar lines designed to help travelers navigate city neighborhoods and to provide a focus for economic development. A streetcar along the Rose Kennedy Greenway could help to unify the greenway corridor and help travelers find their way through downtown Boston, while providing a direct North Station-South Station connection as a side benefit. A streetcar is no substitute for a rail connection through Boston, but it could be a modest improvement to make transfers between the north and south halves of the rail network easier and more reliable.

Connections Outside of Greater Boston:

If providing a direct rail connection through downtown Boston is too expensive, the other option is to go around it. Building a passenger rail connection that bypasses Boston would do little to improve the

performance of the region's commuter rail network, but it would allow for inter-city passenger trains to travel from northern New England to New York City and beyond. A north-south connection could either be routed from New York City north through Springfield and the Pioneer Valley, or through Worcester, with both routes eventually connecting to existing freight rail tracks running along the Route 2 corridor and on to Lowell, and eventually New Hampshire and Maine. Either option would require upgrading of existing tracks. In this scenario, either Worcester or Springfield—rather than Boston—would become the region's intercity passenger rail hub, connecting north-south and east-west rail lines.

Construction of a North-South Rail Link through Boston would be the best way to connect the region's rail network—with dramatic benefits for the region. Strong

resistance to the project, however, coupled with the long timeline for construction and the urgent need for better rail service in the region, suggests that Massachusetts should look at other alternatives.

Worcester Regional Rail

The restoration of commuter rail service between Worcester and Boston in 1994 after a nearly 20-year absence has had a positive impact on the Worcester region. By 2005, more than 800 commuters each day were boarding trains from Worcester to points east along the line, easing traffic congestion on the Mass Turnpike and other roads and providing an alternative to automobile commuting.⁸² Restoration of commuter rail service was also a driving factor in the renovation of Worcester's stunning Union Station, which now serves as a bus and rail transportation hub for the city.



Worcester's beautifully restored Union Station serves Amtrak and MBTA commuter rail lines and could serve additional passenger rail routes in the years to come. (Credit: John Simakauskas, vistadome.com)

While commuter rail service is a boon to the city, the level of service along the Worcester-Boston line has never been sufficient, largely due to conflicts with freight rail service along the line and the fact that the stretch of track between Worcester and Framingham is owned and operated by freight rail operator CSX, making it the only stretch of track in the commuter rail system that is not fully controlled by the MBTA. Worcester is currently served by 10 round trips per day, which is lower than the frequency of service on most other commuter rail lines.⁸³ The infrequency of service is particularly a problem for would-be commuters to Worcester—there is only one train that arrives at Union Station prior to 10:15 a.m. and only one rush-hour train out of Worcester in the evening.⁸⁴

Improving and expanding service on the Worcester-Framingham-Boston line is of great importance to Worcester, as is improving the quality of local transit service. (See “Regional Transit Authorities” below.) But there are also several other exciting proposals to expand rail transportation in and around Worcester—proposals that could make it easier for suburban commuters to reach downtown Worcester by transit and that would connect Worcester with other major New England cities.

Worcester to Boston via Ayer—The persistent problems in improving Worcester service along the Framingham line have led state officials to consider a new alternative—running commuter rail service from Worcester northeast along existing freight rail tracks to Ayer, where it would connect with the MBTA’s existing Fitchburg commuter rail line.⁸⁵ The new line, which would require substantial track improvements to complete, would have several potential benefits. First, it would create several new commuter rail stops—possibly including stops in Harvard, Lancaster, Clinton and West Boylston—that would allow for rail commutes to and from downtown Worcester.

