The Research Bureau

THE PROMISES OF THE WORCESTER/ FRAMINGHAM LINE

Examining Infrastructure Improvements and Potential Ridership Across the Line

REPORT 26-03

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EXECUTIVE SUMMARY

THE PROMISES OF THE WORCESTER/FRAMINGHAM LINE follows The Research Bureau's previous work from June 2025, *Express for Whom? Ridership, Recovery, and the Importance of the Worcester/Framingham Line.* Underscoring the possibilities of this regional rail line that runs between Worcester and Boston dozens of times a day, this report looks at the *need* and the *vision* of what that service could look like. This report explains the ongoing and future work along the line that could unlock its promise.

This report begins by examining **the need**: understanding the possibilities existing in those who could ride but do not, bringing to attention the *promises* of turning residents from could-be-rider to actual-rider.

Pages 3-6 examine "vehicle miles traveled" among the 38 municipalities identified as Worcester Line communities, finding that in general the communities with the most transit access and the densest populations drive the least.

Pages 6-8 describe traffic and commuting. There are an estimated 869,804 workers living in the communities above with primary jobs in Massachusetts; of those, 659,919 workers stay within them. Most, however, do not commute by rail.

Pages 8-12 look at household vehicle access and mobility connections in the communities with direct Worcester Line stops, including bus stops, sidewalk connections, and residential and non-residential parcels within a half mile of all of the stops.

Page 12 begins **the vision** – the ongoing and future infrastructure projects that could transform the Worcester/Framingham Line. The major projects discussed include the Allston Multimodal Project and Compass Rail (which includes West-East Rail Service); this section also discusses the MBTA's 2026-2030 Capital Improvement Plan at length, and considers far-off infrastructure improvements that could transform the line.

Pages 14-19 begin with the Allston Multimodal Project. This is a long-planned reconstruction of an aging viaduct on the MassPike between Boston University and the Charles River that has major implications for commuter rail – as the Worcester Line *also* passes through this area.

First, construction-related traffic delays might encourage more ridership on the Worcester Line, so it is crucial that the line is ready to support new riders *and keep them* after construction is ended. Second, the project includes construction of "West Station," that in the short term would provide easy access to riders to and from Allston and in the long term potentially connecting rail service to Cambridge. Finally, the project will likely include layover rail yards in "Beacon Park Yard" that the MBTA has said it intends to use to support increased frequencies across the Worcester Line.

Pages 20-23 discuss Compass Rail. Compass Rail will connect the Worcester/Framingham Line to points west of Worcester, with several daily round trips (separate from existing commuter rail services) between Pittsfield and Boston, and enabling connections North and South at Springfield (i.e., to all the points on the compass). Work is underway on the track between Worcester and Springfield to begin those processes, which will unlock new intra-state tourism and economic opportunities.

Pages 24-29 focus on the 2026-2030 MBTA Capital Improvement Plan and far-off infrastructure improvements, explaining signals, at-grade rail crossing improvements, and the important updates to Natick Center and Newtonville Stations. It ends with a discussion of the promises of electrification, and the transformative effect it would have on the experience of every rider.

The Promises of the Worcester/Framingham Line ends with several key conclusions and recommendations:

1. **Every community along the line must work together for improved and more frequent service now**, before any Allston Construction begins – and after it does so, to ensure *minimal* disruptions to commuter service (p. 14-19)
2. These communities must work together to ensure that the **bridge to Grand Junction does not become inaccessible to MBTA commuter rail trains** – as this bridge is the shortest link to key maintenance facilities used by *all* MBTA trains. (p. 19)
3. The third track project may currently be unfunded and considered unnecessary for future MBTA service – **but it should not be forgotten as potentially necessary for full Compass Rail service in the future**. (p. 26-27)
4. **Communities themselves must prioritize state infrastructure projects on the line**, including improvements to at-grade crossings (where tracks cross roads) to reduce friction between cars and trains, and to ensure that every other municipality can continue to access the line. (p. 25; at-grade, p. 28)

INTRODUCTION

The Worcester/Framingham regional rail line – running from Worcester to Boston and back again – is not only a vital link for the communities upon it, but for all their neighbors, and, soon, for many communities to the west. The line represents a vital economic and cultural link, keeping Boston connected to the majority of the state to the west, and even will, someday, connect communities to the north and south through Springfield as well.

This report is a follow-up to The Research Bureau's June 2025 report, *Express for Whom? Ridership, Recovery, and the Importance of the Worcester/Framingham Line*. Diving into more than ridership, this report will look towards the "future," explaining what the Bureau believes the "promise" of the Worcester/Framingham Line to be, and how both "the needs" and "the vision" align. What are those promises? In short they are:

- That anyone can get anywhere they need to go, whether east or west, in a more timely and efficient manner, further knitting together our communities from Pittsfield to Boston and beyond.
- That the line should better connect riders to their myriad destinations.
- That it should become seen as a viable daily alternative to driving, with a potential pool of riders ready to use it as they see improvement.
- That it should be easy to get to and from a station, connecting roads, sidewalks, bike paths, and bus lines to the stations so that riders can use the rail easily.

These are big promises, and many of the necessary improvements to reach them are well underway. In undertaking this report, The Research Bureau seeks to bring to a wider audience an understanding of the affected communities, the projects that are underway, and the types of infrastructure that are necessary to ultimately bring **unimpeded**, **reliable**, **frequent,** and **fast** service that solidifies the vital economic and cultural links from Boston to Worcester, Springfield, Pittsfield, and well-beyond.

THE NEED

We know from *Express for Whom?* that ridership on the Worcester/Framingham Line is strong. But understanding the "promises" means looking beyond current riders to those who **would or could ride, but don't**. Examining the 38 communities along and adjacent to the corridor – both those with stations and those just next door – helps reveal where this untapped ridership sits, especially through commuting patterns. Not every driver in these communities is headed to Greater Boston, but many travel patterns point to real opportunities for shifting trips from car to rail. In short, this is where the line can turn a **could-ride into a do-ride**.

VEHICLE MILES TRAVELED (VMT)

Getting a sense of how much people drive in these communities can clarify just what the need might be. One way to do this is through "Vehicle Miles Traveled" (VMT), or, the number of miles put onto vehicles ***registered*** in these communities. Massachusetts provides this information in the "Massachusetts Vehicle Census," a repository of data from the Registry of Motor Vehicles, that keeps broad track of odometer level readings from inspections and car registrations stretching back to 2020. The data here represents VMT for all vehicles registered in a community, not simply private passenger vehicles.

VMT is higher in communities with greater populations. After all, if each person drives 1,000 miles a year, the community with 10,000 residents will have twice the VMT of that with 5,000. The 38 communities along the corridor include Massachusetts' two largest cities, along with communities with fewer than 10,000 residents. To compare them, we can normalize this data using VMT per capita. For the most part, in this dataset as population increases, VMT per capita decreases. The largest communities have lower VMT per person than the smallest!

Of these communities, Sutton has the most VMT per capita, while Cambridge has the lowest. Sutton, is, however, the 33rd largest community in the data set, and Cambridge is 3rd! Interestingly, while most of these 38 communities fit neatly on a trendline, there are some

standouts. Framingham, Worcester, and Boston, for example, have slightly higher VMT than expected, and Brookline and Cambridge have a lower amount.

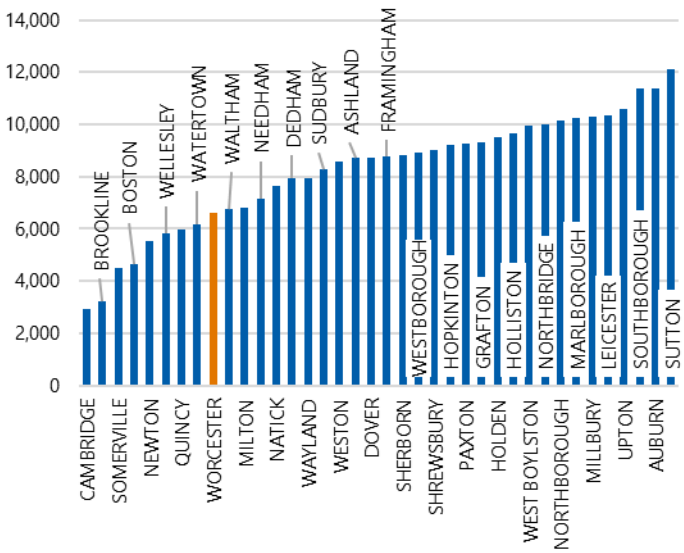
One standout in these tables is Marlborough. While the rest of the top 10 communities in VMT per capita have the smallest populations, Marlborough's ranks 10th – above even Watertown and Wellesley, which are in the bottom 10 communities in VMT per capita. Southborough has a stop on the Worcester/Framingham Line but has the third highest VMT per capita in this dataset. While many of the residents of these communities would have to drive to access the Worcester Line in the first place, if there are some who are currently driving to a community served by it, rather than actively using it, mode switch might lower these VMT (so long as they are going to Boston anyway). Even outside of the commuter rail, these are communities worth looking at for expanded bus service, and new pedestrian and bicycle infrastructure.

Map 1, on the next page, shows 2024 VMT per capita in Worcester/Framingham Line communities. The darker the blue on the map, the higher VMT per capita was compared to other municipalities on the map.

While Boston has by far the largest population on the map, it does not have smallest VMT per capita. That distinction belongs to Cambridge, at 2,937 vehicle miles traveled per person

What does VMT, in these communities, tell us? Although we do not know, for example, the origins and destinations of any of the miles traveled by any of the vehicles in the dataset, we can tease out a few important conclusions. For example, at first glance, communities with more transit access have lower VMT per capita. Community density might mean that workers and residents need to drive less to get to where they're going. Driving dozens of miles daily on a commute will also add to a community's overall VMT. Multiplied across hundreds or thousands of commuters, this quickly adds up. More riders on commuter rail across the Worcester/Framingham Line, then, could decrease VMT in these communities. Decreased VMT could in turn see less congestion on roads and highways, and even better air quality, across many of these communities.

Figure 1: 2024 VMT Per Capita, 38 Selected Worcester/ Framingham Line Communities (Worcester in orange)



Source: Massachusetts Vehicle Census; 2024 U.S. Census Bureau Population Estimates

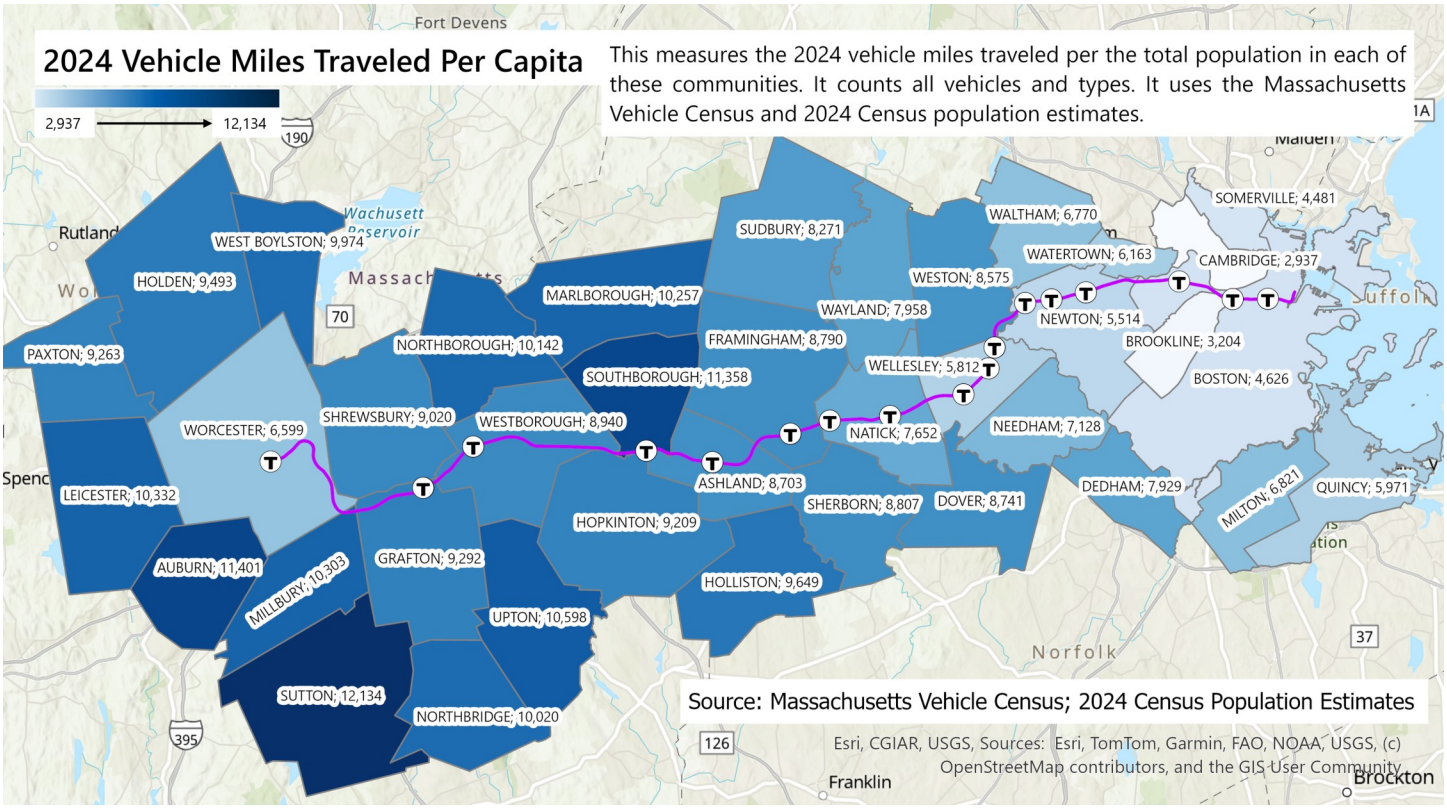
Why might Somerville, Brookline, and Cambridge have the smallest VMT per capita on the map? After all, they each have a higher population than almost all the communities listed. Moreover, if one were to look at a trendline of VMT compared to overall population, each of these communities is below the trendline, i.e., less VMT than expected! One cursory explanation is that there is a lot more access to public transit in these communities, such as light and heavy rail (i.e., different forms of what we might call the subway) than in Framingham. Another possible explanation is that higher population density may reduce overall VMT, as residents may need to travel less to get to where other residents, employers, and activities

Table 1: Top and Bottom 10 Communities in VMT per Capita, 38 Selected Worcester/Framingham Line Communities

Top 10 Communities for VMT Per Capita			Bottom 10 Communities for VMT Per Capita		
	VMT Per Capita	Population Rank		VMT Per Capita	Population Rank
Sutton (1)	12,134	33	Waltham (29)	6,770	8
Auburn (2)	11,401	24	Worcester (30)	6,599	2
Southborough (3)	11,358	32	Watertown (31)	6,163	13
Upton (4)	10,598	34	Quincy (32)	5,971	4
Leicester (5)	10,332	31	Wellesley (33)	5,812	15
Millbury (6)	10,303	28	Newton (34)	5,514	5
Marlborough (7)	10,257	10	Boston (35)	4,626	1
Northborough (8)	10,142	26	Somerville (36)	4,481	6
Northbridge (9)	10,020	25	Brookline (37)	3,204	9
West Boylston (10)	9,974	35	Cambridge (38)	2,937	3

Source: Massachusetts Vehicle Census; 2024 U.S. Census Bureau Population Estimates

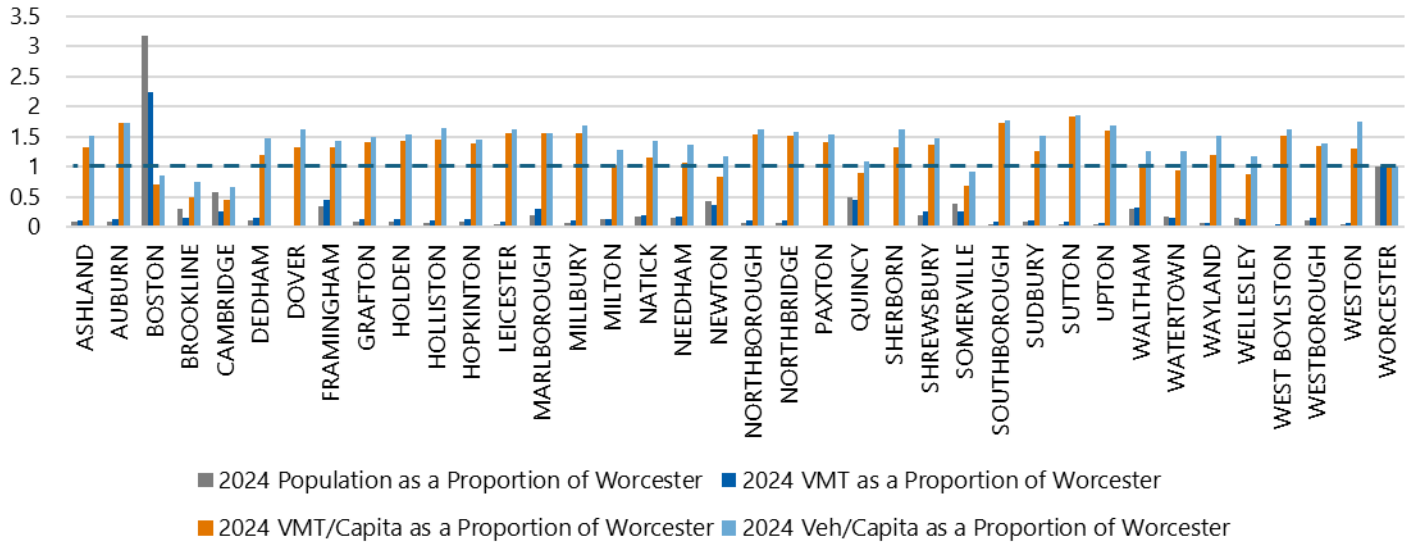
Map 1: 2024 Vehicle Miles Traveled Per Capita, 38 Selected Worcester/Framingham Line Communities



might be.[1] These three communities also have far fewer cars per capita than nearly all the others under study – Cambridge and Brookline have the fewest, Somerville has slightly more than Boston, and Worcester is in fifth place. A final explanation, especially in the case of Cambridge, Somerville, and Brookline, is that some vehicles commonly found on their streets may be registered elsewhere. For example, buses may be registered in Boston but used in these three communities, contributing to Boston's count, but not the others.

