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# READY TO MOVE IN MASSACHUSETTS:

A BLUEPRINT FOR DELIVERING MAJOR TRANSPORTATION  
PROJECTS THROUGH THE BIDEN INFRASTRUCTURE PLAN



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A Better City represents a multi-sector group of nearly 130 business leaders united around a common goal: to enhance the Greater Boston region's economic health, competitiveness, equitable growth, sustainability, and quality of life for all communities. By amplifying the voice of the business community through collaboration and consensus-building, A Better City develops solutions and influences policy in three critical areas: 1. transportation and infrastructure, 2. land use and development, and 3. energy and the environment. A Better City is committed to building an equitable and inclusive future for the region that benefits and uplifts residents, workers, and businesses in Greater Boston.

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# EXECUTIVE SUMMARY

President Biden's federal infrastructure plans could have a lasting impact on the quality of the transportation system in Massachusetts and the strength of this region's economy. Massachusetts can capitalize on this moment, but there are reasons to be concerned the Commonwealth may miss out.

This is a rare opportunity when federal dollars are becoming available with the potential to improve our region for generations to come. Today, many of the most important public infrastructure projects in Massachusetts continue to lack funding in the State's capital spending plans. Major initiatives to modernize public transit, improve resiliency, and reduce carbon emissions could be now possible—all funded through federal dollars—but it will require a few proactive steps at the state-level.

This report will show that Massachusetts state government and the MBTA are in a position to take advantage of this opportunity. A strategic approach toward upcoming federal grants and a decision to initiate action now would greatly improve the chances of winning significant infrastructure funding through the Biden Administration. Fortunately, there are many potential projects in Massachusetts that are consistent with the goals of the federal government, including an expanded public transit and commuter rail system, an electric bus program, the all-at-grade vision for the I-90 Allston Multimodal project, and climate resiliency infrastructure investments throughout the Commonwealth.

However, it is also possible that these projects will remain delayed in Massachusetts while federal dollars are dedicated to similar projects in other parts of the country. This is one of the key lessons from our experience with the last federal infrastructure program that took place under President Obama. Massachusetts can be better prepared this time to deliver major projects and avoid what happened in 2009.

This paper will lay out a clear strategy for achieving our transportation infrastructure goals, maximizing federal resources, and building a better future. Massachusetts requires a 21st-century transit system with more frequent, faster, safer, and cleaner service, but almost all of the infrastructure projects that would deliver this vision are not on track to be completed in the next decade due to the lack of funding. The federal infrastructure plans moving through Congress could be the best chance to see these transformational investments happen at a schedule Massachusetts deserves. A historic opportunity is ahead, and Massachusetts must be ready to move.

# INTRODUCTION: A HISTORIC OPPORTUNITY

History teaches that strategic investments in transportation infrastructure provide durable platforms for economic growth that can last for decades. In the Boston region, you can see clear examples from the clean-up of Boston Harbor, creation of the Greenway parks, and development of the South Boston Seaport district after the construction of roadways, tunnels, and Silver Line connections. Other major transportation projects like the turnpike extension to Boston, the extension of the MBTA Red Line, and more recent investments in transit continue to connect many neighborhoods in Massachusetts to opportunities in downtown business districts. These ambitious and successful infrastructure projects created the Commonwealth we know today.

Unfortunately, our essential public infrastructure cannot meet growing and evolving challenges by remaining static. Over the past decade, several studies, commissions, and reports present a consistent theme: there is a need for major capital investments in the Commonwealth to secure a stronger, cleaner, and more efficient transportation system. Unfortunately, the funding to deliver on these recommendations has not yet become available.

This year could be different because of President Biden's priorities first articulated in the American Jobs Plan. The infrastructure bills moving through Congress offer the Commonwealth a chance to deliver the next round of major transportation projects, paid in whole or in part with federal funds. This may be a once-in-a-generation opportunity to create a new foundation for the region's future prosperity and mobility by addressing the maintenance backlogs in roads, bridges, and transit infrastructure, while also reducing carbon emissions from the entire transportation sector.

As we begin to pursue federal infrastructure funding, we must prioritize additional investments that maximize climate resilience. Recent news has proven that climate change poses an immediate threat to our communities as well as our critical infrastructure, with highways literally buckling and cables melting from extreme heat in the Pacific Northwest<sup>1</sup>, to subways flooding in New York City after a night of heavy rainfall<sup>2</sup>. These examples are vivid reminders that we need stronger infrastructure to meet these new challenges. In the Boston region, we must act with increased urgency to prepare for impacts from sea level rise, storm surge flooding, extreme precipitation, and extreme heat.

The magnitude of this opportunity cannot be overstated—and we must be prepared to take full advantage of its benefits. Massachusetts can either be ready to move with infrastructure projects that capitalize on this moment, or squander a rare chance to address our biggest infrastructure challenges. With the encouraging signs that federal legislation will be completed in the next few weeks, our preparedness here in Massachusetts will determine whether we can access the new federal funds in a timely and meaningful way, and produce the next round of infrastructure projects that build a future we want to see for the next generation.

# CHAPTER I: APPRECIATING THE SCOPE OF THE BIDEN INFRASTRUCTURE PLAN

When presenting his infrastructure plan, the American Jobs Plan, President Biden said, “We have to move now. Because I’m convinced that if we act now, in 50 years, people are going to look back and say this was the moment that America won the future. What I’m proposing is a one-time capital investment of roughly \$2 trillion in America’s future, spread largely over eight years. It will generate historic job growth, historic economic growth, help businesses to compete internationally, create more revenue as well. They are among the highest-value investments we can make in the nation—investing in our infrastructure.”<sup>3</sup>

**THE OBAMA STIMULUS BILL PROVIDED \$154 BILLION FOR INFRASTRUCTURE PROGRAMS NATIONWIDE...THE BIPARTISAN INFRASTRUCTURE PLAN RECOMMENDS OVER \$550 BILLION.**

In late June 2021, President Biden endorsed a proposal developed by Senators that would address most of the core infrastructure programs he originally proposed. This “bipartisan infrastructure framework” is focused on transportation, water and sewer programs, broadband, and clean energy programs. The size and scale of this plan may be lower than President Biden’s initial proposal, but it still represents a historic commitment to improving our public infrastructure and is significantly higher than the funding made available in the 2009 federal stimulus bill.

## A SUBSTANTIAL INCREASE IN INFRASTRUCTURE FUNDING COMPARED TO THE 2009 STIMULUS

The 2009 American Recovery and Reinvestment Act (ARRA), an early initiative of President Obama, contained \$154 billion of infrastructure spending programs. Infrastructure spending represented less than a third of the total bill, as ARRA also included aid to state and local governments, tax cuts, and funding for health and social safety-net programs. Still, this \$154 billion in infrastructure represented the largest public works initiative from the federal government since the creation of the Interstate Highway System under President Eisenhower, even though some criticized this amount as insufficient to meet the nation’s actual needs.<sup>4</sup>

President Biden’s administration proposed the [American Jobs Plan](#) (AJP), which would be dramatically larger. It recommended over \$2.3 trillion in new funding for transportation, clean energy, water and sewer projects, housing, broadband internet, and a number of other infrastructure investment categories. The Senate’s compromise plan announced in response to parts of the AJP, described as the “bipartisan infrastructure framework”, now includes \$550 billion in new spending. These specific amounts when combined with existing federal programs produce \$1.2 billion in infrastructure investments over the next eight years. This plan is more than two and half times the size of ARRA’s approach to infrastructure, and specifically related to transportation, the bipartisan framework plan is five times larger times than the 2009 bill. Chart 1.1 located in the appendix compares the two plans.<sup>5</sup>

The core of the bipartisan Senate's agreement with President Biden is the anticipated investment in transportation. ARRA contained \$48 billion for transportation programs that was spent between 2009 and 2013, while Biden's 2021 infrastructure plan would spend \$285 billion over the next five years. The largest programs are for highway roads, bridge repairs, rail improvements, and public transit, and these initiatives do not even include the \$50 billion planned for climate resiliency infrastructure needs, some of which will likely be transportation-related.