Second, new stops in these towns could reduce overcrowded conditions on the existing commuter rail line and allow for an increase in service between Worcester and Boston. The Commonwealth is currently conducting a feasibility study for the extension.⁸⁶

Worcester to Providence—Worcester and Providence share a direct freight rail connection, leading to the possibility for the restoration of passenger rail service along the corridor. The initial momentum for the project is coming from Rhode Island, where the state has studied the potential for restoring commuter rail service as far as Woonsocket, which is on the Massachusetts border and roughly halfway between Providence and Worcester.⁸⁷ A Worcester-Providence commuter rail line would likely remove cars from busy roads such as Route 146 and I-495, while providing new options for suburban commuters and the only direct rail connection between New England’s second and third largest cities. Massachusetts should work with Rhode Island officials to investigate the feasibility of commuter rail service between Worcester and Providence.

Worcester to New London, Conn.—Freight rail tracks also currently run between Worcester and Groton and New London, Conn. Most of the interest for restarting passenger rail service along this corridor has come from Connecticut, which is currently dealing with increased highway traffic in the eastern part of the state driven by the Foxwoods and Mohegan Sun casinos. Connecticut is currently planning to study the potential for New London to Worcester rail service.⁸⁸ A rail connection with New London would provide both commuter rail connections to residents living south and west of Worcester as well as a direct connection for Worcester residents to Amtrak service to New York City. As with Providence to

Worcester service, the Commonwealth should work with the state of Connecticut to investigate the possibility of revived commuter rail service along this corridor.

Should these projects find their way to completion, Worcester could find itself at the center of a burgeoning rail network, with connections in virtually all directions, making Worcester a central location in New England and providing a spark to the region's economy.

High-Speed Intercity Rail

Amtrak's Acela service along the Northeast corridor is the only high-speed rail service in the United States and provides a glimpse of the potential for high-speed rail to transform intercity transportation in America. Between Boston and New York, the Acela provides a clean, fast, and convenient connection—often providing a ride that is faster and more comfortable than flying for downtown-to-downtown trips.

High speed rail, with trains often traveling over 200 mph, has expanded rapidly in Europe, Asia, and more recently Latin America. Further expansion of high-speed rail will be pushed by rising gas prices and the growing hassle and inconvenience of airports and air travel. High speed rail is more energy efficient than short-haul flights less than 500 miles.⁸⁹ Planes waste a large portion of their fuel during the initial take off. Replacing these short-haul flights will also have the added benefit of freeing up capacity at overcrowded airports such as Logan for relatively more efficient long-haul flights.

Boston is one of the nation's hubs for intercity rail service—more than 1 million passengers boarded or departed Amtrak trains at Boston's South Station during Amtrak's 2007 fiscal year, making it the sixth-busiest station in the entire Amtrak system. Another million passengers boarded

or departed Amtrak trains at North Station, Back Bay or Route 128 station.⁹⁰ With skyrocketing gasoline prices, ridership on Amtrak trains is expected to set an all-time record this year.⁹¹

Unfortunately, the success of the Northeast Corridor high-speed line has not been replicated elsewhere. With the exception of an extension of near-high-speed service in eastern Pennsylvania, there have been no new high-speed rail lines built in the United States since the Acela came on-line in 2000.

The lack of progress to date is far short of the vision for high-speed rail laid out by federal officials in the 1990s. During that decade, the federal government designated 11 high-speed rail corridors nationwide, including several in New England.⁹²

With gasoline prices and highway congestion on the rise, however, there is new momentum at the federal level for high-speed rail. In June 2008, the U.S. House of Representatives passed a bill that would provide stable, multi-year funding to Amtrak and create \$350 million per year in matching funds for investment in high-speed rail corridors.⁹³

Massachusetts officials should encourage federal investments in high-speed rail and work to ensure that some of those investments are made in the state's proposed high-speed rail corridors.