Although Worcester isn't the only Worcester/Framingham Line community, using it as a comparison point can be helpful in really understanding what we're looking at. The following table does just that comparing population data, total VMT, VMT per capita, and vehicles per capita of each of these communities to Worcester.

Figure 2: Proportional Comparisons to Worcester (Worcester is 1)



Source: Massachusetts Vehicle Census; 2024 U.S. Census Bureau Population Estimates. Dotted line indicates Worcester as baseline.

For example, Boston has 3.18 times the population and 2.23 times the VMT of Worcester but only has 0.7 times the amount of VMT per capita. Indeed, while nearly all the communities on this list have smaller populations and VMT than Worcester, only eight also have less VMT per capita.

The communities with less VMT per capita as a proportion of Worcester's are also, almost exclusively, those communities with access to robust public transit options, and which are closer, overall, to the job centers in the Greater Boston area. In the next section, we will look at commuting patterns, access to public transportation, and more to help understand this.

TRAFFIC AND COMMUTING

In *Express for Whom?* The Research Bureau noted that in Worcester there were only about 5.79 riders per 1,000 workers (16 and over) indicating that they were using commuter rail primarily to get to work in the 2023 5-YR American Community Survey, while there were 774.38 drivers per 1,000 workers. **Put differently, Worcester has roughly 134 drivers for every one commuter rail rider.** Looking at just those with long commutes (45 minutes or more), the number of riders per 1,000 workers grows to 38.46, but the number of drivers grows to 870.66, still more than 22 drivers for every one rider! While many workers tend to work in their community of residence, there are still, again, even just from Worcester, potentially thousands of commuters who could use the Worcester/ Framingham Line but, for one reason or another, choose to drive instead.

Across the 38 communities that we've identified as Worcester/Framingham Line communities, the 2022 Longitudinal Employer-Household Dynamics dataset (a Census Bureau program that provides general data about where people work) gives us information for 869,804 workers with **workplaces in Massachusetts** (working primary jobs only – i.e., not counting "second" jobs). Of those, 659,919 (or 75.9%) work in one of the 38 communities.

Table 2 shows the number and percentage of workers going to selected communities from among the 38 communities. **For example, there are 298,150 workers from these communities who report going to work in Boston – that's 34.28% of all workers going to work anywhere in Massachusetts from one of these communities, or 45.18% of all workers reporting going to work in one of the 38 communities on the line.** The rest of the table shows the top six destinations for workers from these communities. In the top six Worcester Line (home) to Worcester Line (work) flows, only Worcester and Boston report having more workers staying within their community to work than going elsewhere – **almost 55% of Worcester Line residents working in either Worcester or Boston also live in that community (shown in Table 3)**.

All told, hundreds of thousands of residents living in these communities commute to one of the other communities accessible, or potentially accessible from the line. The potential for transformative change, if drivers feel that the commuter rail is worthwhile, is enormous. Still, many residents might only commute to communities that have direct access to commuter rail stations. So what does that look like?

Table 4, on the next page, results when selecting ***only*** residents from communities with a Worcester line stop going to other communities with Worcester Line stops. The first column shows the workplace destination. The

Table 2: 2022 Workers (with Primary Jobs) from Worcester Line Communities

		Total	Percent (A)	Percent (B)
Workers with Primary Jobs in Massachusetts (A)		869,804	-	-
Worcester Line Workers Working Within 38 Line Communities (B)		659,919	75.87%	-
Worcester Line Workers Working in Selected Communities (Top Six Destinations)	Boston	298,150	34.28%	45.18%
	Cambridge	73,109	8.41%	11.08%
	Worcester	52,428	6.03%	7.94%
	Waltham	27,068	3.11%	4.10%
	Newton	24,692	2.84%	3.74%
	Framingham	20,276	2.33%	3.07%

Table 3: 2022 Workers (with Primary Jobs) coming from Worcester Line Communities, but Do Not Live in Listed Communities (Top Six Destinations)

Commuting to:	From Outside	Percent
Boston	135,089	45.31%
Cambridge	56,595	77.41%
Worcester	23,177	44.21%
Waltham	21,738	80.31%
Newton	20,177	81.71%
Framingham	15,566	76.77%

Source: Tables 2 and 3 from U.S. Census Bureau, Longitudinal Employer-Household Dynamics Program, 2022 Data

Table 4: Workers Going to These Communities from Other Communities with Direct Stops on Worcester Line			
Workplace	Workers from Other Communities with Stops (A)	Workers from any Worcester Line Community (B)	(A) as a Percent of (B)
Ashland	855	1,647	51.91%
Boston	31,879	135,089	23.60%
Framingham	7,786	15,566	50.02%
Grafton	803	1,730	46.42%
Natick	5,166	9,074	56.93%
Newton	10,890	20,177	53.97%
Southborough	1,599	3,384	47.25%
Wellesley	4,101	7,428	55.21%
Westborough	4,583	9,127	50.21%
Worcester	5,051	23,177	21.79%

Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics Program, 2022 Data

second column shows those residents from any of the communities listed going to that workplace, EXCEPT it does *not* include workers from that community (so the Ashland number does not include Ashland). The third column is the number of workers going to that community from any of the 38 communities, except for workers from that community. The final column is the second as a percent of the third. In the cases of Ashland, Framingham, Natick, Newton, Wellesley, and Westborough, more than 50% of workers along the Worcester Line are coming from one of the other communities with direct access to the line.

In *Express for Whom?* The Research Bureau used the MBTA and MassINC Polling's 2024 station boarding data to determine how many people were taking trains in- and out-bound on a typical day. The report noted that an estimated 7,325 people took the train inbound (towards Boston), while 7,613 reported alightings going outbound (away from Boston). Even if every single one of the people taking the train in and out were going to work (never mind going home after work), lived in a community with a direct stop on the line, and worked in a community with a stop, those riders would only account for 21% of workers making that same commute. If we made the same assumptions but expanded it to workers going from any of the 38 communities to those communities with direct stops, those riders would still only account for 6.6% of workers making the same commute. But of course, those are perfect hypotheticals – in reality, as *Express for Whom?* showed – in the 2023 MBTA Passenger Survey it's known that only about ***half*** the surveyed Worcester Line riders took commuter rail to work. That means that there is an even *smaller* percentage of total workers using the commuter rail for commuting purposes from one of these communities to another. Moreover, it is *not* only residents of direct stop or adjacent communities that are using the rail – there is certainly some percentage of riders from outside that catchment area. In other words, this demonstrates that there is **enormous** potential to capture riders **EVEN JUST** in communities that have direct stops. And that's just *workers* – not even the other half of riders who take the train for many other purposes![2]

One more metric might help drive this point home, and that is traffic counts along I-90 (the Massachusetts Turnpike, or "MassPike"). Different communities might have different means of reaching their destinations, but I-90 is a major access point that generally follows a parallel path to the Worcester/Framingham Line. Using data from MassDOT from gantries along the MassPike between Worcester and Boston can give a good idea of how much *vehicle* traffic there is daily (see **Map 2 on the following page**).

Of course, the following data includes not just workers from Worcester Line communities, but travelers of all kinds (including commercial traffic), at all times of day, moving for any purpose. Moreover, many of the drivers on the MassPike may come from communities further West, since the Pike crosses the entirety of the Commonwealth. Still, the following map was constructed using annual average daily traffic (AADT) data collected at the eight gantries between Worcester and the Ted Williams Tunnel. AADT measures annual traffic counts divided by 365 to get an average estimate for each day – which in this case includes weekends. The majority of these gantries averaged more than 100,000 vehicles a day!

While not every trip taken on the MassPike could feasibly be replaced by rail, even a small percentage of mode shift could be transformative. Let's take the Weston numbers as an example. The AADT through the Weston gantry was 128,552 vehicles in 2024. In 2024, also, there were an estimated 14,394 boardings each weekday on the Worcester/Framingham Line. While some percentage of these gantry numbers consist of vehicles carrying more

than one occupant, and some of these vehicles are not passenger vehicles, if we imagine that all 128,552 vehicles were single occupancy passenger cars, a shift of two percent from car to rail would mean at least 2,500 more riders a day. This mode shift would be small for the total number of cars going through Weston, but would constitute nearly an 18% increase in the number of daily riders. While mode shift is extraordinarily difficult (and it is difficult to overcome driver inertia and preference for driving), what this shows is that even small shifts from one mode to another would materially affect ridership on the Worcester Line. Capturing even a small portion of these drivers daily would substantially boost the Worcester Line's ridership and cut down on highway traffic.[3] Fast, reliable, and unimpeded service is key to grabbing those drivers. Moreover, **this also makes plain the importance of maintaining steady Worcester Line service through the Allston Multimodal Project** (described later) **as some drivers may opt to take the train instead of driving through construction in Allston – especially as construction may cause significant delays and headaches to drivers.**

MOBILITY CONNECTIONS

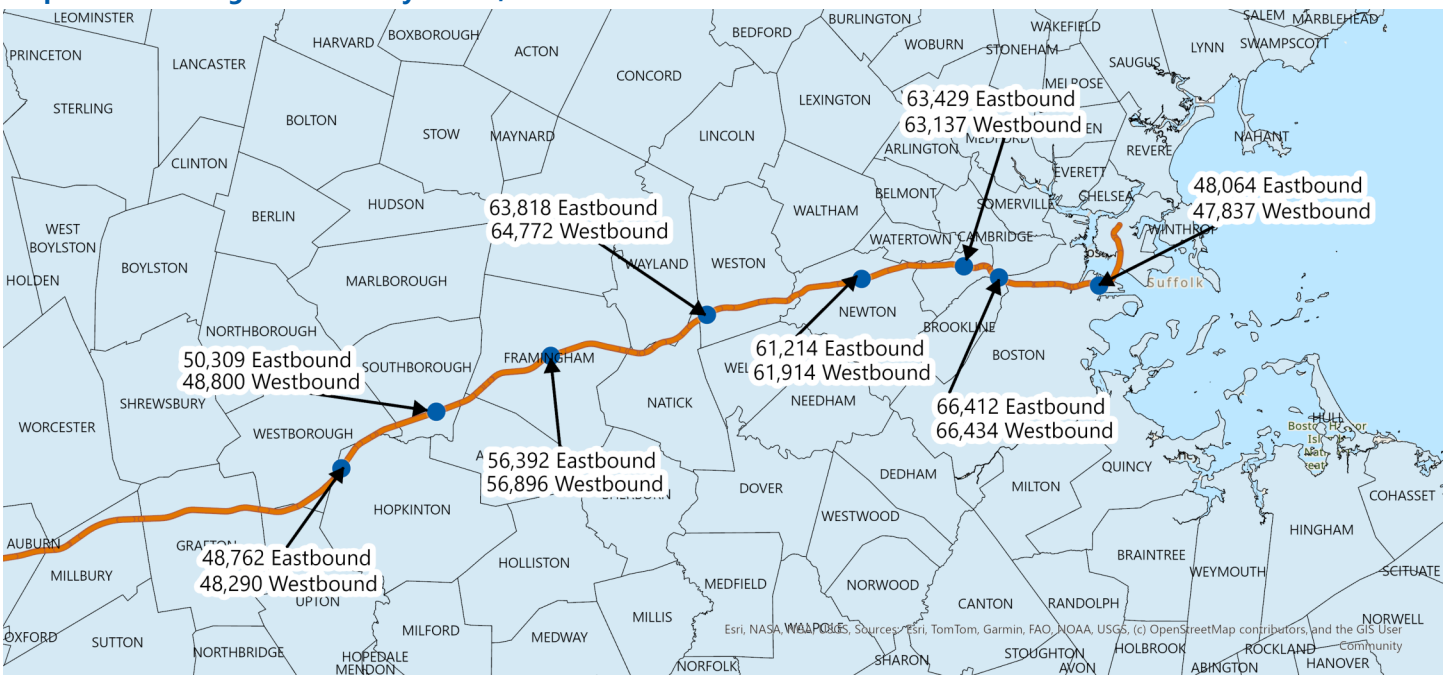
While the Worcester/Framingham Line is a big asset to all the communities that might use it, how do people access it? Many riders are likely driving to stations and parking nearby, as most of the stations have daily parking lots. However, some might choose to access the trains in a different way – walking, biking, or through public transit. Additionally, once someone *gets off* the train, they need some way to get to where they're going. So what do those connections look like?

First, let's consider the access households might have to vehicles in the communities with direct access to the line. For the most part, the American Community Survey indicates that the majority of occupied households in communities with direct access have at least one vehicle available to them. Studies have shown that there is a relationship between transit use and private vehicle ownership; in other words, transit users, for one reason or another, tend to have less access to private vehicles: "In most of the US, public transportation is used disproportionately by people who have limited access to cars … transit, for this group, is a mobility safety net: a public option for moving through landscapes planned around private vehicles" (Manville et al., 2023, p. 304).

The charts on page 10 **(Figures 3, 4, 5, and 6)** show household vehicle access in communities with direct access to the commuter rail line. In other words, communities with stations. These are the communities where lack of access to a car might not preclude someone from taking the rail.

Boston is the only community among these ten that has more households with no vehicles than those with two or more. Worcester has the second highest proportion of households without vehicles, and, like Boston, is the only community where a plurality of households have one vehicle. Of the 38 communities with direct access to the line (or touching one that does), those with higher

Map 2: 2024 Average Annual Daily Traffic, MassPike Toll Gantries East of Worcester



Source: Massachusetts Department of Transportation, Traffic Volume and Classification Data

population densities have fewer households with two or more vehicles; while communities with higher household median incomes have more households with two or more vehicles (see the appendix for scatterplots of this behavior).

Communities with more fixed route bus stops also have fewer households that report having two or more vehicles (this is true even without Worcester and Boston in the dataset, which have over 1,000 and 2,000 bus stops respectively). In other words, communities with the most transit access – i.e., the most mobility options – are also those with more households with one or fewer cars.[4]

All this is to say that there is a sizable percentage of households in these communities with one or fewer vehicles available to them. Access to something like the commuter rail (and not to mention buses or other forms of transit) is crucial to many of them. And, there are a sizable percent of households that have workers but an incongruous number of vehicles (i.e., households with one or more workers and zero vehicles, or two or more workers with zero to one vehicle). Part of that might be due to hybrid or remote work, but it is still an important factor worth noting.

Since private vehicles can be expensive to purchase and maintain, access to them can depend on income. Indeed, "transit riders are significantly more likely than the general population to be poor … in 2016, just over 20% of riders came from households with incomes under $15,000, which is almost twice the share of US households that have incomes below that threshold" (Manville et al., 2023, p. 306). On the other hand, *affluent* transit riders also make up a large share of riders: "just over 20% of transit riders, meanwhile, came from households with incomes over $100,000; 26% of US households overall fall in this group" (306). If we look at the share of public transit users by worker income in the communities with access to commuter rails, we will find that the largest shares of riders using public transit to get to work are in the top income bracket; however, they make up a very small portion of total users at those brackets. (And, it should be noted, Manville et al., posit that affluent riders may be found in areas where built conditions make vehicle ownership difficult). Moreover, wealthier riders in the communities closest to Boston that are taking public transit to work could be commuter rail riders anyway, using transit to access Boston most of all.

In terms of what is near the stations themselves and given the lack of vehicles in some of these communities, it could be useful to think about sidewalk access. MassDOT has a map of pedestrian facilities online, which includes sidewalks. Their maps were constructed using aerial photography. **Map 3,** "Sidewalk Networks within a Mile of Worcester/Framingham Line Stations," is on **page 11** and shows an estimate of sidewalks existing anywhere within a one-mile radius of these train stations.[5] Many riders, especially from communities without stops, may use their vehicles to access the train station. But sidewalks play a crucial role in getting other riders to and from stations.

While **Map 3** shows dense sidewalk networks in the most urbanized communities (Worcester, Newton, and Boston, as well as to a lesser extent Framingham and Natick), there is a lack of sidewalks near Grafton, Westborough, Southborough, and Ashland stations. Stations in these four communities are not centrally located or in particularly dense locations, as they were designed originally as "park and ride" stations, built in the late 1990s after service from Worcester began on the line in 1994. On the other hand, besides the large population differences, Worcester and Framingham's stations are located directly downtown. Despite the relative lack of sidewalk access in the communities directly between Worcester and Framingham, there are still a large number of riders boarding there, indicating that there is strong usage of the parking lots abutting these stations (there are 386 spaces in Grafton, 448 in Westborough, 372 in Southborough, and 678 in Ashland).

Of course, for the more suburban lots with little sidewalk access, riders could be dropped off by others. Sometimes called "Kiss and Ride," passenger drop off can be an attractive method of getting to a commuter rail station without access to an additional vehicle, or worrying about finding or paying for parking. There is unfortunately no data on how people get to the stations. Still, station design could encourage or allow for increased drop-offs (Schank, 2002). A more detailed study could examine station attributes to determine whether they are more or less friendly to drop offs. For example, a cursory look at Grafton's Station might tell us that passenger drop off could be designed differently – when one drives into the station lot, they are initially forced to drive around the parking lot to turn around, which might discourage drop offs. Perhaps a rotary at the beginning of the station could enable turn arounds more efficiently, but more work would need to be done to really see how different designs might affect this.

It should be noted that **Map 3** says nothing about sidewalk conditions. Noting that a sidewalk exists is different than whether it is accessible. Still, the presence of sidewalks also means that they can be improved if necessary.