## CONGRESSIONAL SUPPORT HAS BEEN EXPECTED FOR MONTHS

It should not come as much of a surprise that President Biden and Congress can find agreement on an infrastructure bill. As a presidential candidate, Joe Biden promised a \$2 trillion infrastructure plan back in July 2020. Then after taking office, he officially presented the proposed \$2.3 trillion American Jobs Plan (AJP) on March 31st, 2021. At the time, moderate Senator Joe Manchin (D-WV) vowed the Senate would act on an infrastructure bill when he said, "I'm sure of one thing: It's going to be enormous."<sup>6</sup>

One of the most prominent economists in the nation predicted that a major federal infrastructure bill would pass Congress in 2021. Mark Zandi, Chief Economist at Moody's Analytics wrote; "There are many potential political impediments to passage of the American Jobs Plan, but we expect that an infrastructure plan similar in spirit and size to what the president has proposed will become law later this year."<sup>7</sup>

Even after the White House and a group of Senators announced an agreement on the bipartisan infrastructure framework, there continues to be signals that a separate "budget reconciliation" bill intends to provide additional resources for climate infrastructure goals. The exact details on the legislative processes are not as important to Massachusetts state officials and the MBTA, who instead should be thinking about the best possible use for the federal dollars that should arrive in the next year.

Massachusetts must be prepared to compete against other states for competitive grant programs that will be part of the federal infrastructure bills. Given the major unaddressed infrastructure needs in Massachusetts, the Commonwealth should be doing everything possible to maximize the federal dollars that can deliver long-term improvements to our critical infrastructure. Otherwise, many of the State's unaddressed capital needs will remain unfunded, while federal funds are delivered to projects in other parts of the country.

Starting in January 2021, A Better City testified to MassDOT and the MBTA that a federal infrastructure bill would likely become reality. Even last year, A Better City [released a report](#) that suggested the MBTA would be wise to start preparing for a federal infrastructure bill by advancing capital projects into the design phase.

We already know the infrastructure priorities of the Biden Administration and the types of projects they hope to build. Massachusetts can still take advantage of this situation even before Congress completes its work and through the next year as federal agencies decide how to allocate grant funds. By applying an understanding of what happened the last time federal infrastructure dollars became available under ARRA and focusing on the methods the federal government is likely to employ again in distributing infrastructure funds, Massachusetts can continue to anticipate the next few months and get a head start over other states.

## MAJOR TRANSPORTATION PROJECTS IN MASSACHUSETTS REMAIN UNFUNDED

If strategically leveraged, the 2021 federal infrastructure program could unlock some of the major, transformational projects that are currently unfunded or lacking substantial construction or implementation dollars in MassDOT capital plans. Currently there are many transportation projects that are estimated to cost over one billion dollars, and are consistent with completed long-term master planning efforts or recommended by MassDOT-supported commissions.

**CHART I.2: MAJOR UNFUNDED TRANSPORTATION INFRASTRUCTURE PROJECTS IN MASSACHUSETTS**

PROJECT	ESTIMATED COST
ELECTRIFICATION OF COMMUTER RAIL NETWORK	\$6 BILLION
MASSDOT / MBTA CLIMATE RESILIENCY INFRASTRUCTURE	\$6 BILLION
EAST / WEST HIGH-SPEED RAIL	\$5 BILLION
MBTA BUS MAINTENANCE FACILITIES TO SUPPORT ALL-ELECTRIC BUS FLEET	\$4.5 BILLION
REGIONAL RAIL PHASE 2	\$4 BILLION
REGIONAL RAIL VISION PHASE 1	\$4 BILLION
CAPE COD ACCESS & 93/95 INTERCHANGES	\$3 BILLION
ACCELERATING MASSDOT HIGHWAY DIVISION STRUCTURALLY DEFICIENT BRIDGE REPAIRS	\$2.9 BILLION
I-91 SPRINGFIELD VIADUCT	\$2.5 BILLION
SILVER LINE PHASE 3	\$2.5 BILLION
ALLSTON I-90 MULTIMODAL INTERCHANGE / WEST STATION	\$1.6 BILLION
RED-BLUE CONNECTOR	\$850 MILLION

## POTENTIAL ECONOMIC BENEFITS OF INFRASTRUCTURE SPENDING FOR MASSACHUSETTS & THE NORTHEAST REGION

The federal infrastructure bill also brings potential for job creation and a significant boost to the regional economy. Moody's Analytics projected the AJP would produce 2.1 million additional jobs in the country over the next decade.<sup>8</sup> This study did not provide any indication of how many of these jobs would be created in Massachusetts, but it does describe that government spending on capital infrastructure is one of the most effective ways to support economic growth. Infrastructure spending has proven to deliver a high "multiplier" effect, because this type of government spending is used to directly hire workers and purchase new materials, which in turn generates additional economic activity.

According to the American Public Transportation Association, every \$1 billion invested in transit will yield almost 50,000 jobs.<sup>9</sup> These types of infrastructure projects also bring productivity gains to a region after the project is completed. This finding is consistent with a recent A Better City report, "[The Transportation Dividend](#)", that showed the metropolitan Boston region sees a five-time return on every dollar invested in public transportation.

In the next few years, Massachusetts is certain to receive additional funding from the federal government's attention to infrastructure. It is also possible that this region could maximize the impact to both the transportation system and economy, if some of the unfunded capital projects can become reality as a result of these future federal funds. If Massachusetts can secure funding through the discretionary grant awards, then it will mean tens of thousands of additional jobs and meaningful economic benefits will be created here, as opposed to other parts of the nation. This will require an effective strategy from State and City government and an understanding of the different federal infrastructure programs discussed in Chapter 2.

## **CHAPTER 2: LESSONS FROM THE PAST: MASSACHUSETTS WILL BE COMPETING AGAINST OTHER STATES FOR INFRASTRUCTURE DOLLARS**

### **FORMULA FUNDING, COMPETITIVE GRANTS, & EARMARKS**

It is very encouraging that the federal government is finalizing a major infrastructure bill, but this does not automatically mean Massachusetts will benefit. There is also no guarantee that these new dollars will fund major projects in the Commonwealth. There are typically three distinct ways federal infrastructure money becomes available: 1) so-called “federal formula” allocations to states, 2) competitive grant awards, or and 3) congressional earmarks or “member-designated projects”.