Boston to Montreal—High-speed rail along the Boston to Montreal corridor would travel between Boston, Woburn and Lowell, Massachusetts; with potential stops in Nashua, Manchester and Concord, New Hampshire; and White River Junction, Montpelier, Burlington and St. Albans, Vermont, before connecting with the Canadian rail system for the journey to Montreal.⁹⁴ There is currently no rail service between Boston and Montreal; the last train ran in 1967. High-speed rail service could connect Boston and Montreal in as little as four hours—about the current travel time between Boston and New York

City on Amtrak's Acela service.⁹⁵ A 2003 study estimated that high-speed service along the corridor could attract as many as 600,000 annual riders corridor-wide, with 200,000 traveling between Boston and Montreal.⁹⁶ The addition of high-speed rail service would provide quick, direct connections between Boston and northern New England and the track improvements needed to make high-speed service a reality would likely also improve the quality of commuter and freight rail service along the corridor as well.

Boston to Portland and Auburn, Maine—

The restoration of passenger rail service between Boston and Portland, Maine, has been a smashing success. With higher gasoline prices, passenger travel on the Downeaster has been regularly breaking records. During fiscal year 2008 (from July 1, 2007, to June 30, 2008), ridership on the Downeaster increased by 28 percent—with the ridership increase since October 2007 being the largest of any Amtrak route in the nation.⁹⁷ A recent study projects that development along the route of the Downeaster could generate as much as \$3.3 billion in construction investment and create more than 8,000 new jobs by 2030.⁹⁸ The state of Maine recently appropriated funds to improve tracks from Portland to Brunswick, which will potentially connect to coastal rail as far north as Rockland.⁹⁹ Creation of high-speed service between Boston and Auburn, Maine—particularly if paired with construction of the North-South Rail Link—would expand the range of possible rail service in the state of Maine while expediting connections within Massachusetts between Boston and Haverhill.

Boston to Albany, Buffalo and Points West—

High-speed rail service from Boston to Albany would provide large benefits to the Commonwealth—first and foremost among them being an efficient east-west transportation link that spans

Massachusetts and can relieve pressure on the Massachusetts Turnpike. It could also link Massachusetts residents with rail service to upstate New York and points west in the Great Lakes region, as well as to the Adirondacks and Canada.

New Haven to Springfield—In addition to proposals to extend commuter rail service from New Haven to Springfield, the corridor is also designated as a federal high-speed rail corridor. A high-speed rail connection between the two cities would potentially allow for Amtrak to run high-speed trains along the “inland route” from Boston to New York via Springfield and Hartford, providing greater access to New York-based service for central Massachusetts and an alternative to the increasingly congested Northeast Corridor.

Funding for high-speed rail can and should come primarily from the federal government. But Massachusetts has a critical role to play in planning for high-speed rail and pushing for it to be built in the Commonwealth as opposed to elsewhere.

High-speed rail is vital to Massachusetts' future accessibility and leadership in the Northeast region. The Commonwealth should begin to plan now for the eventual introduction of high-speed rail and should actively push for funding of high-speed rail projects in Massachusetts.

Regional Transit Authorities

Massachusetts must embrace a broad vision for 21st century transit service in the Commonwealth. But it is also important that the state focus on maintaining and improving current transit services. Unfortunately, the quality of existing transit service in many parts of the Commonwealth is not nearly as good as it should be.

Across the country, rising gasoline prices are causing many drivers to take a second look at transit, providing a prime opportunity for transit agencies to attract new riders. Ironically, however, many Massachusetts transit agencies have been cutting service due to budgetary shortfalls and the impact of fuel prices on transit agency budgets.

Among the recent headlines from around the Commonwealth:

- The Greater Attleboro Taunton Regional Transit Authority planned to cut bus routes, end Sunday service, and curtail Saturday service, despite a 9 percent increase in ridership. The cuts were put on hold pending the Legislature’s decision on funding.¹⁰⁰
- The Worcester Regional Transit Authority has combined several bus

routes and shortened others.¹⁰¹ The service reductions are on top of earlier cuts to bus routes and the elimination of all bus service on major holidays.¹⁰²

- The Cape Cod Regional Transit Authority doubled fares on some bus routes in March, while cutting service. Despite the fare increase, ridership on one bus line increased by 27 percent in early 2008 over the year before, due to higher gasoline prices.¹⁰³

Record-high gasoline prices provide a golden opportunity to get Massachusetts residents to rethink their transportation choices. The Commonwealth should use this opportunity to add new services. But Massachusetts’ antiquated system of funding the regional transit authorities (RTAs) around the state has made it impossible for the RTAs to respond to consumer demand



Note: Mapping of proposed routes for illustration purposes only. Depiction on this map does not suggest endorsement of a particular routing.

by preserving service, adding new services, and keeping fares low.