Figure 3: Percent of Occupied Households Indicating the Availability of Zero or More Vehicles

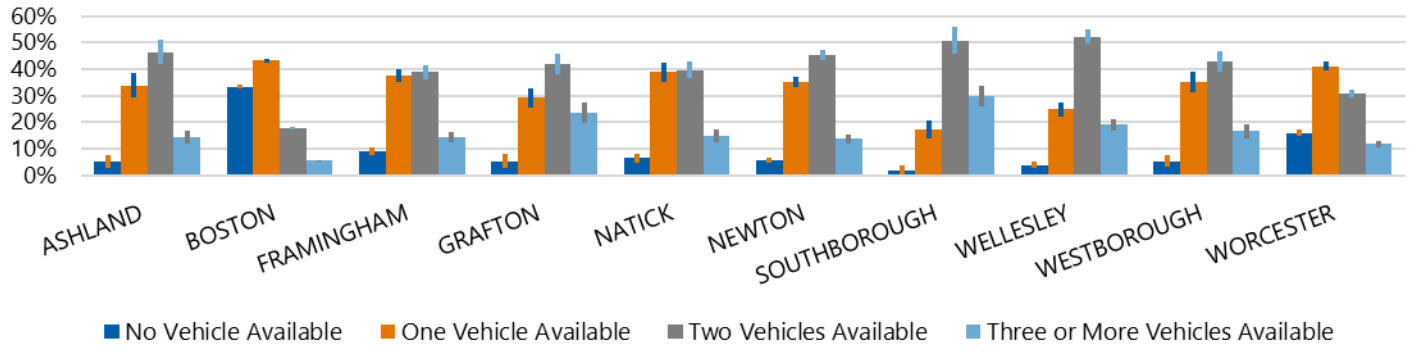


Figure 4: Percent of Occupied Households with Number of Workers and Vehicles Available to Them

Figure 5: Workers Using Public Transit to Get to Work, Separated by Worker Income (Compared Only to Each Other)

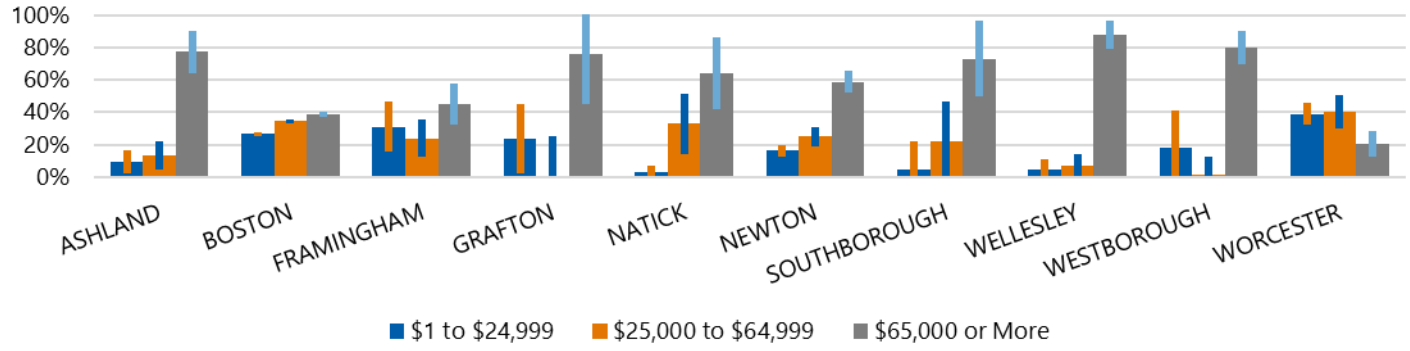
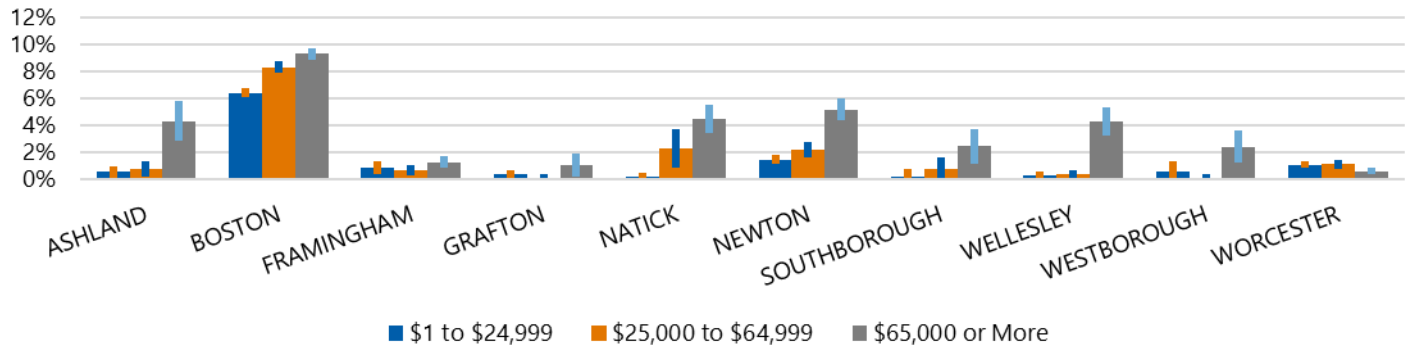
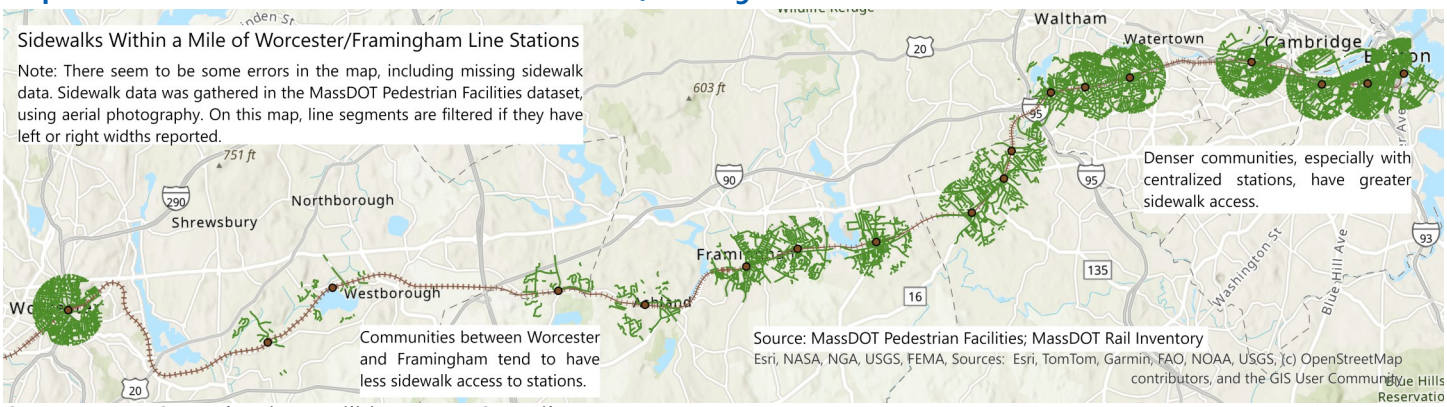


Figure 6: Workers Using Public Transit to Get to Work, Separated by Worker Income (Compared to all Other Workers)



Sources: Figure 3 – American Community Survey, 2023 5-YR Estimates, Table DP04 ("Selected Housing Characteristics").
Figure 4 – American Community Survey, 2023 5-YR Estimates, Table B08203 ("Number of Workers in Households by Vehicles Available").
Figures 5 and 6 – American Community Survey, 2023 5-YR Estimates, Table B08119 ("Means of Transportation to Work by Workers' Earnings in the Past 12 Months (in 2023 Inflation Adjusted Dollars)"). Lines on bars indicate the estimated margin of error for each estimate. Larger communities tend to have smaller margins of error. If the line goes to zero, that may mean that the estimate is fairly unreliable, as the margin could potentially turn "negative."

Map 3: Sidewalk Networks within a Mile of Worcester/Framingham Line Stations



Source: MassDOT Pedestrian Facilities; MassDOT Rail Inventory

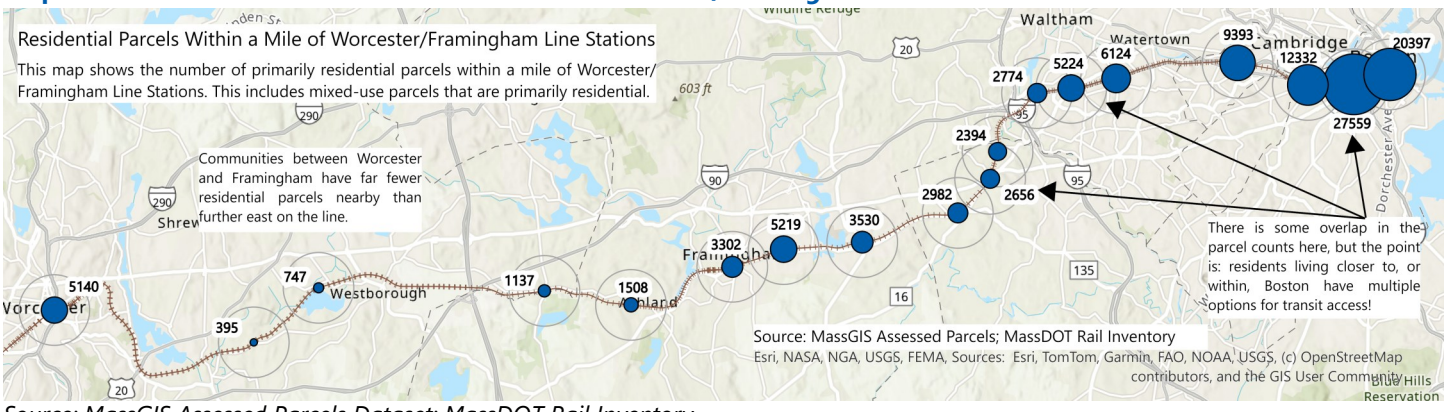
Sidewalk connections are good – crucial for access. However, there are limits to how far people will walk to access public transit. Many planning guidelines "often use one-quarter mile or 400 meters, or multiple such as one-half mile or 800 meters, as key distances in networks and service planning" (Daniels & Mulley, 2013, p. 6). However, the true limit that people might be willing to walk may differ widely depending on a large number of factors, including ambience, aesthetics, the characteristics of the built environment, amenities, natural environment, and the types of transit being accessed (2013, p. 7). Indeed, "there is little scientific evidence to support any standard catchment zone definition" (Durand et al., 2016, p. 2). Some research has shown that people might be willing to walk from even further away (2016, 6), though one would need to do more in-depth research on individuals living close to stops to determine how far they would be willing to walk for transit access. Moreover, just as with the passenger drop-offs discussed above, studies of these stations could provide details on station design and access that might encourage different methods of access – and may also show zoning and other difficulties for increasing sidewalk access. In any case, these next two maps will shed some light on what's near these sidewalks.

First, **map 4** shows the number of residential *parcels* within a mile of each of these train stations. Given that these are parcels, the number of housing units per-parcel has a relatively wide range. Results are as expected: there are more residential parcels closer to stations in dense urban areas.

The map includes mixed-use parcels that are classified as primarily residential. There is some overlap in parcel counts if the mile-radii overlap, but that also tells us something important – many residents along the eastern parts of the Worcester/Framingham Line have a lot more options for transit access than do those along the western sections.

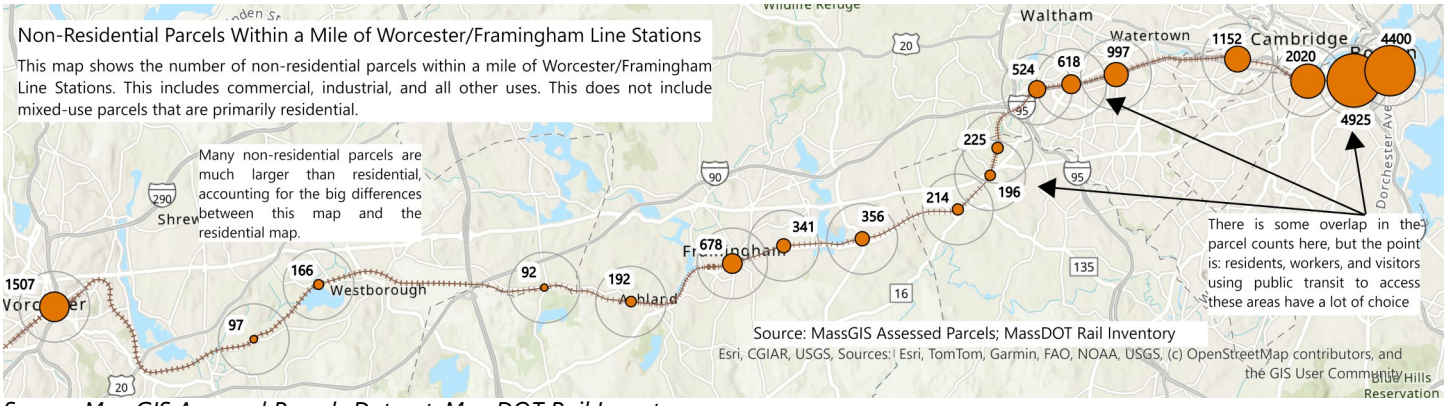
While parcel counts (of any particular type of parcel) near stations could be difficult to increase, these maps give us some insights into what might need to be done on a community-by-community basis to encourage ridership. In combination with the sidewalk maps, for example, we know that Grafton and Westborough have very few residential parcels and lack widespread sidewalk access near stations. We also know that these are communities with high numbers of households with two or more vehicles. If we want to encourage more riders to get on the commuter rail, these are communities where station

Map 4: Residential Parcel Counts within a Mile of Worcester/Framingham Line Stations



Source: MassGIS Assessed Parcels Dataset; MassDOT Rail Inventory

Map 5: Non-Residential Parcel Counts within a Mile of Worcester/Framingham Line Stations



Source: MassGIS Assessed Parcels Dataset; MassDOT Rail Inventory

design (such as distinct and easy-to-access passenger drop off) could tip the scales beyond what the parking lot allows for. Shrewsbury, Westborough, and Southborough has the WRTA's VIA service, which can pick up riders and bring them to the MBTA station directly from their homes. Marlborough has a shuttle through the Marlborough Economic Development Corporation that goes to the Southborough station. The MetroWest Regional Transit Authority has commuter shuttles, such as the 495 Connector, that bring residents in that region to commuter rail. Grafton, on the other hand, has fixed route service (WRTA Route B) that does stop at the Grafton Station, but many riders might still need to figure out how to access that service. Could a similar system to VIA, in communities with lower density, help boost ridership? It could be worth looking at these communities – using these maps – to make station design changes that could encourage ridership.

Similarly, there are more non-residential parcels within a mile of urban train stations. The following map shows the count of all non-residential parcels (which includes commercial, industrial, and other types of parcels, as train riders take the train for reasons other than work as well). In this case, there are significantly more non-residential parcels in Worcester and Boston than in other communities on this map. Among other things, this indicates more varied land use for non-residential purposes and generally smaller parcels.

There is plenty of potential on the Worcester/Framingham Line. Whether it is in the communities directly abutting stations, or the communities next to them, the demand exists. Providing more reliable, fast, and efficient service, to places riders want to go, is absolutely key to getting more of them onto the train. The next section details the "vision" – i.e., the ongoing infrastructure investments that can take these communities to where they want to be. Towards the end of "The Vision," this report will touch on some theoretical and future investments that could really transform the Worcester/Framingham Line for all of its current and future riders.

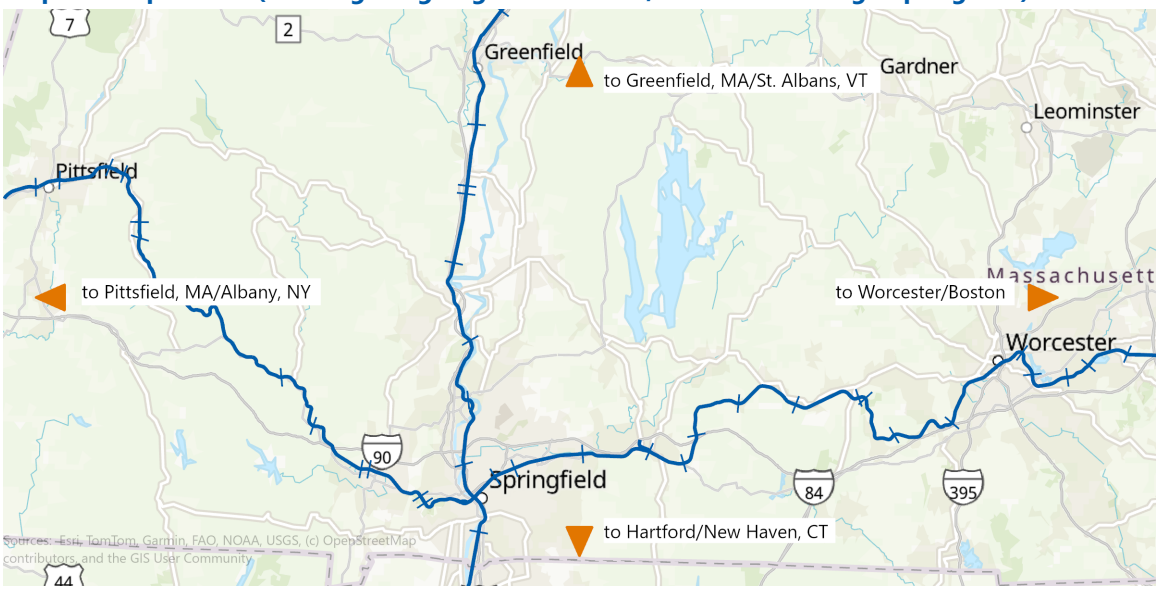
THE VISION

The Worcester/Framingham Line is at the *center* of multiple, years long projects meant to better knit together the Commonwealth of Massachusetts. For that reason, an elevated appreciation of its importance in these projects is vital for truly understanding its promises. There are two main projects in which the Worcester/Framingham Line plays a role: (1) the Allston Multimodal reconstruction and (2) Compass Rail. Compass Rail is an all-encompassing term indicating rail radiating from all directions in Springfield and includes "West-East Rail" as a vital part of that vision (Disclosure: WRRB Executive Director and CEO Paul Matthews served on the East-West Rail study advisory committee)

Maps 6, 7, and 8, on the following page, show the proposed West-East Rail line and the current extent of I-90, Compass Rail, and the Allston Multimodal Project.