Under ARRA, the federal government primarily relied on existing funding formulas to distribute infrastructure money to states—ARRA did not include any congressional earmarks. The Federal Highway Administration (FHWA) allocated the road and bridge money to states through their standard highway program, which relies on the amount of federal highway lanes and lane miles within a particular state. The Federal Transit Administration (FTA) calculated their formulas for transit funding based on a number of factors such as the population size and density, as well as the size of the existing transit system's bus network. These formulas provided Massachusetts transportation agencies with approximately \$440 million through the FHWA road and bridge program, and another \$319 million in transit funding.<sup>10</sup>

State governments then decided how to use this ARRA money. As demonstrated in the chart below, the ARRA transportation projects tended to be smaller in size if they were funded through a federal formula program. However, competitive grant programs often resulted in larger funding amounts for transportation projects. These trends from ARRA should give a signal of what to expect in 2021, once hundreds of millions of federal transportation dollars are allotted to Massachusetts.

Formula funding programs are likely to address bridge maintenance and roadway repair needs throughout the Commonwealth, but the larger, more expensive transportation projects at the MBTA and MassDOT are unlikely to be addressed through these formula funding programs. Massachusetts will need to win competitive grants to support larger projects.

## CHART 2.1: SUMMARY OF THE BIGGEST ARRA TRANSPORTATION PROJECTS

THE BIGGEST ARRA TRANSPORTATION PROJECTS		
\$33 MILLION	\$73 MILLION	\$2.55 BILLION
<ul style="list-style-type: none"> <li>• Largest ARRA Transportation Project in MA Funded by Federal Formula Award</li> <li>• Rt. 24 Interchange Construction in Fall River / Freetown</li> </ul>	<ul style="list-style-type: none"> <li>• Largest ARRA Transportation Project in MA Funded by Competitive Grant Award (High-Speed Rail Program)</li> <li>• Improvements to the Vermonter Rail Line in Franklin County</li> </ul>	<ul style="list-style-type: none"> <li>• Largest ARRA Transportation Project in the U.S. Funded by Competitive Grant (High-Speed Rail Program)</li> </ul>

## WHAT HAPPENED LAST TIME: FORMULA FUNDING DELIVERED MODEST-SIZED PROJECTS

After receiving \$440 million in ARRA formula funding for road and bridge transit projects, MassDOT engaged with the state's 13 Metropolitan Planning Organizations to select projects. Ultimately, this process and the federal government's guidance on using the money quickly resulted in transportation projects that were relatively modest in terms of cost. As outlined in Chart 2.2 below, only seven ARRA Road and Bridge projects exceeded \$10 million in cost. And as Chart 2.3 demonstrates, only ten FTA transit projects exceeded \$10 million.

## CHART 2.2: LARGEST ARRA TRANSPORTATION PROJECTS, FUNDED BY FHWA FORMULAS

ARRA TRANSPORTATION PROJECTS – FUNDED BY HIGHWAY FORMULAS	AMOUNT SPENT
RT. 24 INTERCHANGE CONSTRUCTION IN FALL RIVER / FREETOWN	\$ 32.7 MILLION
CONSTRUCTION OF THE NORTH BANK PEDESTRIAN BRIDGE IN BOSTON/CAMBRIDGE	\$ 29.5 MILLION
INTERSECTION & SIGNAL IMPROVEMENTS ON 15 LOCATIONS ON DORCHESTER AVENUE	\$ 15.3 MILLION
IMPROVEMENTS ALONG ROUTE 2 IN ORANGE	\$ 15.2 MILLION
ASSEMBLY SQUARE ACCESS IMPROVEMENTS IN SOMERVILLE	\$ 14.9 MILLION
RESURFACING & IMPROVEMENTS ON ROUTE 9 IN FRAMINGHAM / NATICK	\$ 12.2 MILLION
RECONSTRUCTION AND SIGNAL UPGRADES ON PULASKI BOULEVARD IN BELLINGHAM	\$ 10.3 MILLION

**FIGURE 1: RT. 24 INTERCHANGE CONSTRUCTION IN FALL RIVER / FREETOWN (\$32.7 MILLION)**



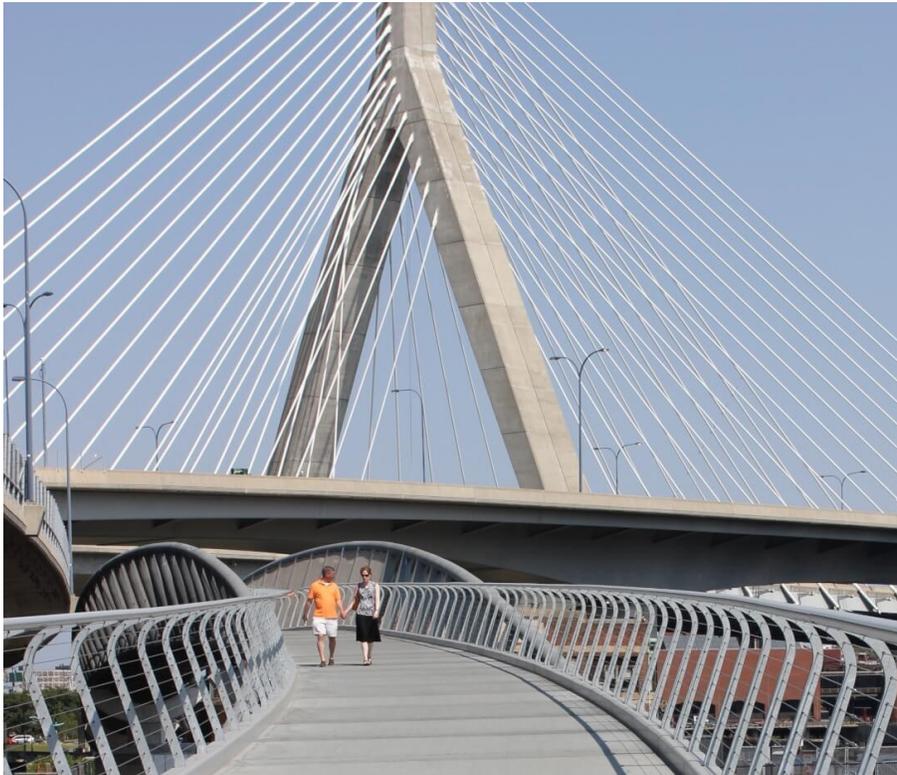
The project created a new entrance and exit ramp between Exits 8 and 9 on Route 24 in Fall River/ Freetown and made new connections to the local road network and providing access to the new Fall River Executive Park. MassDOT Blog, Freetown Route 24 Exit 8B Public Hearing Set [2.1.10](#)

**CHART 2.3: LARGEST ARRA TRANSIT PROJECTS, FUNDED BY FTA FORMULAS**

ARRA TRANSIT PROJECTS – FUNDED BY TRANSIT FORMULAS	AMOUNT SPENT
FITCHBURG RAIL LINE DOUBLE TRACKING PROJECT BETWEEN WEST ACTON & AYER	\$39.8 MILLION
MBTA PROCUREMENT OF 25 ARTICULATED 60' HYBRID BUSES	\$30.7 MILLION
MBTA ORIENT HEIGHTS BLUE LINE TRACK RECONSTRUCTION	\$18.9 MILLION
HAVERHILL RAIL LINE - DOUBLE TRACK & SIGNAL WORK	\$17.4 MILLION
MBTA BUS FACILITY REHABILITATION & IMPROVEMENTS AT 5 LOCATIONS	\$14.6 MILLION
MBTA ASHMONT STATION UPGRADE	\$13.9 MILLION
FRANKLIN COUNTY CREATION OF A REGIONAL TRANSIT CENTER	\$12.8 MILLION
WORCESTER REGIONAL TRANSIT AUTHORITY PURCHASE OF 15 NEW VEHICLES	\$12.4 MILLION
FITCHBURG LINE - INTERLOCKING PROJECT	\$10.2 MILLION
MBTA BUS STOP AMENITIES & CUSTOMER SERVICE ENHANCEMENTS	\$10.0 MILLION

Project spending amounts shown, information taken from ARRA spending reports from [www.mass.gov/recovery](http://www.mass.gov/recovery), accessed through [archive.org](http://archive.org)

## FIGURE 2: NORTH BANK PEDESTRIAN BRIDGE IN BOSTON/CAMBRIDGE (\$29.5 MILLION)



The North Bank Bridge is a pedestrian bridge that connects Charlestown in Boston to Cambridge, traveling over the commuter rail lines near North Station. The project is part of the environmental mitigation agreements related to the Central Artery / Tunnel Project. Initial design work took place four years before ARRA.