Currently, the RTAs receive funding from the state in the form of reimbursements for expenses incurred the previous year. The funding formula relies both on assessments to cities and towns that are served by the RTAs and on state appropriations. RTAs must borrow to cover current year expenses not knowing whether the increases in local assessments or state funding will be enough to cover expenditures. If income turns out to be insufficient, the transit agency's debt is rolled forward to the following year, acting as an albatross around the neck of the transit agency and eventually forcing service cuts, fare increases or both. The end result can be a downward spiral in which less ridership brings less revenue, causing service cuts and fare increases that depress ridership further.

RTA officials have advocated that they receive "forward funding," in which a dedicated source of funding is used to pay

for expenses in the current year—a solution that would both provide more revenue certainty for the RTAs and reduce the cost of debt service. In 2008, the Legislature instructed the Executive Office of Transportation to "forward fund" the RTAs and provided the RTAs with 25 percent of the state's "toll credits," which can be used to obtain additional federal transportation funding to compensate the state for toll funds used to maintain federal highways. It is likely that the toll credits will free up RTA capital funds that can be used to address operating costs.

Forward funding is not a panacea—the forward funding mechanism for the MBTA, a one cent portion of the state sales tax, has proven to be both inconsistent and to provide less funding than originally anticipated. But with a consistent and adequate source of funding, the RTAs could put themselves on better financial footing and allow for improved transit service across the Commonwealth.

From Vision to Reality: A 21st Century Transit System for Massachusetts

Massachusetts must make sound investments in public transportation if it hopes to remain competitive in the 21st century—a time that looks increasingly likely to be one of higher oil prices, increased concern about global warming, and continued congestion problems. At the same time, however, Massachusetts faces a transportation funding crisis. As estimated by the Massachusetts Transportation Finance Commission in 2007, the cost to maintain the Commonwealth's transportation system over the next 20 years exceeds estimated revenues by \$15 billion to \$19 billion.¹⁰⁴ That figure does not include any expansions or enhancements to the system, including construction and operation of the projects described in this report.

Massachusetts must solve its ongoing transportation finance problems in ways that ensure the continued safe operation of the state's roads and transit systems. But when it comes to expansion projects, the lack of readily available funds should not cause state officials to throw up their hands. Rather, the Commonwealth should develop a long-range, strategic plan for transit investments in the Commonwealth, identify the price tag of completing that

plan, and then work to obtain the necessary resources to get the job done. The plan would be similar to the MBTA's current Program for Mass Transportation, but would be broader in scope (including transit improvements outside the MBTA's purview) and would propose a schedule and financing plan for completing the proposed projects.

Many levels of government and other institutions have a role to play in achieving the goal of a 21st century transit system for Massachusetts.

Federal Government

The main federal transportation funding law—the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—is due for reauthorization by Congress in 2009. It is possible that the coming reauthorization will be the most sweeping reform of federal transportation policy in nearly two decades. The Congressional Budget Office projects that the portion of the

federal highway trust fund that pays for highway projects will run out of money sometime during fiscal year 2009, with the public transit portion of the account scheduled to run out of money soon thereafter.¹⁰⁵ America's aging transportation network is increasingly in need of costly repairs. Meanwhile, amid rising gasoline prices, Americans are now experiencing the downside of the highway-centered investment policies of the last few decades, which leave too many Americans with few transportation choices. In short, the status quo cannot continue.