Map 6: West-East Rail and I-90, Including Existing and Proposed Stations

Map 7: Compass Rail (showing rail going North-South, East-West through Springfield)



Map 8: The Location of Allston Multi-Modal Project

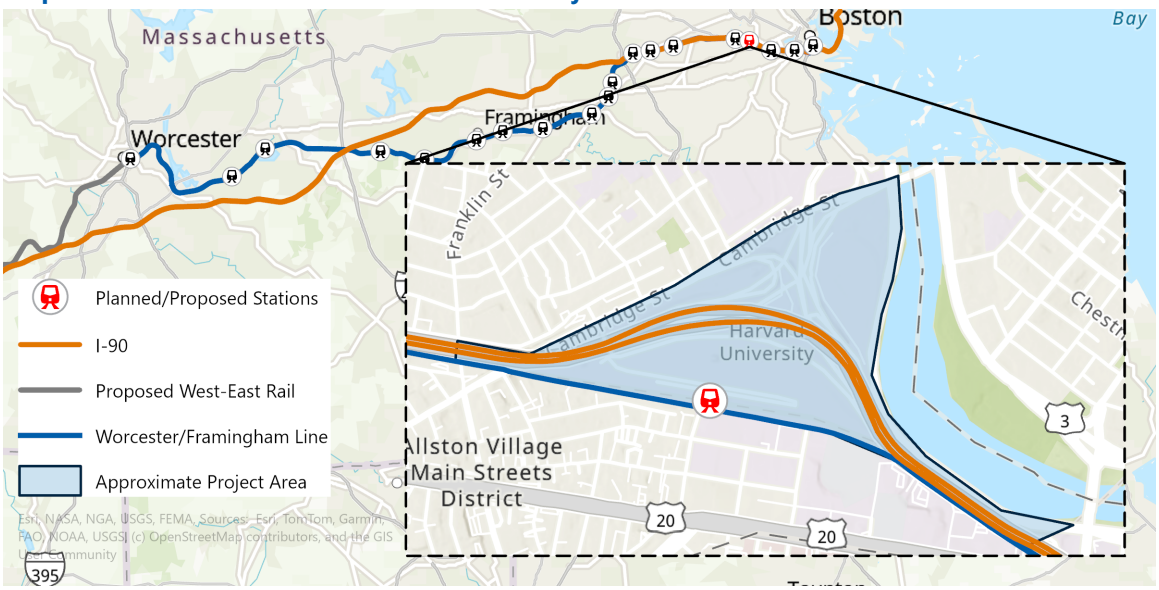


Table 5: Major Projects, What they Are, and Why They Matter			
Major Project	**What it Does**	**Impacts on Riders**	**Why it Matters**
Allston Project: Highway Reconstruction	Straightens I-90; Brings it to grade level; Opens other Development Opportunities	May impact train maintenance **if** access to Grand Junction (and the Boston Engine Terminal) is cut off temporarily	Construction will disrupt and limit highway traffic while it is ongoing; Might encourage more riders on Worcester Line as a result
Allston Project: West Station	New train station and a bus concourse with connections to Cambridge and beyond; could allow for future rail connections to North Station via Grand Junction	Riders may have another station to stop at on Worcester Line, with bus connections elsewhere	Riders working in Allston will have an easier time accessing jobs, and Allston residents will have an easier time accessing Worcester Line to go East or West
Compass Rail	New west-east train connections to Springfield enable existing north-south connections	Riders from Pittsfield to Boston can take a train to Springfield and connect to north-south trains to go elsewhere in New England	Knits together communities from across New England, creating new opportunities for residents and communities
West-East Rail	Connects Pittsfield to Boston on existing train tracks, through multiple daily roundtrips	Riders east and west of Worcester who want to reach communities in the other directions will be able to do so	Connects Massachusetts' three largest cities, creating opportunities for economies, travel, and education
Various Infrastructure Improvements	Maintains and improves existing infrastructure across Worcester Line	Creates more reliability, faster boarding, and unlocks increased speeds across the line	Infrastructure is a necessary component of rail. Improvements create better experiences for riders, enhancing reliability, speed, and accessibility

To help understand these projects and their impacts, **Table 5** quickly summarizes them. More details follow in the text, throughout the next few sections.

The Allston Multimodal Project could unlock new connections to Greater Boston. This report will discuss that project first.

THE ALLSTON MULTIMODAL PROJECT

The Allston Multimodal Project (hereafter, "Allston I-90" and "Allston Project") is primarily a large reconstruction of a section of I-90. It will bring an elevated section of the MassPike down to ground level, straighten I-90 from its current configuration, and reconnect neighborhoods in Allston to the Charles River. The elevated viaduct in the area is reaching the end of its viable lifespan and must be replaced.

The MassPike follows the Worcester/Framingham Line closely here. Anyone travelling, whether by car or train, can see the other in action. While highway construction could impact service, it could also lead to more people taking the line more regularly.

Besides the potential for driver mode shift, the Allston Project will create new connections to Greater Boston. The project will not impact the line simply by being built around it. Instead, as planned, it is likely to see:

1) A brand-new train station, "West Station," and attendant connections
2) Layover railyards
3) Potential, though not guaranteed, closure of the Grand Junction bridge during construction, which could impact maintenance

After a short background on the overall project, this report will briefly discuss each of these project aspects.

SHORT BACKGROUND

The Allston Project has been in the works for more than a decade. The project partially encompasses a viaduct, and concerns an area built between Boston University and the Charles River, across former CSX railyards and navigates a maze of on and off ramps where toll booths were once located. The MassPike viaduct requires significant maintenance work to remain in service and is reaching end of life. The project **would not be possible without the 2012 relocation of CSX intermodal operations to Worcester**, nor without the switch to electronic tolling gantries across the MassPike (Saia, 2012).

The Allston Project will be incredibly expensive. In 2024, Streetsblog Mass reported that MassDOT estimated a $2 billion price tag in a 2022 federal grant filing (MilNeil, 2024a). That number has surely grown, as construction costs have seen significant inflation in recent years: between Q1 2022 and Q1 2025, the National Highway Construction Cost Index (NHCCI) increased by 38.6%.[6] The project has faced some recent funding hiccups: in July 2025 the Federal Highway Administration rescinded a $327 million Neighborhood Access and Equity Program grant (Paiewonsky, 2025). Still, that grant represents only a small piece of the total price it will cost to complete the overall project.

Moreover, Streetsblog has reported that some of the $2 billion has been accounted for: $470 million in new state debt, $450 million from the Fair Share Amendment, $200 million from Turnpike tolls, $200 million from Boston, $90 million from Harvard University (who owns much of the land that will be under construction), and $10 million from Boston University (2024). While the $327 million is a blow, MassDOT has also indicated that it is working with consultants to determine a way forward and cost savings (MassDOT, 2025b).

THE TRAIN PROJECTS

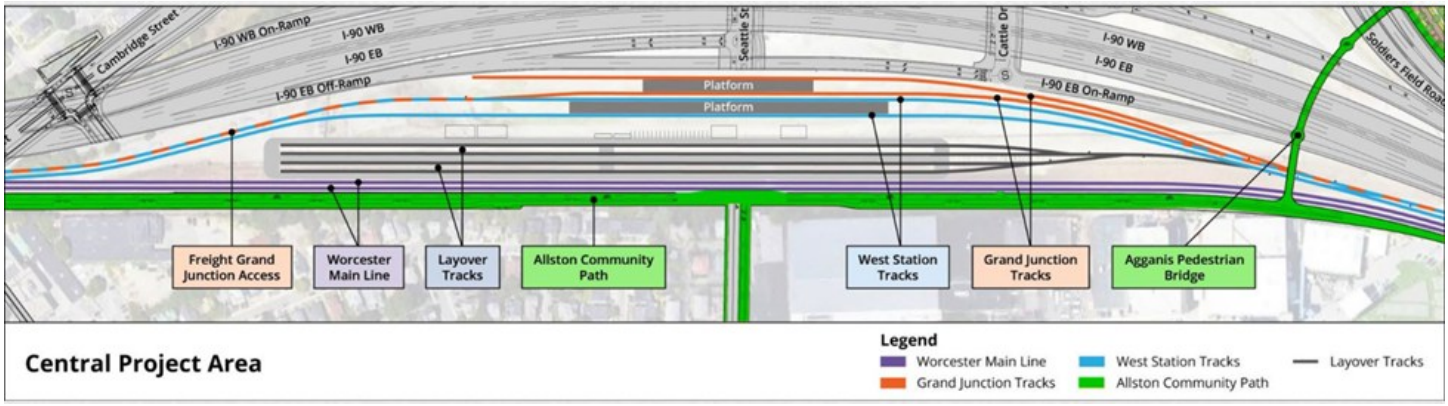
While the highway work is significant, the Worcester/Framingham Line is the focus of this report and will be impacted by the new construction.

(1) West Station

West Station would be an **entirely new station** on the Worcester/Framingham Line, halfway between Boston Landing and Lansdowne Stations. West Station would provide additional transit options for Allston residents and the area's many students, and would, crucially, open opportunities for future connections beyond the Worcester Line, including to new and existing MBTA bus lines through the area.

West Station's design has gone through several iterations. The current draft design, pictured in **Map 9**, shows separate Worcester/Framingham Line, West Station, and Grand Junction trackage. That design allows express trains to bypass West Station (without having to pass through it), others to stop at West Station and then rejoin the main line, and for potential future service to use Grand Junction. It gives Worcester/Framingham Line riders future travel options: they can bypass West Station on express, stop and make Allston connections, or someday make connections to Cambridge via the Grand Junction railroad. The design also includes layover tracks for MBTA operations. According to the MBTA's rail operations presentation at the 12/11/2025 meeting of the Allston Task Force, "across all [modeling] scenarios, Worcester line service performed best with two Worcester Mainline Tracks and two separate West Station tracks. [These tracks] minimized average train delay during service disruptions and led to a higher average on-time performance" (MassDOT, 2025c, p. 41).

Map 9: Future Potential Design of West Station Track Layout, as Presented to Allston Task Force in June 2025



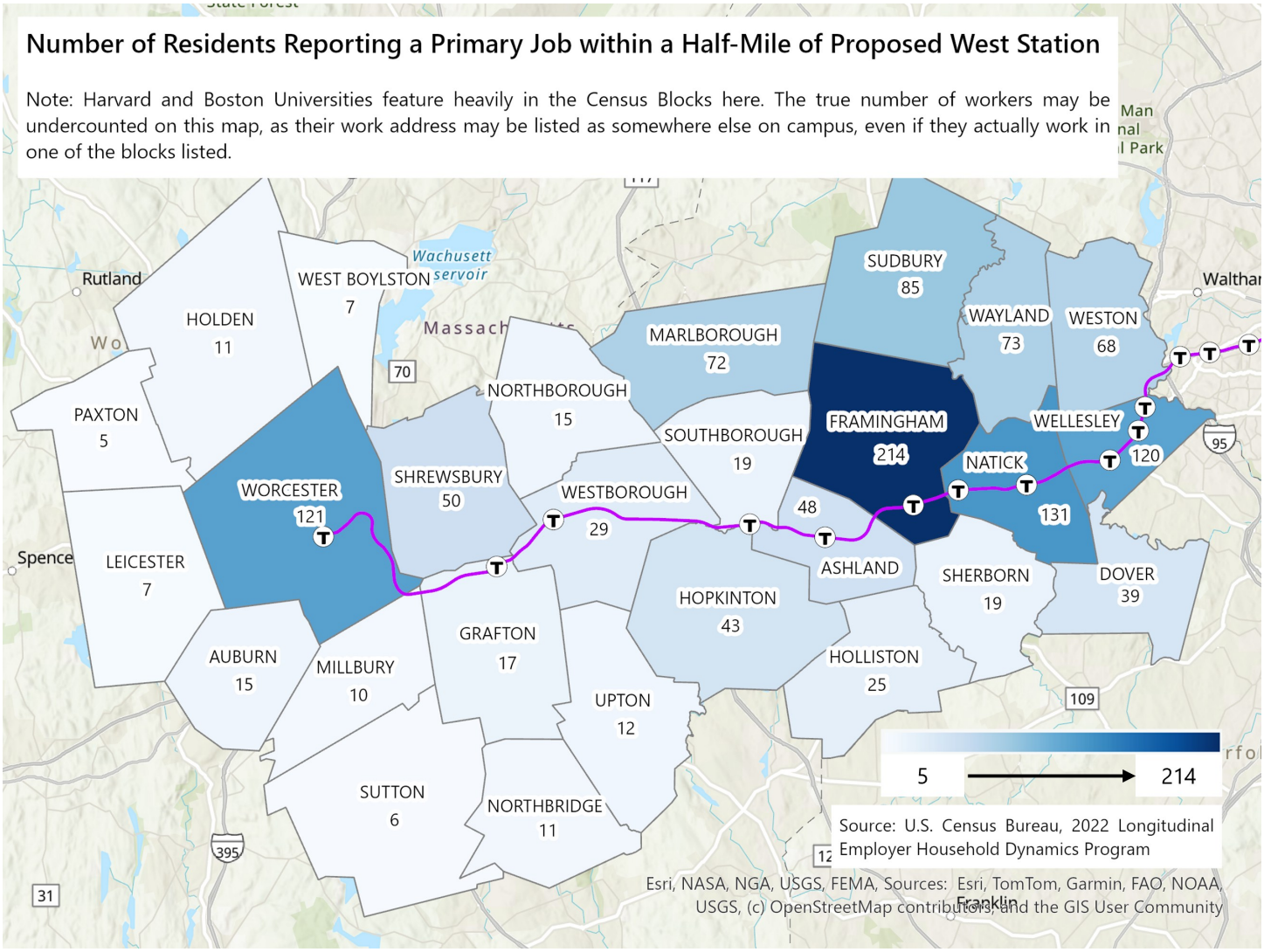
Source: MassDOT Presentation on June 17, 2025 to Allston Task Force with draft project area. West Station siding tracks rejoin the Worcester Main Line just east of this map.

West Station could open transformative public transit connections from the West that have not been possible otherwise.

West Station's impact would be felt by commuters from the west coming to Allston-Brighton. Many employees, students, visitors, and more go to both Harvard and Boston Universities, each of which has a major presence within a mile of the station. Using the 2022 longitudinal employer household dynamics origin-destination dataset, we can estimate the number of workers traveling to Census Blocks within a half-mile and a mile of the proposed West Station. Communities included on the maps below are those without major MBTA rapid transit or bus routes, so the Worcester/Framingham Line is one of few options available for getting to this particular location if not driving.

Harvard and Boston Universities feature heavily in the Census Blocks counted here. There may be undercounting of the true number of workers in those blocks, as their work address in the Census data might be somewhere else on campus. These estimates do not reflect any changes in employment, buildings, new projects, or more that may have occurred since 2022, and may also include pandemic related effects. Because the maps include only communities without other MBTA access, they do not include the thousands of workers in the area from Boston or any of the hundreds of other communities that have employees commuting here. **Indeed, within a mile of the station, there are an estimated more than 39,000 primary jobs held by Massachusetts residents.** An estimated 2,499 of those residents are from the mapped communities.

Map 10: Number of Residents Reporting a Primary Job within a Half-Mile of Proposed West Station (as of 2022)



Source: U.S. Census Bureau, 2022 Longitudinal Employer Household Dynamics Program. Communities without other bus or rapid transit options from the MBTA

Map 11: Number of Residents Reporting a Primary Job within a Mile of Proposed West Station (as of 2022)