## WHAT HAPPENED LAST TIME: COMPETITIVE GRANT PROGRAMS DELIVERED LARGER FUNDING AWARDS

As part of the ARRA funding process, federal agencies decided how funds were distributed through competitive grant programs. These grant awards produced larger funding amounts for states and more substantial transportation projects. ARRA created two new transportation initiatives that would award funds through competitive grant applications: High-Speed Rail projects, and the TIGER (Transportation Investment Generating Economic Recovery) Grant Program. These TIGER grants were intentionally broad in nature and created to give the federal government flexibility to support a wide-range of transportation infrastructure projects. Massachusetts applied to both grant programs, with multiple applications, and ended up winning four different awards that ranged from \$20 million to \$73 million each.

The Knowledge Corridor Improvement Project became the largest ARRA-funded transportation project in Massachusetts. It was a grant to switch the Amtrak “Vermont Line” onto a new route that would bring service to Northfield and Greenfield in Franklin County, as part of the full route that extends from Washington DC, through Springfield, MA, and ends in northern Vermont.<sup>11</sup>

## CHART 2.4: LARGEST ARRA TRANSPORTATION GRANT AWARDS IN MA

FEDERAL STIMULUS COMPETITIVE GRANTS AWARDED IN MA	AMOUNT SPENT
HIGH-SPEED RAIL GRANT: KNOWLEDGE CORRIDOR RESTORE VERMONT PROJECT	\$72.8 MILLION
TIGER GRANT: FITCHBURG COMMUTER RAIL LINE EXTENSION & WACHUSETT STATION	\$59.2 MILLION
TIGER GRANT: MBTA WONDERLAND TRANSIT PLAZA	\$20.0 MILLION
TIGER GRANT: FAST TRACK NEW BEDFORD FREIGHT RAILROAD BRIDGE IMPROVEMENTS	\$20.0 MILLION

While \$73 million of federal funding was certainly welcome in Massachusetts, this investment paled in comparison to the \$2.5 billion California received for their high-speed rail infrastructure. If Massachusetts hopes to win funding awards for the major transportation and resiliency infrastructure projects from the Biden Administration, then we must better understand why California won \$2.5 billion, while Massachusetts topped out at \$73 million in previous infrastructure funding opportunities. One possible strategy for seeking major grant awards, as well as the potential for congressional earmarks, will be addressed further in Chapter 3.

**IN 2010, MASSACHUSETTS RECEIVED A \$73 MILLION GRANT FOR HIGH-SPEED RAIL WORK.**

**CALIFORNIA WON A GRANT WORTH \$2.5 BILLION.**

At this critical juncture, Massachusetts must learn from the ARRA experience and be prepared to develop strong grant applications for projects that meet the policy and political goals of the federal government. If Massachusetts is unable to present projects that are nearing the design phase and ready to move forward quickly, then we are unlikely to win funding in competitive grant programs. This would leave Massachusetts with getting only the minimum from this historic federal program, and likely result in smaller infrastructure projects in the Commonwealth.

## SIZE AND LIMITS IN CONGRESSIONAL EARMARKS

While ARRA in 2009 did not contain any congressional earmarks, there are likely to be transportation earmarks included in the 2021 federal infrastructure bill. The House of Representatives is already moving forward with an infrastructure plan that closely resembles President Biden's vision through the Federal Surface Transportation Reauthorization Act. The House plan does contain earmarks.

This year, the Massachusetts congressional delegation is one of the strongest, most influential teams of leaders in the modern history of the Commonwealth. In the House, there are three members of the Transportation and Infrastructure Committee (Stephen Lynch, Seth Moulton, Jake Auchincloss), the Chair of House Ways & Means (Richard Neal), the Chair of the the Rules Committee (Jim McGovern), a leader of the Future of Transportation Caucus (Ayanna Pressley), and the Assistant Speaker (Katherine Clark). In the Senate, both Senators Elizabeth Warren and Ed Markey are members of the Senate majority and each released ambitious infrastructure proposals that exceed the scale of funding proposed in President Biden's American Jobs Plan.

Unfortunately, earmarks from our powerful delegation cannot address all the major needs in Massachusetts. It is also unclear if transportation earmarks will even emerge in Congress’s final infrastructure bill, or if earmarks will instead appear in the separate reauthorization of the Surface Transportation Bill. Either legislative vehicle is an opportunity to direct money to Massachusetts, but the recent details of congressional earmarks in the House plan will show there is a limit to how much may be earmarked this year.

In April, House members submitted earmark requests to the House Committee on Transportation and Infrastructure for highway and transit projects. The committee leadership asked that these “member designated project” requests be no more than \$30 million for an individual project and they would be considered for the Surface Transportation Reauthorization Bill. The committee markup of this transportation bill included 61 earmarked projects located in Massachusetts.

**THE AVERAGE SIZE OF AN EARMARK FOR A PROJECT IN MASSACHUSETTS SUPPORTED BY THE HOUSE SURFACE TRANSPORTATION ACT IS \$2.7 MILLION.**

These projects range in size from \$14.7 million for the Bourne Rail Trail to \$100,000 for transit signals at the MBTA Davis Square station. The average earmarked amount for a project in Massachusetts is approximately \$2.7 million, which is consistent to the committee guidance that project requests be modest in both cost and size.<sup>12</sup> Chart 2.5 shows the ten largest earmarks from the Massachusetts delegation in the House Transportation and Infrastructure bill released in early June 2021.

**CHART 2.5: LARGEST MASSACHUSETTS EARMARKS IN THE HOUSE T&I COMMITTEE BILL**

MEMBER NAME	PROJECT NAME	CITY	AMOUNT COST
KEATING	BOURNE RAIL TRAIL	BOURNE	\$14.7 MILLION
PRESSLEY	WARREN STREET / BLUE HILL AVENUE MULTI-MODAL CORRIDOR PHASE I	BOSTON	\$12 MILLION
MOULTON	LYNN COMMUTER RAIL STATION REHABILITATION	LYNN	\$10 MILLION
MCGOVERN	BLACKSTONE VALLEY MULTI-USE PATH PHASE 1, SEGMENT – 2	BLACKSTONE	\$8.1 MILLION
MCGOVERN	REHABILITATION & BOX WIDENING ON ROUTE 20, FROM ROUTE 9 TO SOUTH STREET	SHREWSBURY	\$8 MILLION
MOULTON	PEABODY CANAL RIVERWALK CONSTRUCTION	PEABODY	\$6.4 MILLION
LYNCH	MERRYMOUNT BRIDGE RECONSTRUCTION PROJECT	QUINCY	\$6 MILLION
CLARK	BLUE LINE SIGNAL PROGRAM	REVERE, BOSTON	\$6 MILLION
NEAL	UNION STATION REGREENING & LIGHTING PROJECT	SPRINGFIELD	\$6 MILLION
CLARK	RECONSTRUCTION & RELATED WORK ALONG REVERE STREET CORRIDOR	WINTHROP	\$5.1 MILLION

## LEGISLATIVE PROPOSALS FROM THE MASSACHUSETTS DELEGATION COULD EXPAND FUNDING FOR RAIL AND CLIMATE PROGRAMS

While these transportation earmarks in the House plan would address modest, district-level transportation challenges, many members of the Massachusetts delegation are also proposing ambitious funding plans that would impact the national infrastructure landscape through the Reconciliation Bill, particularly with high-speed rail, electric vehicle programs, and other climate-related initiatives. Considering the delegation's stature and influence, it is reasonable to assume that there will be additional funding opportunities for Massachusetts to benefit from once the Surface Transportation Reauthorization Bill and budget reconciliation plan are both completed this fall.