Massachusetts officials should campaign for a new federal transportation funding law that makes a large investment in needed improvements to transit systems and intercity rail, while focusing federal highway investment on the need to maintain and repair existing infrastructure. Federal money should be used in a targeted and strategic way to encourage transportation investments that minimize oil dependence, congestion, environmental pollution and sprawl, and encourage the development of compact, livable communities where driving is an option, not a requirement.

Such a dramatic shift would benefit Massachusetts by providing additional resources for needed transit projects—including some that have sat on the drawing board for decades. In addition to pushing for new federal transportation priorities, Massachusetts should also work aggressively through existing avenues to obtain federal funding for transit infrastructure projects, including high-speed passenger rail.

Regional Coordination

Massachusetts residents aren't the only ones who benefit from investments in public transportation in the Commonwealth—particularly investments in the region's rail network. Amtrak's intercity

rail network and the MBTA commuter rail network already cross state borders, linking residents of the six New England states.

Yet, there is nothing that resembles a region-wide plan for passenger rail. Massachusetts should take leadership in convening regional officials to develop a rail plan for New England and in identifying potential sources of funding to make that plan a reality. By developing a regional rail plan that enjoys broad support across New England, the region can make a strong case for federal investment in the region's rail infrastructure and target transportation investments in the region to those projects with the biggest potential pay-offs.

State Policy

Massachusetts must obviously take steps to solve its transportation funding crisis—through both the identification of new revenues and steps to improve the efficiency of existing transportation agencies. The Massachusetts Transportation Finance Commission has outlined numerous recommendations that state officials should consider, including cost savings such as addressing MBTA employee healthcare and pension costs, and new revenues such as an 11.5 cent increase to the state gas tax.

The Commonwealth should also prioritize the MBTA's debt crisis by relieving the authority of the \$1.8 billion in debt incurred for projects required under the Big Dig settlements. By fiscal year 2013, the MBTA's annual debt service payments could reach a half-billion dollars per year, crippling the authority's ability to continue to provide its current level of service at affordable prices, much less expand to address the transportation needs of the 21st century.¹⁰⁶

Finally, Massachusetts must address the funding challenges of regional transit authorities by creating a forward funding

system based on adequate and predictable streams of revenue. By taking these steps, Massachusetts can put its transportation system on a more solid financial footing—creating a foundation from which the Commonwealth can begin to plan for system expansions.

When planning future investments the state's transportation network, the Commonwealth should prioritize investments in public transportation, with state and federal dollars used to finance transit improvements, rather than continued additions to the MBTA's debt.

The Commonwealth should align other public policies with a 21st century vision for transportation that is less dependent on automobiles and can take full advantage of improved public transit. Massachusetts should require that all proposed transportation investments be evaluated for their impact on oil dependence and global warming pollution. State government buildings should be located, to the extent possible, in areas with accessible transit service. And the Commonwealth should encourage local governments to adopt land-use plans and zoning reforms that allow for and encourage compact development in and around transit stations.

Conclusion

Massachusetts' extensive transit network is a tremendous asset for the Commonwealth—

particularly at a time of high gasoline prices, traffic congestion, and increasing concern over the environment. Much of that network is a gift left to us by policymakers and entrepreneurs who lived a century or more ago, laying down the tracks and digging the tunnels on which our transit system operates.

Massachusetts must make its transportation investments with a similar long-term vision in mind—especially in an era when high gasoline prices, increased concern about the environment and continuing congestion all argue for investment in clean, efficient transportation alternatives. There are myriad potential solutions to Massachusetts' transportation funding challenges, but obtaining money for transportation improvements is only half the battle—the Commonwealth also needs a visionary, forward-looking plan for investing that money in ways that create and sustain a safe, affordable and extensive transportation system for the 21st century.

The projects listed in this report should make up the core of Massachusetts' transit “to-do” list over the coming years. The Commonwealth simply cannot afford to allow these projects—many of which have already sat on the drawing board for decades—to remain undone, particularly at a time when metropolitan areas across the country are developing and implementing visionary plans for public transportation. It is time, once again, for Massachusetts to lead.

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