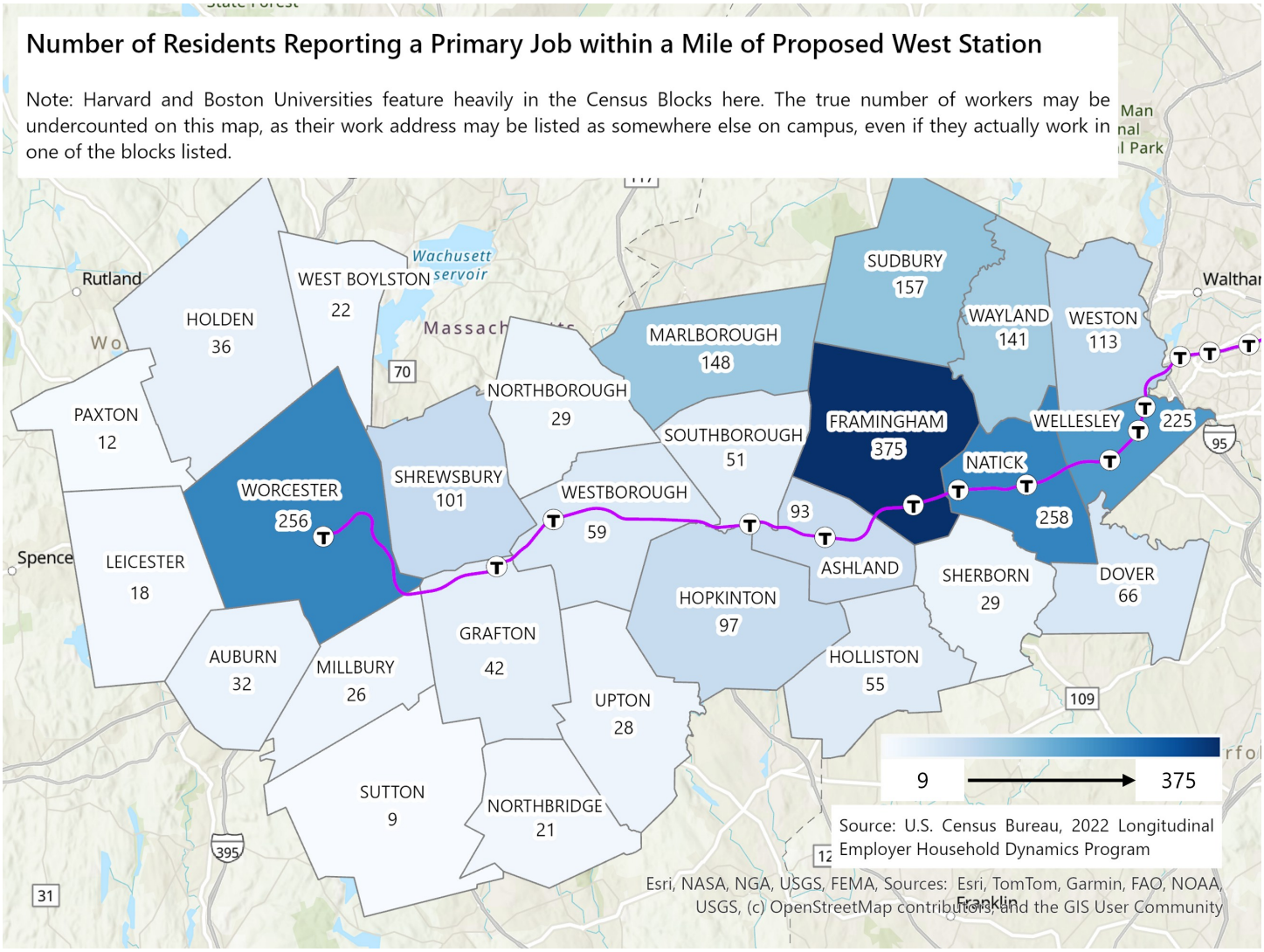
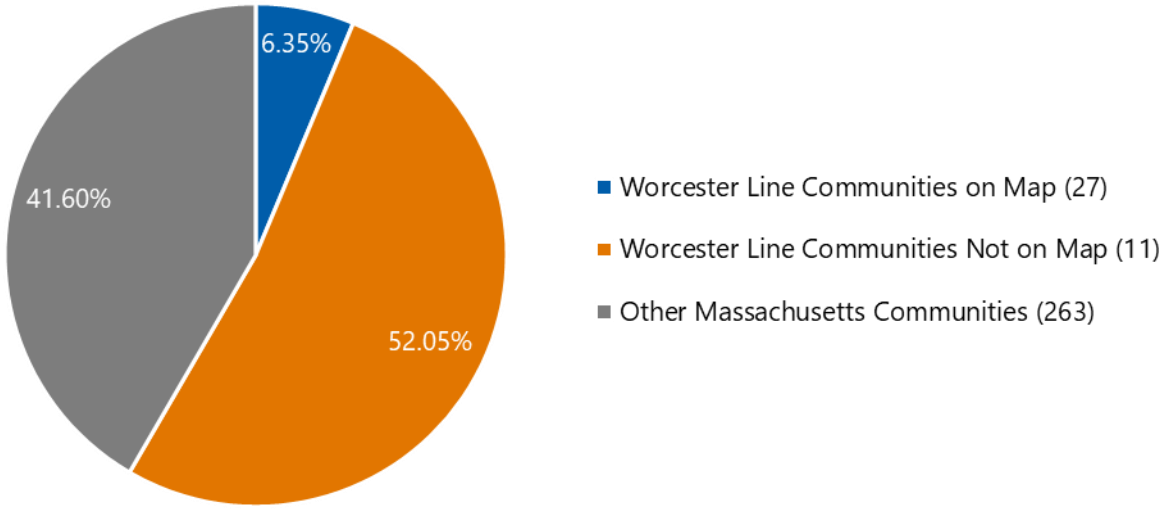


Figure 7: Percent of Workers with Workplaces Within a Mile of West Station (as of 2022)



Source: (For Map and Pie Chart) U.S. Census Bureau, 2022 Longitudinal Employer Household Dynamics Program. Communities without other bus or rapid transit options from the MBTA

Although it is not currently in the plans, one option that West Station "unlocks" are rail connections to North Station via the "Grand Junction" rail line.

Grand Junction is a rail line that crosses the Charles River (on an older bridge) immediately following where I-90 is squeezed between it and Boston University, and continues north to Cambridge, Somerville, Charlestown, Everett, and Chelsea. Currently, the MBTA and Amtrak use it to move trains from south side to north side tracks (i.e., tracks connected to South Station and tracks connected to North Station). It is **the only rail connection east of Worcester between the MBTA's north and south sides** (Peterson et al. 2012, 16). ***It is a crucial link to the MBTA's maintenance facilities on the north side, and for Amtrak's Downeaster to reach its maintenance facilities on the south side.*** (More discussion will follow).

Studies have looked at the feasibility of using Grand Junction to connect trains directly to Cambridge, specifically, Kendall Square – allowing commuters to bypass a trip to downtown Boston – and from there to North Station and beyond. This report will not "reinvent" the wheel by doing its own feasibility study but simply explain "the promise."

First, the Cambridge Redevelopment Authority (CRA) published a study in 2024 (the most recent source on this topic in years, with an extensive literature review) that estimated 5,800 to 9,800 daily onboardings between West and North Stations. The lower bound of ridership would double 2018 Fairmount Line ridership (which was used as a baseline for their estimations), while the upper bound would rank it as the sixth most-ridden line in 2018 (Grand Junction Transit Study 2024, 65). By 2040, the CRA predicted between 6,500 and 11,200 riders. This study is simply the *most recent* on the feasibility of Grand Junction connections, using recent estimates based on existing commuting trips in the 2020s, and assumed that current commuters would switch modes to one that seems faster with 15- or 17.5-minute headways.

Second, that study forecast 928 to 1,972 riders in 2022 and 1,060 to 2,250 potential riders transferring from the Worcester/Framingham Line to the Grand Junction line at West Station by 2040. Currently, Worcester line riders who commute to this area likely alight at South Station and continue their commute on the Red Line, or they alight at Boston Landing and take MBTA Bus Route 64 to Kendall Square instead. Regardless of method, the study predicted that Grand Junction riders could save anywhere from 11 to 21 minutes on their travel, compared to existing service (2024, 72-73).

Third, converting the Grand Junction line to passenger service would require significant infrastructure investment, including signalization, safety measures (such as gates) at at-grade crossings through Cambridge, double-tracking, and more. Importantly, there are six at-grade vehicle crossings on this line in Cambridge, and an additional three pedestrian and bicycle crossings. These investments would enable the line to operate at appropriate speed and frequencies. Currently, trains on Grand Junction cannot exceed Federal Railroad Administration (FRA) Class 1 speeds (10 MPH for freight, and 15 MPH for passenger rail). Modest speed increases would alleviate trip times. A 2012 study by the Central Transportation Planning Staff of the Boston Region Metropolitan Planning Organization found that travel time from Worcester to Kendall Square, at speeds between 15 and 30 MPH, could be reduced by 24 to 26 minutes compared to those taking the Red Line at South Station (Peterson et al. 2012, 51).[7] However, getting to those faster speeds will require track upgrades.

Cambridge is home to tens of thousands of jobs and removing an obstacle to accessing them while traveling from the west on the Worcester/Framingham Line is key to enhancing (and unlocking) the promises of the Worcester Line. **Indeed, Grand Junction would help knit together a life science corridor that stretches from Worcester to Cambridge.** While the full completion of the Allston Project, West Station, and especially Grand Junction are many years away, it would further knit together the communities along the Worcester/Framingham Line and open many new opportunities for their residents as well.

(2) Layover Railyards

Just south of West Station are a proposed set of four layover tracks to store MBTA and Amtrak trains between use. Beacon Park Yard, the name of the facility, has been considered as a potential layover site since CSX moved its operations west in 2013.

Layover tracks store trains when not in use, which prevents congestion at stations, provides basic inspection, maintenance, and cleaning services, and minimizes "deadheading".[8] Both MassDOT and the MBTA see new layover tracks as essential to increasing service across the line, and new south-side layover tracks as especially important given capacity issues at South Station. When other layover facilities are full, unused trains must be stored at South Station, using space that could otherwise be used for revenue-service trains. This in turn diminishes the MBTA and Amtrak's capacity for running trains on the lines connected to South Station (see South Station Expansion: Final Environmental Impact Report, 2016).[9] The increased frequencies envisioned by the MBTA's Rail

Vision and future 30-minute service need additional layover tracks for additional trains (Disclosure: WRRB Executive Director and CEO Paul Matthews served on the Rail Vision advisory committee).

According to a memorandum shared by the MBTA with the Allston Task Force in March 2025, assuming completion of Widett Circle, and including Southampton Yard, Readville Yard, *and* Beacon Park Yard, **the MBTA would still be short layover space for southside operations.** According to that memo, "the larger MBTA fleet, driven by the higher frequency service levels will require increased fleet storage needs … the increased service and fleet sizes result in a deficit of six layover spaces by 2035, even with the use of all existing MBTA layover facilities, including BPY and the full build out of the layover facility at Widett Circle" (Shamon, 2). In the FAQ for that needs analysis, it does point out that this does assume no South Side Maintenance Facility, as the MBTA has no current plans for a location nor does it have the funding to build one. **In addition, layover needs through 2050 account for increased MBTA service (such as Worcester/Framingham 30-30), the introduction of Compass Rail (discussed subsequently), and the continued needs of Amtrak service.**

Despite the need for additional layover tracks, the proposed tracks in Beacon Park Yard are controversial. Without too much detail, this will (at least for the foreseeable future) put regular movement and storage of diesel trains right in the middle of the Allston project, near residential neighborhoods, many of which are environmental justice communities (MilNeil, 2024b). Boston has "tried to steer state officials toward putting train parking at Widett Circle" which the MBTA has owned since 2023, but the Department of Transportation has countered that "MassDOT, the MBTA, and Amtrak agreed to what they believe is the best track layout plan to expand rail service across the state" (Chesto, 2024). As frequencies increase on the Worcester Line service, and as West-East Rail comes online, so too will the number of trains on the lines – and they will need to be stored close to the nodes at which they will begin and end. MassDOT has long identified Beacon Park Yard as a priority area for layover space (see footnote 4), and sees it as Beacon Park Yard AND, rather than Beacon Park Yard OR, as a necessary step to support South Station activities – as indicated in the white paper quoted above.[10]

(3) Impacts to Train Maintenance

While the Allston Project could have transformative impacts on the Worcester/Framingham Line, it also has disruptive potential. While construction on the highway will surely impact drivers on the MassPike, **construction could also have big impacts on something that many riders might not think about: train maintenance.**

Currently, the MBTA services its trains at a facility near North Station, formerly known as the Boston Engine Terminal. All trains, whether on the south or north side tracks are serviced here. **In Boston, however, there is only one connection between the south and north sides that allows for south side trains to get to the terminal: the Grand Junction railroad tracks through Cambridge. Allston Construction could impact this by closing access to Grand Junction as the at-grade highway is built. This would mean that trains from the Worcester, Providence, South Coast Lines, and more, which need to undergo regular and routine maintenance, would need to take a more than 100 mile detour via Ayer,** to access the maintenance yard – a route that would involve sending trains through Worcester to get there. According to the MBTA, "service would cease within weeks without reliable access to a heavy maintenance facility" (MassDOT, 2025a, p. 41). This outage could impact the MBTA for years and would be extremely detrimental to the Worcester/Framingham Line. Moreover, such a closure, combined with extensive highway work, would wreck havoc for all commuters coming to and from Boston. It is of utmost importance that communities along the line do what they can to encourage MassDOT and those designing the Allston Project to minimize this impact to the maximum extent possible, or risk losing all the gains that have been made on the line.

CONCLUSION TO ALLSTON DISCUSSION

No discussion of the promises of the Worcester Line would be complete without a discussion of Allston. Whether it's the new station connecting the Worcester Line directly to Cambridge via train or a layover yard to increase capacity on the line and enable more frequent service, these projects will have long lasting impact. If we want to see more riders, more options for riders, and improved service, completion of these projects will be crucial. There is an opportunity here as well: as I-90 is reconstructed, many of the tens of thousands of drivers using it daily could find it economical to switch mode to rail, rather than sit in construction traffic. If the Worcester Line maintains service – and increases frequency, as discussed later – this could be transformational in capturing new riders on the line.

COMPASS RAIL

Worcester's Union Station is not simply a rail terminus. Yes, it is the end of the Worcester/Framingham Line. But, a daily Amtrak train, the Lakeshore Limited, passes through Union Station in both directions, allowing Worcester riders to board and continue west, or go the opposite direction into Boston (Messier, 2025). MassDOT has long envisioned new service as a major component of what has come to be called "Compass Rail."

Springfield serves as a hub for several Amtrak routes: for example, north to St. Albans, Vermont, on Amtrak's *Vermonter* service and south to Washington D.C. via the *Northeast Regional*. Compass Rail, with Springfield at its center, adds a new inland route, traveling between Boston and New Haven via Springfield, and the Boston & Albany Corridor via Pittsfield. These West-East and North-South services would knit together all Western, Central, and Eastern Massachusetts, connecting economies, travel, education, and more.

The Worcester/Framingham Line would play a key role in this new rail system. The existing Worcester/ Framingham Line tracks would carry the eastern portion of these trips, and **all trips to or from Boston would pass through Worcester's Union Station.**

WEST-EAST RAIL

West-East Rail (previously referred to as "East-West Rail" in some documents; the terms are interchangeable here) would connect Boston, Worcester, Springfield, and Pittsfield together with frequent rail service. Rather than one Amtrak train a day, West-East Rail knits together the region with frequent trips from Boston to Pittsfield to Albany. This would not be commuter-level service (all day frequent trips in both directions) but rather a new intercity service that travels several times a day. West-East Rail includes both the Boston & Albany Corridor and the "Inland Route" that is currently slated to connect Boston to New Haven via Springfield.

According to MassDOT's Compass Rail overview, by 2045 the goal is:

- Three daily roundtrips from Albany to Springfield, including:
  - Boston to Albany Service
  - Lake Shore Limited
  - The seasonal Berkshire Flyer
- Six daily roundtrips from Boston to Springfield, including:
  - The Inland Route Service
  - Boston to Albany Service
  - Lake Shore Limited

The Lake Shore Limited is currently the only train that connects Boston to Worcester, Springfield, Pittsfield, and Albany, and it departs from Boston once a day. West-East Rail adds additional trains and service that will serve the same communities. These new trains would be transformational to the region, allowing riders east of Springfield easy access to the many connections that they can make there, while allowing riders west of Worcester easy access to Boston and beyond – all without a personal vehicle as their primary transit option.

Despite the current physical existence of track along the West-East rail corridor, significant infrastructure and right of way work needs to be done before trains can begin moving. There are also other operational and administrative concerns to be considered.

MassDOT released a comprehensive "East-West Passenger Rail Study" in 2021, which considered several alternatives for Pittsfield to Boston service. *The Promises of the Worcester Line* will not repeat the work done there but will summarize the most relevant limitations and possibilities. That study recommended further analysis of three alternatives ("Final Alternatives 3, 4, and 4/5 Hybrid"). We will start with some of the limitations of new service (East-West Rail Passenger Study Final Report, 2021).

The rail line west of Worcester to be utilized for West-East rail is owned by freight operator CSX. Although freight and passenger rail can co-exist on the same tracks, it is not without difficulties, including appropriate scheduling. While Amtrak and CSX currently operate service simultaneously, adding additional service to the line would complicate freight scheduling. The Commonwealth (through MassDOT Rail and Transit) has to work with CSX and Amtrak to resolve these issues.[11]

Freight and passenger rail can share the same track, but scheduling can be complex: proper distance needs to be maintained between train departures, track work needs to be scheduled around train movements, and both freight and passenger trains move at different speeds (maximum speeds on the tracks west of Worcester range from 40 to 60 mph, according to openrailwaymap.org). The rail study acknowledges this differently depending on the alternative, offering different possibilities to account for scheduling difficulties. In *Final Alternative 3,* that existing track would simply be shared along the right of way. In *Final Alternatives 4 and 4/5*, a new, second track would be built between Springfield and Worcester in the existing right of way; in *4/5* new rights of way would be developed with new track to straighten some of the segment's curves.

No matter the alternative, new track will be built along some of the corridor between Worcester and Springfield. Sections of the line west of Worcester are *single tracked*. That means that along the right of way, trains travel in both directions on the track. That makes scheduling more complicated. In *Alternative 3,* MassDOT plans to "double track" portions of the right of way, while *4 and 4/5* would see new track built within the right-of-way sections owned by CSX.

All three final alternatives also include train service between Springfield and Pittsfield. This track is more difficult to improve. Some narrow sections of the right of way, along with sharp horizontal curves and vertical climbs, make additional track in this segment difficult and expensive. See the appendix for track and geometric conditions from the study for each of the three segments that would comprise West-East Rail (Pittsfield-Springfield, Springfield-Worcester, Worcester-Boston).

Other infrastructure needed across the West-East rail corridor includes appropriate signaling upgrades, grade crossing fixes where necessary, and interlocking adjustments (interlockings are a specialized signaling apparatus that allows trains to switch from one track to another safely).

There will be a future operational limitation as well, though it can be overcome. Although MassDOT oversees transportation projects, and although West-East Rail will use the MBTA's Worcester/Framingham Line east of Worcester, *who* operates West-East rail is an open question. At the end of the passenger study, MassDOT acknowledges it is not a railroad, and it does not have the capacity to operate as one. The MBTA's jurisdiction is established by statute; it does not extend further west than Worcester (2021, 6-101). Once the infrastructure is in place and the trains are ready, daily operations will have to be administered by someone.