Congressman Moulton continues to advocate for increasing high-speed rail funding. He is a supporter of the North Atlantic Rail (NAR) initiative that would improve and expand rail service between New York and all states in New England.<sup>13</sup> Senators Warren and Markey are joining with a number of members in both branches as sponsors of a \$500 billion plan to electrify cars, buses, and trains through the "Build Green" Act.<sup>14</sup> Congressman Neal, Congressman McGovern, and Senator Markey are united in recommending a \$5 billion annual program for rail projects like the East-West train that would travel from Springfield to Boston.<sup>15</sup>

Of course, even if every one of these bold funding programs were to become law, Massachusetts would not automatically receive this money simply because the delegation proposed it. These legislative proposals seek to create new competitive grant programs or add funding to existing grant programs. Massachusetts state government and the MBTA would still need to apply for the funding, once it becomes available and these grant applications would be evaluated against projects in other states.



# CHAPTER 3: HOW MASSACHUSETTS STATE GOVERNMENT CAN TAKE ADVANTAGE OF THE FEDERAL INFRASTRUCTURE BILLS

There is potential for the Massachusetts State government to succeed where they fell short under ARRA, and win the types of federal grants that would achieve transformational change to our transportation system. With the announcement of the Bipartisan Infrastructure Framework, transportation infrastructure programs are taking shape and are likely to become law this year. This should be another reason for Massachusetts to try and create a head start against other states and show federal officials that large infrastructure investments deserve to be made in the Commonwealth.

In 2009, Massachusetts could not properly prepare high-quality transportation projects because of the timing associated with ARRA and the focus on “shovel-ready projects.” At the time, President Obama and Congress valued speed as the top priority: Speed in getting the bill through Congress, speed in awarding contracts to carry out the work, and speed in spending the federal infrastructure dollars. Of course, in hindsight, President Obama himself famously admitted, “There’s no such thing as shovel-ready projects.”<sup>16</sup>

2021 is different. President Obama signed the ARRA stimulus bill into law on February 17th, 2009, less than a month after taking office and only weeks after releasing the first outline of the proposed bill. The Biden Administration already expressed their top priorities and aspirational goals for infrastructure projects, during the initial event proposal of the American Jobs Plan in March. If you assume the final legislative infrastructure plans will emerge from Congress this fall, then this would mean almost two hundred days between President Biden initially proposing the American Jobs Plan and its expected passage of the transportation programs in the Bipartisan Infrastructure Framework, and a separate reconciliation bill that increases funding for climate-related infrastructure.

There will also be additional time after these bills become law and when the federal agencies will award competitive grants. Federal transportation agencies will need to establish rules and deadlines for a number of new grant programs. During this short, but meaningful window over the next six to twelve months, the quality of our grant applications will be determined by the steps taken at MassDOT, the MBTA, and the state legislature over the next few months.

**THE QUALITY OF MASSACHUSETTS’ GRANT APPLICATIONS WILL BE DETERMINED BY THE STEPS TAKEN AT MASSDOT, THE MBTA, AND STATE LEGISLATURE DURING THE NEXT FEW MONTHS.**

**AFTER THE INFRASTRUCTURE BILL BECOMES LAW, THERE WILL BE SIX TO TWELVE MONTHS BEFORE FEDERAL AGENCIES ANNOUNCE GRANT AWARDS AND FUNDED PROJECTS**

# SHOVEL-READY, SHOVEL-WORTHY, & THE MOTIVATIONS OF THE FEDERAL GOVERNMENT

The American Jobs Plan introduces an important public messaging shift in infrastructure project evaluation and selection. The Biden Administration emphasized the notion of “shovel-worthy” instead of “shovel-ready” projects. This change intends to avoid the conflict during ARRA that valued immediate action over the long-term benefits of a project. The phrase “shovel-worthy” also needs to be understood as an approach that gives more discretion to federal transportation agencies in order to support high-quality projects. However, it should not be assumed that the federal government will be providing dramatically longer timelines for states to plan, design, and even start construction on infrastructure projects.

Under ARRA, the federal government insisted on seeing the money be put to use quickly to serve both a policy goal of stimulating the economy and a political goal of seeing action as a result of the legislation. These two goals will likely be just as relevant in 2021 once Congress finalizes their work on the infrastructure bills.

There will be tremendous pressure on the Biden Administration to show tangible action and start construction and job creation. Democrats in Congress will be facing their 2022 mid-term elections and President Biden will be campaigning for re-election in 2024. The impact from the federal infrastructure bill will be a significant factor in both campaigns. It would be irresponsible to assume the schedule for “shovel-worthy” projects to occur will be much different from the timelines enforced for “shovel-ready” ARRA projects. In particular, it is hard to believe the federal government will be awarding money for projects that would begin construction after the 2024 election. The political reality of this era suggests there will be a premium on infrastructure projects that can start construction work in the next two to three years. Chart 3.1 shows the federal timelines for the ARRA transportation infrastructure programs that were enacted in February 2009.

**CHART: 3.1 SPENDING TIMELINES FOR ARRA TRANSPORTATION PROJECTS**

SPENDING CATEGORY	ARRA FUNDING	DEADLINE FOR STATES TO OBLIGATE ALL ARRA FUNDING (Put Money Under Contract)	DEADLINE WHEN ALL ARRA FUNDS MUST BE SPENT
HIGHWAY, STREETS, AND BRIDGE CONSTRUCTION (INCLUDING ROAD SAFETY PROGRAMS)	\$27.1 BILLION	19 MONTHS	79 MONTHS
PASSENGER RAIL (INCLUDING HIGH-SPEED RAIL)	\$9.3 BILLION	44 MONTHS	104 MONTHS
PUBLIC TRANSIT MODERNIZATION	\$8.8 BILLION	19 MONTHS	79 MONTHS
AIRPORTS & SEA PROJECTS	\$1.4 BILLION	19 MONTHS	79 MONTHS
TIGER GRANTS	\$1.5 BILLION	31 MONTHS	91 MONTHS
<b>TOTAL TRANSPORTATION FUNDING</b>	<b>\$48.1 BILLION</b>		

Shovel-worthy in 2021 will certainly mean that states will have some longer timelines to start construction, but it won't mean projects can wait too long. The federal government will be very motivated to act and there will be pressure to move on real projects that are ready to go.