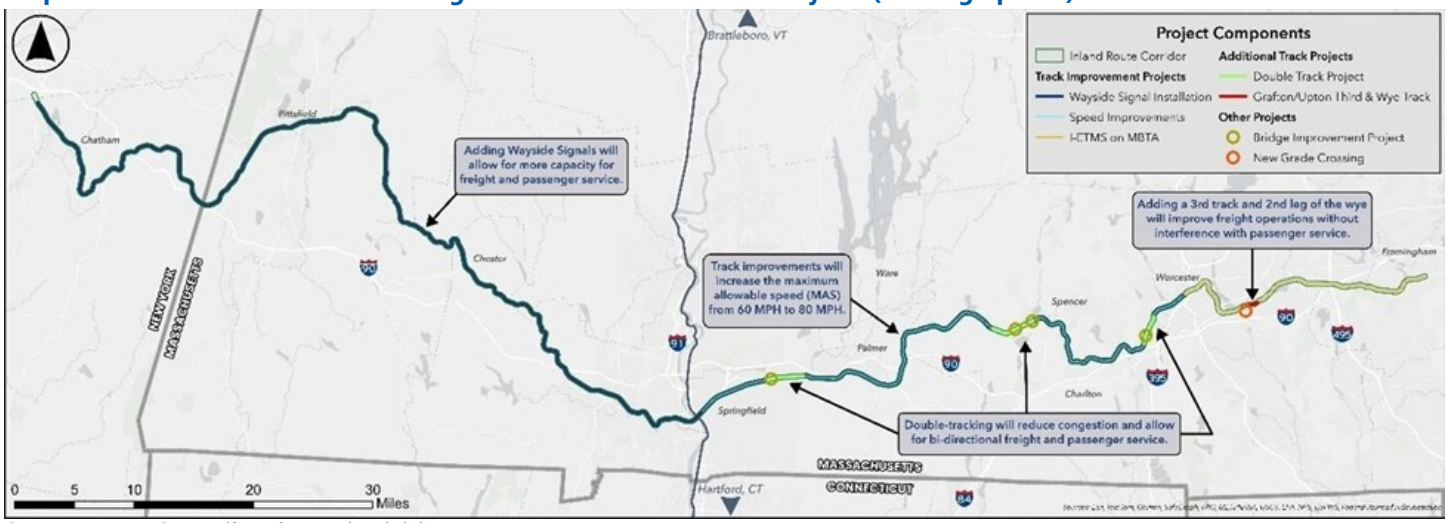
There are a lot of challenges to West-East Rail, including a large price tag. While the relatively low volume of trains passing through would make commuting difficult, West-East Rail – and Compass Rail more broadly – opens a lot of opportunity for Worcester, Palmer, Springfield, and Pittsfield.

THE OPPORTUNITIES OF WEST-EAST RAIL AND COMPASS RAIL MORE BROADLY

Connecting Massachusetts' three largest cities via rail would be transformative. Unfortunately, the "East-West Rail Passenger Study" did not consider the overall economic impacts that new rail service could create in western, central, and eastern Massachusetts. However, it did look at potential ridership and speeds. Remember, these trips are intended to be *intercity* in nature, not *commuter*, meaning frequencies might not support daily commute trips, depending how they are scheduled. Moreover, these trains would not stop at every possible station. For example, Worcester to Boston trips on this new service would run mostly continuously to South Station (and, likely, Back Bay). Still, it may be worth considering whether commuting along portions of this track is possible, especially for those who do not commute daily.

Trips on the existing rail line are slow. Currently, rail trips on the Lakeshore Limited from Pittsfield to Boston take about 3 hours and 50 minutes. Each of the envisioned rail alternatives see those trips losing nearly an hour – whether *3, 4,* or *4/5*, trips would take around three hours, comparable to driving, which is currently 2 hours and 10 minutes to 2 hours and 50 minutes (at 9 AM). Each segment of the trip west of Worcester would see a

Map 12: Inland Route Double-Tracking and Other Infrastructure Projects (in design phase)



Source: MassDOT, Rail and Transit Division

Table 6: Times Between Stations, Different Infrastructure Investment Scenarios						
Metric	**Alternative**	**Driving (Depart 9AM)**	**Existing**	**3**	**4**	**4/5 Hybrid**
Corridor Type	**Alignment**	**I-90**	**Shared + Existing**	**Shared + Existing**	**Shared + Separate**	**Shared + Separate**
Frequency	**Rail Round Trips**		1	8	10	10
PIT-BOS	**Average End-to-End Speed (MPH)**	60.53	39.3	47.8	50.5	53.5
PIT-BOS	**End-to-End Travel Time Range**	2:10 - 2:50	3:50	3:05 - 3:20	2:55 - 3:10	2:45 - 3:00
SPG-BOS	**Average End-to-End Speed (MPH)**		39.9	50.4	55.1	60.8
SPG-BOS	**End-to-End Travel Time Range**	1:25 - 2:00	2:28	1:50 - 2:05	1:40 - 1:55	1:30 - 1:45
Travel Time to Boston	**Pittsfield**	2:10 - 2:50	3:50	3:09	2:59	2:49
Travel Time to Boston	**Springfield**	1:25 - 2:00	2:28	1:57	1:47	1:37
Travel Time to Boston	**Palmer**	1:10 - 1:40	-	1:40	1:31	1:23
Travel Time to Boston	**Worcester**	0:55 - 1:30	1:15	0:53	0:53	0:53

Source: East-West Rail Final Passenger Study (2021, 4-73). Alignment refers to how the alternative approaches the CSX right of way. Shared indicates that the passenger trains will use the same right of way as CSX. "Existing" means that passenger trains will largely use the same tracks as CSX. "Separate" indicates that new tracks will be built for passenger trains. Driving column, meant for comparisons, is from our own calculations via Google Maps, assuming a 9 AM depart time on an October Tuesday; in Pittsfield, Springfield, and Worcester, the departure point is the main train station; for each departure, the assumed destination is Boston's South Station (in order to mimic the typical journey by train, though the rail alignment is very different from the existing I-90 configuration).

reduction in travel time. Lakeshore trips between Springfield and Boston currently take about two and a half hours (compared to 1:25 to 2:00 by car); upgrading railroad infrastructure could see travel times reduced 30 to 45 minutes. Worcester to Boston, under the existing arrangement can take 1 hour to 1:15 (compared to 0:55 to 1:30 by car); improvements in the Worcester to Boston section of track could see 53-minute trips instead.

The most significant time savings would be borne on the Springfield to Worcester track segments, where the most infrastructure work can be done. Worcester to Boston uses existing Worcester/Framingham Line tracks, which will also see time savings, but does not need as much track work.

With predicted savings in travel time, **taking a train from Pittsfield to Boston would take slightly longer than driving under most scenarios, but would be comparable.** Similarly, a train from Springfield to Boston would take slightly longer on the low estimate than driving but would almost always be faster than the higher estimate. Worcester to Boston would be faster under all scenarios. These new roundtrips would not serve daily commuters very well on long trips (after all, it is difficult to imagine someone might do a six hour round trip to Boston for work on a normal business day). While West-East Rail is decidedly *not* a commuter-first service, it might make sense to use it as such on some of the shorter segments. Although relatively few workers go between Springfield and Pittsfield, for example, those workers could use the new service rather than drive (interestingly, more Pittsfield workers report having a job in Boston than they do in Springfield).

If not for commuting, **new services would unlock intra-state tourism opportunities,** as central and eastern Massachusetts residents could easily take the train to Springfield and Pittsfield for a day or weekend trip, and vice versa. Train services could enhance other travel opportunities. Compass Rail is predicated on being able to use Springfield's Union Station as a launching pad to go anywhere across New England or beyond. Worcester residents could travel to Springfield and subsequently Vermont with one transfer, or go south to Hartford, New York City, or further easily. While the initial ridership estimates for the line in the *East-West Passenger Rail Final Study* were low compared to, say, annual trips on the

Table 7: Home to Work Commuting (Primary Jobs, 2022)											
Home → Work ↓	Boston	Palmer	Pittsfield	Springfield	Worcester	Home → Work ↓	Boston	Palmer	Pittsfield	Springfield	Worcester
Boston	163,061	135	496	1,570	4,178	Boston	55.47%	2.75%	2.79%	2.94%	5.58%
Palmer	23	867	8	310	28	Palmer	0.01%	17.68%	0.04%	0.58%	0.04%
Pittsfield	162	21	9,807	190	128	Pittsfield	0.06%	0.43%	55.08%	0.36%	0.17%
Springfield	609	808	258	22,725	586	Springfield	0.21%	16.47%	1.45%	42.48%	0.78%
Worcester	1,450	99	191	885	29,251	Worcester	0.49%	2.02%	1.07%	1.65%	39.08%
All Others	128,663	2,975	7,044	27,810	40,686	All Others	43.77%	60.65%	39.56%	51.99%	54.35%
Total	293,968	4,905	17,804	53,490	74,857	Total	100.00%	100.00%	100.00%	100.00%	100.00%

Source: U.S. Census Bureau, 2022 Longitudinal Employer Household Dynamics, Origin-Destination Employment Statistics. 2022 workers in segment nodes working in primary jobs in other nodes. A majority or plurality of workers tend to report working in their community of residence.

Worcester/Framingham Line, it still represents tens of thousands of new riders under all scenarios accessing these communities, and importantly not driving there. Even then, West-East Rail would not be comparable to a daily commuter service. It represents 20 one way trips a day, stopping, at most, at seven stations – compared to 55 one way trips every weekday, stopping at 18 stations, and serving primarily commuters. It would be a disservice to the opportunities West-East Rail presents to directly compare riders like this.

The final completion of West-East Rail is many years off and will be very expensive. **Still, some important projects are underway.** According to the March 2025 Compass Rail program overview (Koziol, 2025), these include:

- Funded final design for track improvements at Springfield Union Station
- Funded design and construction for track capacity improvements near Pittsfield
- Funded grade crossing elimination in West Springfield
- Funded preliminary engineering and environmental review for a new Palmer Station
- Funded early actions for the Inland Route (the Boston to New Haven route via Springfield)
- Boston & Albany Corridor planning underway through the Federal Railroad Administration's Corridor ID Program[12]

Some of these projects have Federal funding, and some are entirely state funded. For example, MassDOT received $108 million from the Federal Railroad Administration's "Consolidated Rail Infrastructure Safety and Investments Program" in September 2023 to help design and construct track improvements between Worcester and Springfield (see Map 5 for these improvements). Scheduled inland route actions with these funds include (*Inland Route Intercity Passenger Rail Service | Mass.Gov*, 2025):

- New positive train control overlay on the Worcester/Framingham Line (to enable seamless CSX movement on the tracks)
- A 1.6-mile siding in North Grafton and a wye track
- Placing intermediate wayside signals between Worcester and Schodack, NY
- Updating some sections of track to increase its FRA speed designations between Worcester and Springfield
- And adding three segments of double track between Worcester and Springfield (totaling 9.2 miles; see Map 12 for locations)[13]

These route improvements could, the September 2025 update notes, allow two daily passenger roundtrips along it without impacting freight rail.

West-East Rail, and the larger Compass Rail project, will directly affect Worcester and the Worcester/Framingham Line. Since the Worcester/Framingham Line *will* be used for these intercity roundtrips, this future service helps to fulfill the "promises" of the line.

Table 8: 2040 One-Way Annual Ridership Estimates

Metric	Alternative	3	3	4	4	4/5 Hybrid	4/5 Hybrid
Station	Boarding Type	"Enhanced" Hartford Line	Downeaster	"Enhanced" Hartford Line	Downeaster	"Enhanced" Hartford Line	Downeaster
Pittsfield	Direct Access	11,400	27,650	13,650	31,500	14,650	33,400
Chester	Direct Access	1,400	4,200	1,700	4,700	1,850	5,000
Springfield	Transfers (Hartford Line)	10,250	22,200	10,500	21,150	11,250	23,600
Springfield	Direct Access	105,700	116,750	135,700	140,600	152,400	159,500
Palmer	Direct Access	4,950	6,550	6,050	7,100	6,500	8,000
Worcester	Transfers (MBTA)	6,400	9,450	7,250	9,550	8,100	11,350
Worcester	Direct Access	19,300	35,250	23,250	39,500	25,500	43,250
Framingham	Lake Shore Limited	1,550	650	1,550	450	1,750	800
Boston, Back Bay, & Lansdowne	Direct Access	117,350	135,550	149,700	161,500	169,200	184,100
All Stations	Total One-Way Boardings	278,300	358,250	349,350	416,050	391,200	469,000
All Stations	Annual VMT Change - Cars	(23,371,876)	(31,234,674)	(29,497,986)	(36,318,653)	(33,042,389)	(40,831,308)
All Stations	Annual VMT Change - Rail	509,540	509,540	798,620	798,620	785,845	785,845

Source: Source 7: East-West Rail Final Passenger Study, (2021, 4-82). This was the final set of ridership estimates in the report, representing two different scenarios based on current intercity travel in the region. "One-Way" boardings represent boardings in either direction. Transfers indicate transfers from the indicated service onto the new one. According to Express for Whom? The Research Bureau's previous commuter rail report, there were more than 4 million boardings on the Worcester/Framingham Line in 2024.

INFRASTRUCTURE, OPERATIONAL, AND OTHER IMPROVEMENTS ON THE EXISTING WORCESTER/FRAMINGHAM LINE

With more than 4 million riders a year, the Worcester/ Framingham Line is already the second busiest route in the MBTA's regional rail network. While the line has transformative potential through the major infrastructure projects already discussed, Allston Multimodal Plan and Compass Rail, other infrastructure improvements along the line could continue to drive people to use this service in the first place. After all, the potential for greater ridership, as established in "The Need," exists.

As of September 2025, we know that there are several ongoing infrastructure projects on the line at various stages of development. These include (MBTA, 2025a):

- A speed restriction removal through improved tracks between Lansdowne and Auburndale
- Track and signal improvements across the entire line
- Improvements at Worcester's Union Station, including the high-level center island platform (that has been completed), an interlocking reconstruction to allow two trains at one time at the platform, and other track improvements
- Creating new, fully accessible side platforms at Natick Center Station
- A new "mini-high" platform at Wellesley Square, the first ADA accessible stop in Wellesley
- Creating two, fully accessible, side platforms at Newtonville Station

In addition, the MBTA's FY26-30 Capital Improvement Plan includes several items related to the Worcester/ Framingham Line. These are on **Table 9** on the following page.

Eight of these twelve projects are currently in the construction phase. Each project ultimately serves to fulfill the promises of the line: **unimpeded**, **reliable**, **frequent**, and **fast** service to all riders across the line, while encouraging more riders to get off the road. Each infrastructure project can provide better service across the line. Indeed, it's the least interesting infrastructure projects that are often the most important. Let us explain, briefly.

First, several of these projects refer to interlocking and signaling replacements and improvements (P0889, P1257, P0224, P0262). **Interlockings** are key parts of rail safety infrastructure, ensuring that signals and switches work in concert to prevent collisions between trains. Interlockings are especially important where trains can switch tracks, **as they prevent accidental signaling that would tell train operators that they should switch when they should not.** For a particularly extreme example of what can go wrong when interlockings fail, see the June 2023 train crash in Odisha state, India (The Associated Press, 2023).[14] Interlockings ensure safe and reliable service for all trains, aid in ensuring safe passage of express trains, and are critical for routes where passenger and freight trains coexist (as passenger trains almost always move more quickly). **Working interlockings ensure speedy service, providing important safety information to train operators; routes without appropriate interlockings must be travelled much slower to limit damages from collisions.** Note: P0889 is also a component of the South Station Expansion project, discussed earlier.

P1257 and P0262 refer to signal system upgrades. **Signals** ensure safe, speedy, and frequent service on train lines. **While it is simplification to think of them as traffic lights, they serve a similar purpose**–they tell trains whether to slow down or be prepared to come to a stop. They ensure that trains keep an appropriate distance from one another, which is especially important when trains move at different speeds (for example, an express versus a local train). Appropriately placed signals can safely tighten the distances between trains, enabling more to travel on the line more often, which means increased frequencies. Appropriate signaling can also reduce or prevent unnecessary slowdowns. **Signal work on the line is crucial to reach the 30-minute service frequency** that the MBTA is aiming for on the Worcester/Framingham Line (MilNeil, 2024c).

Second, four of these projects are station improvements (P0395, P1150, P0170, P0174). These are improvements to create **high-level, accessible platforms.** Most importantly these increase access to trains for everyone. They can also increase the speed and ease by which people board, ultimately allowing for faster train travel (after all, a minute or two saved at each high-level stop can have big effects down the rest of the line). TransitMatters wrote in a January 2024 report that high-level platforms on the Worcester/Framingham Line "reduce dwell time by about a minute per station stop at peak travel times" (TransitMatters Staff, 2024, p. 13).

High-level platforms are crucial. Imagine getting on and off the train at Worcester's Union Station (which now has a high-level platform as P0395 is largely complete) versus getting on and off at a low-level platform (such as,

Table 9: Rail Projects (with specific Worcester/Framingham Line Components) in the FY26-30 MBTA CIP			
Project Number	**Description**	**Status**	**p. of FY26-30 CIP**
P0495	Replacement of six Commuter Rail bridges at Intervale Rd in Weston; Bacon St in Wellesley; High Line Bridge in Somverville; Lynn Fells Parkway in Melrose; Parker St in Lawrence; and Commercial St in Lynn	Construction	57
P0889	Upgrade of interlocking components outside South Station to support Commuter Rail and Amtrak operations. This includes new signals, switches, track, and generators and is considered early action work for the South Station Expansion project	Construction	71
P1257	Upgrades to track and signal infrastructure on the Framingham/Worcester Line to reduce journey times and enable 30-minute service frequency. Includes new interlocking construction, crossover installation, and track modifications at CP-16 to support increased train speeds and operational efficiency	Construction	72
P0261	New third track and realignment of existing tracks on the Framingham/ Worcester commuter rail lines between Weston and Framingham. Includes upgrades to Wellesley Hills, Wellesley Square, and West Natick Stations	Design	72
P1268	Replacement of the Framingham/Worcester Line's Bishop Street grade crossing in Framingham	Construction	73
P0224	Replacement of the rail crossover at CP-3 interlocking west of Lansdowne Station on the Framingham/Worcester Line to improve reliability and performance	Closeout	74
P0262	Implementation of various track, signal, communication, and power improvements along the Worcester line to improve reliability and maintain a State-of-Good-Repair	Construction	74
P0395	Includes high-level center platform with elevators, ramps, and stairs; replacement and realignment of station tracks; and construction of a new rail crossover (CP-44) to improve accessibility, operations, and service capacity at Worcester Union Station	Construction	100
P1150	Design and construction of short-term solutions at several inaccessible commuter rail stations, including Wellesley Hills, Melrose Cedar Park, and Belmont. Accessibility solutions include freestanding mini-high-level platforms, detectable warning edges restoration, and accessible path upgrades	Construction	100
P0170	Design and construction of a fully accessible Newtonville Commuter Rail Station with 400 ft. high-level double-sided platforms	Design	100
P0174	Reconstruction and modernization of Natick Center Station, including new fully accessible high-level side platforms, elevators, ramps, stairs, lighting, wayfinding, streetscape, upgraded tracks, and a connection to the Cochituate Rail Trail	Construction	101
P1438	Design and construct an accessible path of travel between the inbound and outbound platforms at Wellesley Square station	Design	101

Source: MBTA 2026-2030 Capital Improvement Plan

occasionally, at Back Bay). At Union Station, one can board or alight from a train car without using any stairs. Climbing stairs to board or alight adds additional trip time and low-level platforms can be inaccessible or difficult for those with mobility issues.