Massachusetts can take advantage of this political reality if we act with some urgency. The best way to show the federal government that infrastructure projects in Massachusetts are actually shovel-worthy is to prove it by starting the early design, planning, and permitting process now. Spending money now before the bills are passed and grants are awarded would give the Commonwealth time to develop stronger project applications that appeal to the federal government's interests. MassDOT and the MBTA would be able to say our projects are six months closer to construction, when compared to proposals in other states.

We can also assume many competitive grants will not be awarded until Summer 2022. President Obama signed ARRA into law in February 2009, but the applications for High-Speed Rail grants needed to be submitted at the end of August 2009.<sup>17</sup> Both High-Speed Rail and the TIGER grant awards were not announced until January 2010.<sup>18</sup> Massachusetts could take a proactive approach in the next twelve months and to help strengthen our chances of winning the larger-size grant awards.

## TARGET NEW GRANT PROGRAMS FOR UNFUNDED TRANSFORMATIONAL PROJECTS

Starting design work on transportation infrastructure projects will help with grant applications, especially for the new programs supported by the Biden Administration. It is no coincidence that in 2010, all four projects that received competitive ARRA transportation grants in Massachusetts were entering the design phase when Massachusetts applied for the federal money. It is also important to note that North Bank Pedestrian Bridge, the second most expensive road and bridge project in Massachusetts under ARRA, had completed early design work years before ARRA. Here is a list of the likely new grant programs and possible projects in Massachusetts that should be a match for a future grant.

**THE BEST WAY TO SHOW THE FEDERAL GOVERNMENT THAT INFRASTRUCTURE PROJECTS IN MASSACHUSETTS ARE ACTUALLY SHOVEL-WORTHY IS TO PROVE IT BY STARTING THE EARLY DESIGN, PLANNING, AND PERMITTING PROCESS NOW.**

**CHART 3.2 POTENTIAL ALIGNMENT OF MAJOR PROJECTS AND COMPETITIVE GRANT PROGRAMS**

MAJOR PROJECT	BIPARTISAN INFRASTRUCTURE FRAMEWORK CATEGORY	TYPE OF GRANT PROGRAM
EAST - WEST RAIL	PASSENGER AND FREIGHT RAIL (INCLUDING HIGH-SPEED RAIL)	EXISTING FTA GRANT PROGRAM
REGIONAL RAIL PHASE 1 & 2	PASSENGER AND FREIGHT RAIL (INCLUDING HIGH-SPEED RAIL)	NEW GRANT PROGRAM IS LIKELY
RED - BLUE CONNECTOR	PUBLIC TRANSIT	EXISTING FTA GRANT PROGRAM
MBTA BUS MAINTENANCE FACILITIES	PUBLIC TRANSIT	NEW GRANT PROGRAM IS LIKELY
COMMUTER RAIL ELECTRIFICATION	ELECTRIC BUSES / TRANSIT	NEW GRANT PROGRAM IS LIKELY
ALLSTON I-90 MULTIMODAL PROJECT	FUNDING TO RECONNECT NEIGHBORHOODS CUT OFF BY HISTORIC INVESTMENTS & MAJOR PROJECTS WITH REGIONAL BENEFITS	NEW GRANT PROGRAM IS LIKELY FOR BOTH CATEGORIES
MASSDOT / MBTA RESILIENCY INFRASTRUCTURE	RESILIENCY INFRASTRUCTURE	NEW GRANT PROGRAM IS LIKELY

## CHAPTER 4: SETTING UP THE MBTA FOR SUCCESS BY USING SURPLUS FUNDS & UPDATING PROCUREMENT RULES

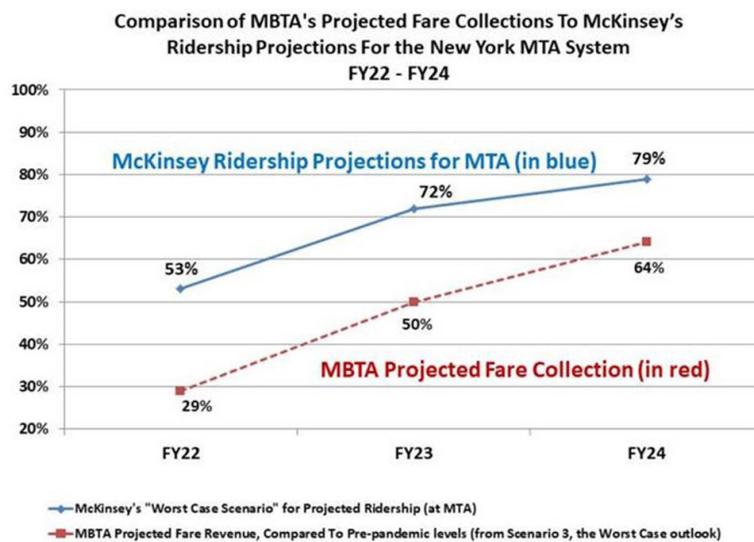
This is also a rare moment when the MBTA is running a large operating budget surplus and funds are available, if the MBTA decides to reallocate some money to support a mobilization effort to pursue future federal grants. As a result of three separate federal COVID-relief bills, the MBTA received approximately \$2 billion in new funding between April 2020 and May 2021. For context, the original FY20 budget approved by the MBTA before the pandemic assumed the agency would collect just over \$800 million in operating revenue, mostly from fare collection.<sup>19</sup> The generous and timely federal relief funding allowed the MBTA to operate transit service during the pandemic and offset the lost revenue from lower ridership and the decline in fare collections.

Under the current budget plans, the MBTA also expects to use this federal money over the next three fiscal years. During public meetings this spring, the MBTA budgetary staff and the Fiscal and Management Control Board (FMCB) projected there would be approximately \$200 million in a reserve account in FY24, as a result of the federal transit relief funds.<sup>20</sup> A portion of this money could be reallocated this Summer 2021 to support a grant application strategy involving early design and advancement of major infrastructure projects.

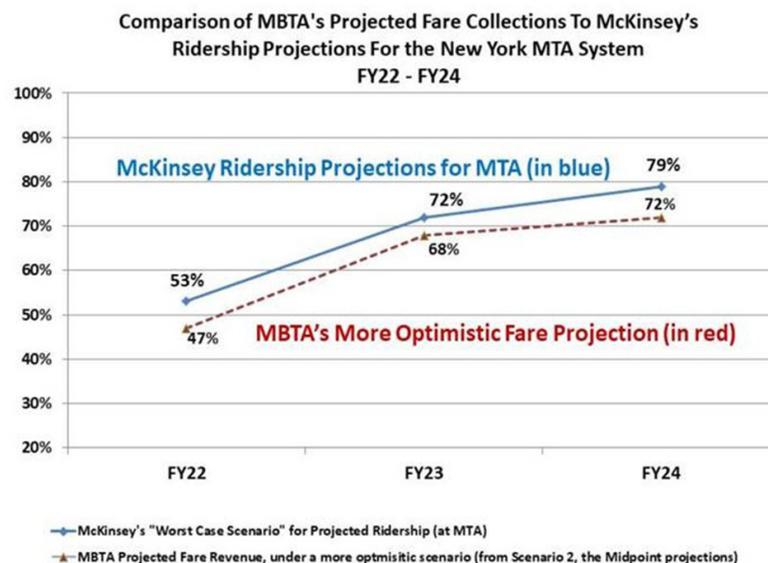
More importantly, it is reasonable to believe that there will actually still be over \$500 million in federal relief funds in place come FY24. Currently, the MBTA is projecting fare collection rates and ridership projections that are much lower than levels projected for the New York MTA transit system. In March 2021, the FMCB decided to use the worst-case fare collection scenario for the next few years, when the board approved a five-year planning exercise.<sup>21</sup> This worst-case scenario still leaves the MBTA with almost \$200 million in federal funds in FY24, but if fare collections are slightly higher, then this reserve fund would increase.