There are other accessibility issues with some Worcester Line stations. The MBTA's website lists Auburndale, Newtonville, Wellesley Farms, Wellesley Hills, and West Newton as inaccessible. Some existing platforms, such as the three in Newton, are accessible only via stairs (with no ramp or elevator access).

The station improvement projects listed in the CIP work towards making some of these stations accessible. P1150, for example, created mini-high-level platforms at Wellesley Hills. These are temporary structures that allow level boarding of a few cars of the train, providing some additional accessibility for those who need it (they are "mini" in that they do not extend the entire length of a full

-sized train). Ramps, too, can be built along them.

P0170 is a **significant reconstruction of Newtonville Station.** It will build two high-level platforms, allowing trains to be boarded in either direction from different tracks, and will make the station accessible, as riders can currently only access the platforms via stairs. **This is a huge service upgrade on the line.** Currently, Newtonville has one platform, facing one track (like Worcester's before its current center-platform reconstruction). Readers can see this on the map below. **Because the platform is only on one side of the track, trains may have to switch tracks to allow people to board and alight, and those that are passing Newtonville may have to switch tracks to avoid trains at the platform.** Two platforms ensure that trains can pull up to either side without switching. (Notably, Auburndale and West Newton are also single-sided platforms, so this new platform will not solve all the problems, but it does ensure that when a train would otherwise not stop in Newton at all, it can stop at one station).[15]

Figure 8: Newtonville Station from the Air

Source: 2023 Aerial Imagery via MassMapper. The platform is just to the south of the train. View a Google StreetMap version of this platform here: https://maps.app.goo.gl/kMr5rwd6bY8qVpEE7

Because of the single-sided Newton stations, tracks switch over about a mile west of Auburndale, just north of Recreation Road in Weston, as seen in the map below. They switch again about a mile west of Boston Landing, north of Riverview Road in Boston. Although the continued use of Auburndale and West Newton will require switching tracks regardless of what happens in Newtonville, a high level of usage in combination with the new accessible platforms could make Newtonville the platform used most often, allowing trains to stay on their tracks rather than switch over.

It may seem like Newtonville updates will not directly affect Worcester riders since not every train that departs Worcester stops at Newtonville. However, **over the course of a day, the train stops twenty-eight times at Newtonville (fourteen in each direction), about half of all trips. The few minutes saved on an accessible platform add up over the course of twenty-eight trains under the current schedule.** Those minutes will be even more substantial as the Worcester/Framingham Line moves towards thirty-minute frequencies. Natick Center also has new high-level platforms in the CIP, project P0174. These platforms opened in July (MilNeil, 2025). Forty-two trains, total, pass through Natick Center every weekday.

Finally, in the design stage is P0261, **a new third track and realignment of other tracks between Framingham and Weston.** A third track here allows express trains to run past West Natick, Natick Center, and the three Wellesley stops, without impeding local service. Those express trains could begin in both Worcester and in Framingham. The third track, however, is currently unfunded.

The third track on the Worcester Line is mentioned in the MBTA's "Focus40" report, which was its 25-year plan released in 2019, meant to envision what the MBTA's system would look like in 2040 (Focus40 - Positioning the MBTA to Meet the Needs of the Region in 2040, 2019, p. 55). The third track project was also envisioned under future scenarios (including a "No-Build" scenario) in the MBTA's February 2020 Rail Vision Report (MBTA Rail Vision - Final Report, 2020, p. 44). In June 2021, the MBTA's Fiscal and Management Control Board (which has since been replaced by the MBTA's Board of Directors) approved moving forward on design work for the third track project (McNamara, 2021). Patch Framingham reported at the time that "adding a third track starting near Framingham would speed up the existing Heart to Hub express trains from Worcester to Boston, according to the MBTA. The transit agency would also be able to add one Heart to Hub express train per day with a third track" (2021). Similarly, Commonwealth Beacon reported that "T officials say the third track will allow the transit authority to add more express trains between Worcester and Boston as well as more localized express service between Framingham and Boston" (Mohl, 2021).

Other transportation focused organizations have discussed the benefits of a third track. For example, *A Better City* included the third track project as a crucial mitigation project for the Allston Multimodal Project in a report in February 2023 (Allen-Connelly, 2023). The report argues that the third track, which would enable more express trains during AM and PM peak hours, "might incentivize

mode shift and increase use of the Framingham/Worcester Line during (and hopefully after)" the Allston construction period (2023, 24).

Given that the end of the Heart-to-Hub from Worcester in September 2023 (in both directions) and half of its return in mid-2024 was the impetus for the Mayor's Worcester MBTA Task Force, and subsequently for The Research Bureau's initial *Express for Whom?* report, increased service of this type would be welcomed.

Capital projects can take many years to come to fruition. While Natick Center Station was redesigned to allow for a third track (MilNeil, 2025), unfortunately there has not been much news on its design phase. The MBTA has made it clear that current projects, such as its ongoing signals work and station accessibility upgrades, are in service to increased headways – i.e., more trains, more often, all day, at all stations on the line. **In fact, the MBTA's rail operations presentation to the Allston Project Task Force on 12/11/25 noted that the third track is currently unfunded.** Still, the benefit of a third track is in allowing express trains to bypass stations and local train traffic without needing to switch tracks, but there are scenarios in which future signaling upgrades could lead to similar outcomes. The report will briefly describe how this, theoretically, might be possible.

At its simplest, railways divide their lines into fixed length blocks, separated by signals. If a train is in a block, those before it are notified via signal, including instructions on how to proceed. However, many fixed block systems tell dispatchers and other trains that something is in the block, but not necessarily where (track circuits light up signals at the start of the block). That means that a train might get a notice to stop because a train is in the block ahead, but it could be at the beginning, middle, or end of the block. Of course, dispatchers know where the trains are – with modern GPS and current PTC systems they always have access to that information – but the signals might not differentiate. The distance between signals on railway tracks considers how long trains would need to brake safely if there was an issue, so signals and blocks play a really important role in safety.

A newer option for signaling is through a system called "communications-based train control" (CBTC). This turns *fixed blocks* into *moving blocks*, reducing headway between trains by allowing them to (safely) travel closer together. In more technical terms, in "CBTC systems, movement authority limits are no longer constrained by physical track circuit boundaries but are established through train position reports that can provide for "virtual block" or "moving block" control philosophies" (Yu, 2015, p. 4). What does this mean? With more accurate information being shared between trains and central control, signal blocks move **with** trains, rather than trains moving **through** them. A further citation from *Advances in Communications-Based Train Control* can help explain:

> With the exact location information of a train in CBTC systems, the following train can follow up the rear of the train with a moving block system. Specifically, the train location and its braking curve are continuously calculated by the trains, and then communicated to the wayside equipment. Then, the wayside equipment is able to establish protected areas, each one called limit of movement authority (LMA). In addition, CBTC systems use closed-loop control between the train and the ground control center to improve the reliability of train control. Consequently, this results in a reduced headway between consecutive trains and an increased transport capacity. Moreover, using digital radio transmissions, CBTC can achieve two -way large-capacity communications between the train and the wayside, which can reduce unnecessary train acceleration and deceleration braking, improve passenger comfort, and enable significant energy savings (2015, 5).

CBTC is used on many heavy and light rail systems (i.e., what we think of as subways or trolley lines). **There may be difficulties involved in installing it on a commuter rail line with the distances and conditions. Freight traffic would also need updated cabs to use it – so ultimately, it might not be a viable solution on the Worcester Line in particular.** Still, the point is that there **are** technologies that improve signaling to allow more trains to move on the same tracks with greater frequency and speed than before.

Adopting new signaling technologies, in combination with the third track, would be transformative for Worcester-based riders, creating a slew of new train options and travel lengths that were not available before. However, its important to remember what is currently in the cards: the MBTA continues its improvement work on existing signals, and although the third track is currently unfunded, it remains in the CIP and may become more important as West-East Rail takes shape. Moreover, constructing its eleven miles will take time and a great deal of expense. Seeing through the "promises of the Worcester Line" will require patience.

Finally, it is worth mentioning an issue that commuter rail riders might not consider but certainly affects drivers: **at-grade rail crossings.** Every driver is familiar with waiting at a train crossing as the train moves through. **Drivers in Framingham are certainly aware – there are two major crossings at the junction of Route 126/135, and another further down the street at 135 and Bishop Street.** According to MassDOT's traffic counts, Waverly Street east of Route 126 (location ID 4924) had AADT in 2024 of more than 14,000 vehicles, while further down Waverly Street, at West Central St and Newfield Drive (location ID 4923), more than 18,000 vehicles in 2024. Currently, more than 50 trains a day pass through these grade crossings, impacting tens of thousands of drivers daily. **Infrastructure improvements at these grade crossings, and at others along the line, such as in Ashland, could improve commuter rail service by reducing friction with drivers (limiting the potential points of conflict), and improve the experience of both drivers and pedestrians that are trying to utilize these busy routes.**

UNLOCKING POTENTIAL THROUGH FAR-OFF INFRASTRUCTURE IMPROVEMENTS

The Worcester/Framingham Line spans 44.3 miles. Trains stop up to 18 times across its length. A train from Worcester to South Station, making every stop along the way, can take more than 96 minutes. Zonal express trains, which skip stops from Natick Center to Newtonville, are scheduled for 86 minutes. Even the one express train, that stops only in Framingham before continuing to Lansdowne, is scheduled for 70 minutes end to end.

These trains are not speedy. At maximum, Worcester Line trains can only travel 60-80 mph (track speeds via openrailwaymap.org). That's nothing to sneeze at – its comparable to the 65 mph you might travel on I-90. However, although track infrastructure can support those speeds, most trains probably are not always moving that fast. Portions of the track include slowdowns, such as around curves, through work areas, or at grade crossings. There are a lot of factors that impact how quickly trains can move!

Accelerating and decelerating have big impacts on total train travel speed. Trains are heavy, and it takes a lot of work for a traditional diesel train engine to accelerate to maximum speed from a complete stop, and to decelerate as well. When stops are close together, the train stops and starts frequently, never reaching top speed between stops. For example, Wellesley Square, Wellesley Hills, and Wellesley Farms are on a section of track that has a top speed of 60 mph. However, Wellesley Square and Wellesley Hills are only about 1.25 miles apart, and there is less than a mile between Wellesley Hills and Wellesley Farms. There is no way that a diesel train is accelerating to top speed *and* decelerating in that one-mile span.

***Electric* trains, on the other hand, accelerate much faster than diesel trains, creating a cascading effect on travel time across the rail line, as trains leave each stop much more quickly.** As an example, compare the electric train and the diesel train in this video from Caltrain, both of which are accelerating from a complete stop at the same station.[16] Furthermore, electric trains are most often "multiple unit" (MU) trains (or, "EMUs") – i.e., passenger cars have their own motors that work in sync with the rest of the train – which also aids in acceleration (diesel trains can also be multiple unit, but the MBTA uses locomotives that push or pull passenger cars).

If a third rail and new signals would change the experience of Worcester/Framingham Line riders substantially, electric trains would be truly transformative.[17] It would be expensive, as well. Depending on the type of electric unit, the trains would require some length of overhead catenary lines. If the MBTA pursues Battery Electric Multiple Units (BEMUs) it only needs overhead catenary on some points of the line.[18] If it pursues fully electric trains, it will need to build catenary across each line's length. Both would require large upfront costs; **however, the MBTA has begun to pursue the BEMU option, with Keolis issuing a request for proposals (RFP) for purchase in January 2025 on the Fairmount Line** (*Keolis Seeking Proposals for Battery-Electric Trains*, 2025; Levin, 2024; Worrell, 2025). The MBTA also announced recently that it is **pursuing 10 BEMU trains for the Providence Line**, much of which is **already electrified** as part of Amtrak's Northeast Corridor service (MilNeil, 2026; Muller, 2026).

There are a couple of examples of how electric trains could benefit the Worcester/Framingham Line. One is theoretical. The MBTA's 2020 Rail Vision Report considered different future alternatives for the entire regional rail system, including diesel and electrified futures. **According to Rail Vision, "electrifying the [Worcester/Framingham] line provided the greatest travel time savings and connectivity" with ridership gains similar to one of their alternatives that focused only on the Greater Boston region, "at significantly lower operating and capital costs"** (MBTA Rail Vision - Final Report, 2020, p. 39). Their comparison of diesel and electric trains in the system saw significant travel time savings between key stations when rail was electrified (2020, p. 79). Note: updates to "Rail Vision" is updated as part of the MBTA's Regional Rail Modernization Plan.

A second example is more concrete. Caltrain, mentioned above, is a commuter service that spans 77.2 miles from Gilroy, CA to San Francisco. 51 miles, from San Jose to San Francisco, has recently passed the one-year mark of being electrified. That has led to large increases in both speed *and* ridership.[19] **According to Caltrain, their electric trains can accelerate to top speed in under a minute (Caltrain, n.d.). Since electrification, express trains are five minutes faster while making 50% more stops than they did before, while local trains save 24 minutes.** Indeed, the diesel schedule from June 2024 shows the San Jose to San Francisco express stopped at five stations in between and took 66 minutes, with a trip length of over 50 miles (*Home | Caltrain*, 2024). The Fall 2025 schedule, on the other hand, stops at nine stations and does so in 60 minutes (Caltrain, 2024). That's a significant time savings, with even more stations served, thanks to electrification. As noted, ridership has seen a significant increase as well. Though lower than pre-pandemic levels, between June 2024 and June 2025, ridership on the line has increased by 76% (Rudick, 2025).[20]

In other words, **electrification of the Worcester/ Framingham Line would be truly transformative for current and future riders.** While it will be expensive, and there may be infrastructure differences that prevent it from reaching the levels that Caltrain has (such as track geometry, speed restrictions, and more), electrification would be a boon to the line and the communities it serves.

CONCLUSION AND RECOMMENDATIONS

In *Express for Whom?* The Research Bureau noted the strong ridership recovery along the Worcester/ Framingham Line since the pandemic. Strikingly, the report showed that in the MBTA and MassINC Polling's study of station boarding data, nearly 50% of inbound onboardings occurred from Worcester to Framingham – just six of the eighteen possible stops on the line. As a result, *Express for Whom?* recommended that these six communities (Worcester, Grafton, Westborough, Southborough, Ashland, and Framingham) work together to advocate for new infrastructure and frequency improvements that would make the line worthwhile for all of them. The report noted that "resuming a Worcester-Framingham working group, for example, could leverage each of these communities to make their needs known. Advocating for fast-tracked infrastructure improvements, such as electrification, improved signaling, and more frequent service would benefit all the riders on the line." There have been ongoing conversations since then, including a Chairman's Order from Worcester's City Council Committee on Public Service and Transportation, asking the City Manager to explore the feasibility of creating a six community group as mentioned above. Additionally, there have been ongoing conversations and reports by the 495/ MetroWest Partnership, MassINC, and others around the future of the Worcester/Framingham Line.

While The Research Bureau's first regional rail report in this series explored ridership on the line, this report outlined the many ongoing infrastructure improvements that would serve to increase that ridership. In other words, unlocking the "Promises of the Worcester Line." That meant looking at the current demand, anticipating future needs and possibilities, and explaining the many infrastructure projects that are in planning or underway – including, most importantly, the Allston Multi-Modal Project, Compass and West-East Rail, and the 2026-2030 MBTA Capital Improvement Plan.

Although the Allston Multi-Modal Project is largely focused on redeveloping a section of highway in Boston, it is an opportunity for the Worcester/Framingham Line. When construction of I-90 leads to, potentially extensive, commuting delays, drivers might turn to the regional rail to make their normal trip. There are tens of thousands of people using I-90 every single day, and turning even a portion of those drivers into regular rail riders would be an incredible boon to the system – not to mention the reductions in emissions and improvements in air quality from fewer cars on highway. **It is imperative that communities along the line push for (1) improved and more frequent service now, before any construction begins, (2) advocate for minimal disruptions to service, and (3) express support for Allston plans that increase opportunities on the Line, including any designs of West Station that maintain and increase existing service**. *It is especially imperative* that **these communities push to ensure that the Grand Junction rail bridge remains in service during construction, to prevent otherwise 100 mile maintenance trips for *all* southside regional rail line trains.**

Compass Rail would create regular west and east rail connections from Boston to Pittsfield, with the ability to transfer and travel north and south in Springfield. Worcester would become one of the few major stations along this route, and trains traveling between Worcester and Boston would utilize the existing Worcester/ Framingham Line railway. Although service frequency would not match the future 30-30 service on the commuter rail, it still adds additional trains to the railway. **Even if the MBTA does not feel the proposed third rail**

is necessary today, it might be necessary to accommodate West-East Rail Service. Communities along the line should work together to prioritize infrastructure improvements on the existing Worcester/Framingham Line for this future service– which would unlock economic and tourism opportunities across Massachusetts' width.

When it comes to the infrastructure improvements listed in the 2026-2030 CIP, it's important to remember that infrastructure improvements on part of the line in one community bring benefits to all communities and riders. For example, high level platforms at Natick Center or Newtonville might not ever be utilized by some riders – but they do provide an important service to others, and they serve to speed up boarding and alighting – ultimately increasing the speed of service from end to end. Improving signals might seem like boring technical work, but it is necessary for increased train frequency. Riders on trains might get priority at at-grade crossings already, but they can frustrate drivers at particularly busy intersections – increasing friction between trains and cars. Decreasing that friction, in the long-term, can ensure reliable, fast, and safe travel on the rail.