As part of the long-term planning efforts during FMCB meetings, the MBTA would refer to a McKinsey study on future ridership levels expected for the MTA system in New York. Graphs 1 and 2 are recreated by A Better City to compare the MBTA projected fare collections against the McKinsey's projections on future ridership level expected at the MTA.

## GRAPH 1 MCKINSEY RIDERSHIP PROJECTION VS. MBTA FARE COLLECTION ESTIMATES



## GRAPH 2 MCKINSEY RIDERSHIP PROJECTION VS. MBTA'S MORE OPTIMISTIC FARE COLLECTION



These numbers clearly show the MBTA should be using their own “Scenario 2” for fare collection, as it is more consistent with the forecasts and analysis conducted by McKinsey. Considering the MBTA expects to carry an operating budget surplus of almost \$200 million into FY24 under the lowest ridership projections, there is no harm to the budget in FY22 by setting unrealistically low expectations on fare collections. If the MBTA used different assumptions, then it would mean that an additional \$300 million would be added to the reserves over the next three fiscal years.

A Better City is predicting the MBTA is likely to hold over \$500 million in a reserve fund in FY24. This presents the opportunity for MassDOT and the MBTA to reallocate some of this relief money to use right now, to better prepare major projects for the Biden infrastructure bills that pass Congress this year. If \$50 million is set aside from this surplus to immediately prepare engineering and design plans on major infrastructure projects, then the Commonwealth’s grant applications would be much stronger than any project starting from scratch. Additionally, reallocating this money to invest in projects that lead to better, more reliable or more resilient service, could lead to increased ridership and increased revenue over the next few years.

Further reason to support a more optimistic outlook is that the MBTA is already exceeding these monthly fare collection projections in each of the past four months, and now the Commonwealth’s economy is reopening at a timeline the MBTA could not have anticipated a few months ago. Overall, it is safe to say the MBTA has significant revenue to reallocate in pursuit of billion-dollar infrastructure projects that are not currently funded or need additional resources in the current state capital plan.

## REASONS TO BE CONCERNED MASSACHUSETTS WILL NOT BE READY, ONCE AGAIN

The FY22 State Budget included language that requested the MBTA prepare transit projects for the federal infrastructure bill, but Governor Baker vetoed it.

The legislature officially asked the MBTA to “initiate an effort to advance the planning and design of not more than 6 infrastructure projects related to decarbonization, regional rail electrification, increased transit capacity and improved equity in the public transportation system to identify, develop and prepare projects ready to take advantage of anticipated federal infrastructure funding opportunities.”

Governor Baker’s veto is discouraging and is in stark contrast to how some other parts of the country are pushing forward major projects to prepare for anticipated federal funding. In Chicago, Transportation Secretary Pete Buttigieg promised the Chicago Transit Authority would be in a strong position to see federal dollars extend a subway line.<sup>22</sup> California recently completed their environmental and permitting documents on part of their high-speed rail project, in order to be shovel-ready.<sup>23</sup> In New York, Buttigieg announced funds would be available to build a new rail tunnel that is estimated to cost \$11 billion dollars.<sup>24</sup> The Massachusetts legislature could potentially override Governor Baker’s veto and help the MBTA keep pace with these other infrastructure proposals.

**THE LEGISLATURE ASKED THE MBTA TO BEGIN DESIGN WORK ON PROJECTS RELATED TO DECARBONIZATION, RAIL ELECTRIFICATION, AND IMPROVING EQUITY IN THE TRANSIT SYSTEM, BUT UNFORTUNATELY GOVERNOR BAKER VETOED THIS LANGUAGE.**

## THE MBTA IS MONITORING THE FEDERAL INFRASTRUCTURE BILL

Right now, the MBTA is “monitoring” the federal infrastructure bill, but they could shift into a proactive approach to plan and prepare for the funding of major projects like the regional rail and electrification of the commuter rail, red-blue connector, bus maintenance facilities to support an all-electric bus fleet, the transit infrastructure such as creation of West Station as part of the Allston Interchange project, and the unfunded climate resiliency infrastructure needs across the system. Reallocating \$50 million as part of an effort to win federal grants is a wise investment and comes with little downside, considering these projects have been approved by the FMCB, endorsed by long term planning initiatives at MassDOT, and supported by the public.

**IN 2009, MASSACHUSETTS EXPANDED PROCUREMENT RULES TO ALLOW FOR “A+B BIDDING” TO SUPPORT FASTER DELIVERY OF FEDERALLY FUNDED INFRASTRUCTURE PROJECTS. THIS APPROACH SHOULD BE ALLOWED ONCE AGAIN.**

Sitting back in monitoring mode, without spending some money to advance early design or planning work, is not helpful in the competition against other, more proactive states. Massachusetts risks falling behind, which is troubling considering our unfunded infrastructure needs. Without winning federal infrastructure funds, Massachusetts will almost certainly have to address the structurally deficient infrastructure in Allston with state dollars or roadway tolls. The entire region would be stuck with a diesel-powered commuter rail system, and our major climate resiliency infrastructure efforts will continue to wait for a state finance plan before we see action.

## THE LEGISLATURE COULD UPDATE PROCUREMENT RULES TO HELP DELIVER ON FEDERAL INFRASTRUCTURE FUNDS

In addition to the work preparing specific projects for federal grant applications, there should be attention to capital delivery improvements at the MBTA that would be necessary to effectively oversee this work. Once billions of new infrastructure dollars become available, overseeing the implementation and procurement of these projects will be even more challenging for the Commonwealth’s transportation agencies, to say nothing of the tremendous pressure to move quickly on projects funded by the federal government while also overseeing the current state capital spending plans. Governor Baker has proposed a number of changes to capital delivery and procurement laws at the MBTA and MassDOT that deserve support from the legislature, such as allowing, “Design Build Finance Operate Maintain,” “Design-Build” for any sized construction project, and “A+B bidding,” which was specifically allowed for ARRA infrastructure projects.

In 2009, the Massachusetts legislature expanded procurement rules to allow for “A+B bidding” on infrastructure projects on ARRA-related projects. This approach allowed the Commonwealth to award contracts based on both the proposed cost and the time a contractor needed to complete a project. The ability to use A+B bidding rules expired after ARRA ended in 2013.<sup>25</sup>

Considering the Commonwealth allowed this procurement option with federally-funded infrastructure projects, it should be allowed once again to support faster delivery of transportation work. Expanding and modernizing procurement rules in Massachusetts could be another highlight in the Commonwealth's future grant applications to show the federal government that we are ready to deliver major infrastructure projects.

## CHAPTER 5: HOW WILL WE LOOK BACK ON THIS OPPORTUNITY?

The Commonwealth's approach to the Biden Administration and Congress' infrastructure plans in the next few months will shape Massachusetts for the decades ahead. This is a once-in-a-generation opportunity to see the next wave of critical infrastructure projects in the Commonwealth and it calls for an ambitious action plan that fits with our history on delivering major transportation projects in Massachusetts. Our strategy and focus in the Summer and Fall of 2021 will largely determine the benefits possible from this federal infrastructure bill.

Transportation Secretary Pete Buttigieg argued this opportunity for infrastructure investments is different from our recent experience: "I believe a moment like this, with the conditions that we have, and the appetite that we have, and the need that we have, comes along roughly every 50 to 100 years, and shame on us if we don't do something about it."<sup>26</sup>

It is up to the Commonwealth to maximize this chance and attempt to see transformational projects funded through these anticipated federal dollars. A few years ago, Governor Baker's Commission on the Future of Transportation pointed out, "high-frequency, high-capacity public transit is the most efficient and sustainable way to move large numbers of people as they go about their daily lives. This is true today and will be true in 2040 even in the scenario that the transportation system be dominated by fleets of electrified autonomous vehicles."<sup>27</sup>

Many of the transformational projects identified in the MBTA's Focus 40 and the Governor's Commission on the Future of Transportation report have widespread support, but lack funding. The federal infrastructure bills of 2021 are the best chances to secure the future that we have already studied and hope to see one day in Massachusetts. If these major infrastructure projects do not win funding through the federal infrastructure bills, or if Congress fails to deliver on their current legislative progress, then it will require state funding and resources to implement these projects.

In ten years from now, when we look back to review how Massachusetts performed with this 2021 federal infrastructure money, we should expect more meaningful projects than what happened under ARRA. Instead of federal funding being used to address a number of reasonable maintenance projects for roads and bridges or other modest projects throughout the Commonwealth, we should instead aim for the transformational projects that boost economic activity, reduce carbon emissions, and deliver lasting benefits to the region.

This ideal outcome is possible in 2021 and worth pursuing. It will require some additional effort at the state-level to prepare projects as soon as possible, but if the Commonwealth takes this more urgent approach and applies the lessons learned from ARRA, then we could look back on this strategic planning as the essential steps that helped Massachusetts complete major transportation and climate infrastructure projects and become the top example of a state that maximizes the benefits from the Biden Administration infrastructure plans. We can create innovative projects that are equivalent to the construction of the Ted Williams Tunnel, the cleanup of Boston Harbor, or the extension of the MBTA Red Line. This future is possible, and now is the time to be strategic, bold, and act with ambitious goals that are necessary to create the Commonwealth we want to see for the next generation.

## CONCLUSION & RECOMMENDATIONS

The path forward is clear once we understand the Commonwealth's experience from ARRA. A Better City looks forward to working with our state and federal partners to put Massachusetts in the best position for success in years ahead. To do so, we recommend the following three steps:

1. The best chance to build transformative infrastructure projects in Massachusetts is with the federal infrastructure grants that will become available in the next year. One immediate step to take is for the legislature to override the Governor's veto that asks the MBTA to initiate design work on projects related to decarbonization, rail electrification, and improving equity in the transit system. By using this time to advance critical infrastructure projects at the MBTA and MassDOT, the chance of winning significant grant awards will increase dramatically.
2. Considering there is a surplus of funding available at the MBTA, the Commonwealth should immediately invest at least \$50 million in MBTA funds to advance initial planning, design, and engineering for "shovel-worthy" transit projects that match the goals of the upcoming federal infrastructure bills. This is the way to enhance and distinguish our future grant applications so that they stand out relative to other projects in the nation.
3. The Commonwealth should expand and modernize procurement rules at MassDOT and the MBTA to demonstrate that Massachusetts is ready to deliver on these important infrastructure projects in a timely manner. Tools like A+B bidding rules helped under ARRA and should be used again.

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Cover Image: Kyle Klein, Kyle Klein Photography

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Image on page 12: MassDOT/Creative Commons

# APPENDIX

**CHART I.1: A COMPARISON OF INFRASTRUCTURE FUNDING: ARRA (2009) & THE BIPARTISAN SENATE PLAN ENDORSED BY PRESIDENT BIDEN (2021)**

SPENDING CATEGORY	FUNDING IN 2009 AMERICAN RECOVERY & REINVESTMENT ACT (ARRA)	FUNDING IN 2021 BIPARTISAN INFRASTRUCTURE FRAMEWORK (Senate Plan)	% CHANGE
<b>(NUMBERS IN BILLIONS, NOT ADJUSTED FOR INFLATION)</b>			
<b>TRANSPORTATION INFRASTRUCTURE PROGRAMS</b>			
ROADS, BRIDGES, MAJOR PROJECTS	\$27.1 BILLION	\$110 BILLION	+306%
PASSENGER AND FREIGHT RAIL (INCLUDING HIGH-SPEED RAIL)	\$9.3 BILLION	\$66 BILLION	+610%
PUBLIC TRANSIT	\$8.8 BILLION	\$39 BILLION	+343%
AIRPORTS	\$1.2 BILLION	\$25 BILLION	+1983%
PORTS & WATERWAYS	\$0.2 BILLION	\$17 BILLION	+8400%
TIGER GRANTS	\$1.5 BILLION	-	-
SAFETY	-	\$11 BILLION	-
ELECTRIC BUSES / FERRIES	-	\$7.5 BILLION	-
ELECTRIC VEHICLE INFRASTRUCTURE	-	\$7.5 BILLION	-
ELECTRIC VEHICLE INFRASTRUCTURE FUNDING TO RECONNECT NEIGHBORHOODS CUT OFF BY HISTORIC INVESTMENTS	-	\$1 BILLION	-
<b>TRANSPORTATION INFRASTRUCTURE SUBTOTAL</b>	<b>\$48.1 BILLION</b>	<b>\$285 BILLION</b>	<b>+493%</b>
<b>NON-TRANSPORTATION INFRASTRUCTURE PROGRAMS</b>			
CLEAN ENERGY INFRASTRUCTURE	\$21.5 BILLION	\$73 BILLION	+240%
BROADBAND & COMMUNICATIONS	\$10.5 BILLION	\$65 BILLION	+519%
WATER & SEWER INFRASTRUCTURE	\$17.3 BILLION	\$55 BILLION	+218%
CLIMATE RESILIENCY INFRASTRUCTURE	-	\$50 BILLION	-
CLEANUP OF BROWNFIELDS, SUPERFUND SITES, & CAPPING OIL & GAS WELLS	\$0.7 BILLION	\$21 BILLION	+2900%
GOVERNMENT & MILITARY BUILDINGS	\$7.2 BILLION	-	-100%
HOUSING PROGRAMS	\$13.6 BILLION	-	-100%
SCIENCE & RESEARCH	\$7.6 BILLION	-	-100%
ENERGY EFFICIENCY & CLIMATE-FOCUSED RESEARCH	\$27.2 BILLION	-	-100%
<b>NON-TRANSPORTATION INFRASTRUCTURE SUBTOTAL</b>	<b>\$105.6 BILLION</b>	<b>\$265 BILLION</b>	<b>+151%</b>
<b>TOTAL INFRASTRUCTURE FUNDING</b>	<b>\$153.7 BILLION</b>	<b>\$550 BILLION</b>	<b>258%</b>

ARRA numbers from Council of Economic Advisors, Q4 report, July 2010 [https://obamawhitehouse.archives.gov/files/documents/cea\\_4th\\_arra\\_report.pdf](https://obamawhitehouse.archives.gov/files/documents/cea_4th_arra_report.pdf) & Department of Transportation ARRA Final Report page 6 <https://www.transportation.gov/sites/dot.gov/files/docs/American%20Recovery%20and%20Reinvestment%20Act%20Final%20Report.pdf>

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