There is more to think about, of course. For example, the MBTA is currently searching for a commuter rail operator, as the current contract is set to expire. Any future contract should remain committed and incentivized to improving service on the Worcester/Framingham Line and the many other north and southside commuter railways.

As MassDOT and the MBTA propose infrastructure improvements in communities along the line, it is really important ***for all* of the municipalities and riders with stations and track to prioritize state investments.** Hold ups or concerns in one community can have detrimental effects on all of them – and **could run counter to the goals of improved ridership, a better riding experience, and the overall state goals of affordable housing and clean air**.

Finally, something this report did not touch on but was mentioned in *Express for Whom?* is fare policy. The success of the $10 weekend pass, as well as a desire to get commuters and others out of their cars and onto the train, does raise the question of whether fare policies need to be examined to encourage mode shift. This does not mean eliminating fares, but, rather, a close examination of whether regional rail, across its entire length, can be a competitive alternative to driving. This is especially true in the many communities along it where cars are the main (or sole) choice for travel otherwise.

Summarizing the **key recommendations**,

1. **Every community along the line must work together for improved and more frequent service now**, before any Allston Construction begins.
2. **The Grand Junction bridge must not become inaccessible** – as this bridge is the shortest link to key maintenance facilities used by *all* MBTA trains.
3. The third track project **should not be forgotten as potentially necessary for full Compass Rail service in the future**.
4. **Communities themselves must prioritize state infrastructure projects on the line**, including improvements to at-grade crossings.

Ultimately, this report should guide readers towards the "promises" of the Worcester Line; The Research Bureau believes that those promises are:

- **That anyone can get anywhere they need to go,** whether east or west, in a more timely and efficient manner, further knitting together our communities from Pittsfield to Boston and beyond, **connecting riders to their myriad destinations.**
- That it **should be seen as a viable daily alternative to driving**, with potential riders ready to use it as they see improvement.
- That **it should be easy to get to and from a station**, connecting roads, sidewalks, bike paths, and bus lines to the stations **so that riders can use the rail easily**.

This report should serve as the start of a conversation that brings together disparate but connected communities to improve service for all of their residents. Although infrastructure work can sometimes be slow to completion, each successive project described in this report can unlock the Worcester/Framingham Line's promises. Communities and advocates should be in lock-step on ensuring that they benefit current and future riders. We should always remember that infrastructure improvements everywhere on the Line serve the Commonwealth, its communities, and their riders.

The Promises of the Worcester/Framingham Line: Examining Infrastructure Improvements and Potential Ridership Across the Line is supported by a grant from the Barr Foundation.

The opinions expressed in this report do not necessarily reflect the views of the Barr Foundation.

NOTES TO THE TEXT

[1] (page 5) See appendix for a scatterplot of VMT by population, population density, and by the number of bus stops.

[2] (page 7) It should be emphasized that not every one of these workers actually commutes to work every day. Many may work from home but report jobs elsewhere. However, these numbers are from 2022 – the 2025 may be radically different!

[3] (page 8) Predicting mode shift is extraordinarily difficult. While a 2% decrease in the number of drivers on the highway might be feasible, there is no way to predict whether that would neatly correspond with an increase in overall public transit ridership. Other research has shown that choosing not to use a vehicle does not necessarily mean a mode shift to public transit will occur – and drivers will not make the switch to a different mode unless something significant has changed. For example, Sandip Chakrabarti found that in Los Angeles, people would mode shift to rail if there were reductions in transit-to-auto travel time ratios or reductions in headways between trains (Chakrabarti, 2017). In a 2003 literature review, Taylor and Fink found that factors both external and internal to a public transit mode affects whether people will take it. Factors such as private vehicle ownership (external) and improvements in reliability (internal) can have an effect on travel choice. According to those authors, "variables which directly or indirectly measure automobile access and utility (including auto ownership and parking availability) explain more of the variation in transit ridership than any other family of factors," while internally, "improvements in service supply – for example, frequency, coverage, and reliability – have been shown to be more important than price in determining ridership" (Taylor & Fink, 2003, p. 13). In other words, they conclude, "transit ridership is largely, though not completely, a product of factors outside of the control of transit managers. Among those factors that transit systems do control, the quality of transit service and adroit pricing … have proven most effective" while "[public] Policies which support private vehicle use – such as extensive arterial and freeway systems, relatively low motor fuel taxes, policy which require parking to be provided to satisfy all demand at a price of zero – affect transit use more than policies such as substantial public transit subsidies which encourage transit use" (13).

[4] (page 9) Why that might be the case is beyond the scope of this report. Do people living in communities with more bus stops/ transit access choose not to have cars? Or do people live in communities with more transit access because they cannot afford a car? The fact that communities with higher median incomes have more households, at least among these 38 communities, with two or more vehicles would suggest its largely the latter.

[5] (page 9) The maps were constructed by filtering for sidewalks that indicated a width on either the left or right side of the street.

[6] (page 15) Unadjusted NHCCI Index in Q1 2022 was 2.284; in Q1 2025, it was 3.167. According to a May 2025 report by the Federal Highway Administration's Office of Transportation Studies, the NHCCI inflation index has outpaced other core measures of inflation, including the Consumer Price Index (CPI), Producer Price Index (PPI), and the Employment Cost Index for Construction (Office of Transportation Policy Studies, 2025).

[7] (page 18) Though it should be noted that the 2012 study assumes a direct connection between Worcester and Kendall Square, without any kind of transfer at West Station. Still, the 2024 Cambridge Redevelopment Authority study still sees significant time savings for Worcester/Framingham Line riders even with a transfer at West Station.

[8] (page 18) Deadheading is non-revenue service. Layover facilities limit the amount of time that trains need to spend on the tracks while not generating revenue when they are located close to where trains begin and end typical revenue service.

[9] (page 18) This report will not discuss the South Station expansion (SSX) project. That project initially considered Beacon Park Yard (BPY), Widett Circle, and an expansion of Readville-Yard 2. However, by the 2016 Final Environmental Impact Review (FEIR) of SSX, MassDOT only considered Widett Circle and an expansion of Readville as layover alternatives as part of *that* project. This was not because BPY was totally out of contention as a facility, but because BPY was now a part of the Allston I-90 project and was to be considered in the environmental review of *that* project. For context, Widett Circle is located just south of South Station on the Fairmount, Readville is located further south near the intersection of the Fairmount Line and the Northeast Corridor, and Beacon Park Yard is located along the Worcester/ Framingham Line. Readville is currently a layover facility. It should also be noted how to actually do SSX is complicated, and there are different opinions on how best to increase capacity. TransitMatters, for example, issued a report in 2019 that argued that the SSX project was unnecessary, saying that "some modifications are required to make sure trains can run more frequently, but these modifications involve better scheduling, more reliable electrical equipment, resignaling the terminal zone, and minor trackwork, all of which are significantly less expensive and more cost-effective than relocating property in Downtown Boston to expand the station footprint. With better operations, SSX is unnecessary and its budget can be reinvested in better projects, such as high-level platforms and electrification across the entire MBTA regional rail system." (Finlan & Levy, 2019)

[10] (page 19) Interested readers should look at MassDOT's 2022 Notice of Project Change for Allston (Project ID 15278 at the Massachusetts Environmental Policy Act Environmental Monitor website) for more detailed comments from stakeholders regarding the siting of the layover yard.

[11] (page 20) A big sticking point in this discussion is often pricing, as fewer freight trains on a line can potentially mean less revenue for the freight operator, which will often operate under a very different type of schedule than passenger trains. At least as of 2014, "freight railroads no longer seek to move as much tonnage as possible. Demand is managed through pricing schemes that seek to maximize profits by focusing on yield management. In other words, the railroads are focused on efficient operations and optimized scheduling rather than maximizing freight volume … Under these circumstances, freight railroads are very hesitant to accommodate passenger rail on their infrastructure. The revenues from a passenger rail agency typically comprise a very small percentage of their overall revenue." (Dolata et al., 2014, p. 220)

[12] (page 23) Currently in the Federal Railroad Administration's FY22 Corridor Identification and Development Program Selections. The Corridor ID program "is a comprehensive intercity passenger rail planning and development program that will help

guide intercity passenger rail development throughout the country and create a pipeline of intercity passenger rail projects ready for implementation" (Federal Railroad Administration, 2025b). The Boston and Albany Corridor description says: "The proposed Corridor would connect Boston, MA and Albany, NY, via Springfield, MA. The proposed Corridor would provide up to eight daily round-trip passenger trains on an existing alignment that is currently being used by Amtrak's long-distance Lake Shore Limited. The Corridor sponsor would enter Step 1 of the program to develop a scope, schedule, and cost estimate for preparing, completing, or documenting its service development plan" (Federal Railroad Administration, 2025a).

[13] (page 23) A couple of notes on terms. **Positive train control (PTC)** is a safety system "designed to prevent train-to-train collisions, over-speed derailments, incursions into established work zones, and movements of trains through switches left in the wrong position" (Federal Railroad Administration, n.d.). PTC should not replace an attentive crew, but rather to decrease human user error. In some cases, it automatically applies brakes or other emergency systems if the crew does not respond to other warnings. PTC was installed on all commuter rail lines by August 2020 in accordance with Federal guidelines. **Automatic train control (ATC)** is an additional layer of protection on the MBTA's PTC system, allowing train engineers to see PTC signals. **Control Points (CP)** are interlockings with signals that tell train operators whether they must proceed, slow, or stop because of something in the next "block" or a block ahead of that. Control points are controlled by a dispatcher elsewhere. **Blocks** are sections of tracks between signals. A **siding** is a slower section of track just off the main track that can either be a dead-end (such as for loading or storage) or connected back to the main track (a loop track) and can allow faster trains to pass slower trains (the slower trains move onto the siding to allow faster trains to pass). **Wye track** is basically a "Y" shaped junction that can facilitate train movement in a different direction (for example, a train moving north could use a wye track to turn around and go south instead on an adjacent track).

[14] (page 24) In this case, signals told an express train to stay on the main line, but then switched to say it should go onto a loop track instead (a loop track is a short section of track that connects to the main line in two places, allowing two trains going in the same direction a chance to pass one another). However, a freight train was already on the loop track. The collision caused the train to derail and hit another express passenger train going in the opposite direction.

[15] (page 26) Both Auburndale and West Newton also have inaccessible, single-side platforms, are also affected by the track change, and are located in Newton. So why is Newtonville getting an update? According to the press release about Newtonville, the reason is that this particular station has more riders than the other two and has the most surrounding opportunity for transit-oriented development (Healey-Driscoll Administration, 2024). To put a number on this, 9.87% of inbound onboardings in Fall 2024 (according to the MBTA and MassInc Polling's station data) occurred in Newton. Of that, 4.87% occurred in Newtonville. Although the number is drastically smaller, going outbound Newtonville had 64 average onboardings vs 18 and 14 respectively. See The Research Bureau's previous report on regional rail, *Express for Whom? Ridership, Recovery, and the Importance of the Worcester/ Framingham Line*.

[16] (page 28) Caltrain is a commuter service in California that runs from Gilroy, CA to San Francisco. It is 77.2 miles, of which 51 miles, from San Jose to San Francisco, is electrified.

[17] (page 28) As is stated in the MBTA's 2020 Rail Vision report, "A fully diesel service leads to longer travel times" (MBTA Rail Vision - Final Report, 2020, p. 17).

[18] (page 28) Battery Electric Multiple Units charge their batteries while on catenary line or at station hubs and then can travel without the catenary when it cannot be built. With BEMUs, the MBTA would not need to build as much catenary wire and would avoid costly installation where overhead clearance isn't available (such as in a tunnel).

[19] (page 29) What some call "the sparks effect."

[20] (page 29) It should be noted that much of Caltrain's line only reaches speeds of 79 MPH. So this does not reach anywhere close to the speeds of something like Amtrak's Northeast Corridor.

APPENDIX

Figure 9: Percent of Households with Two or More Vehicles by 2024 Population Density. Communities with Worcester Line Stops in Orange. Blue indicates adjacent communities.

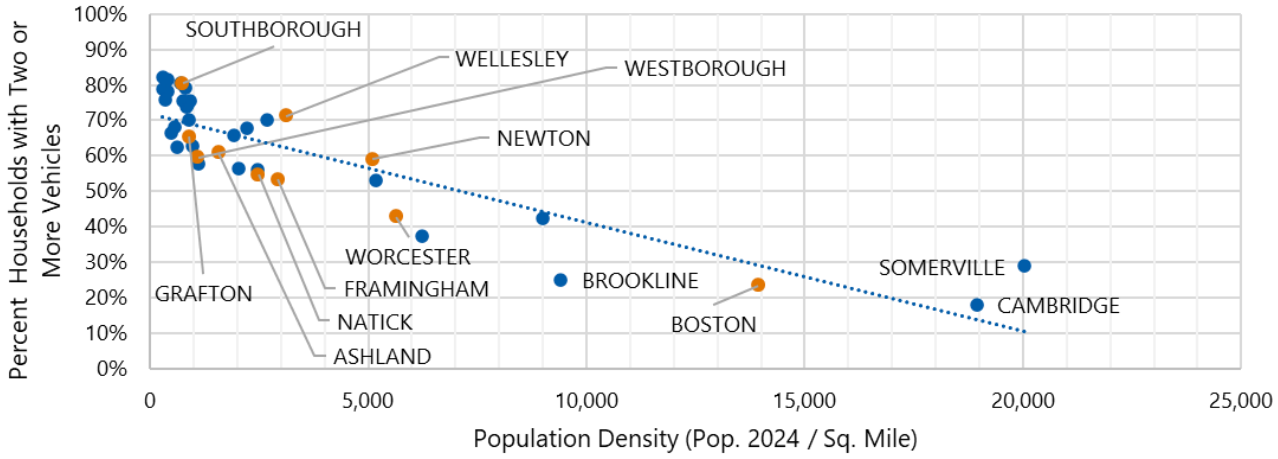


Figure 10: Percent of Households with Two or More Vehicles by Median Household Income. Communities with Worcester Line Stops in Orange. Blue indicates adjacent communities.

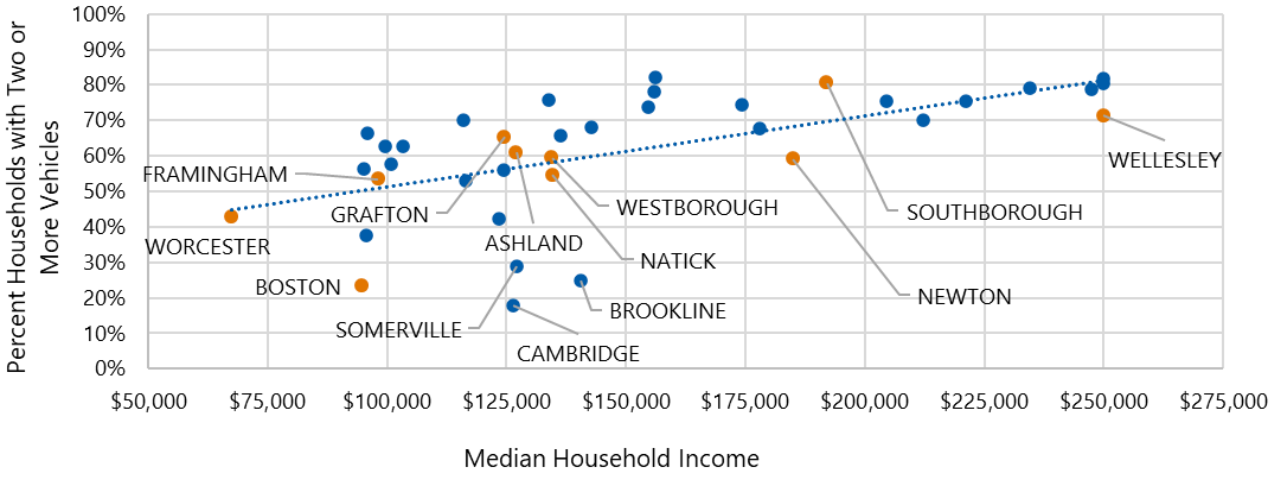
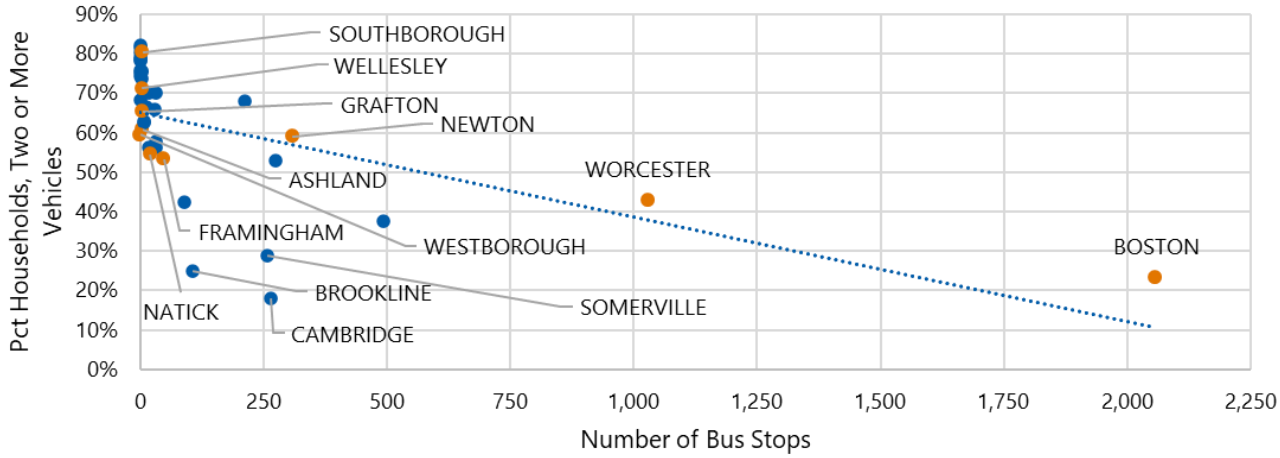


Figure 11: Percent of Households with Two or More Vehicles by Number of Bus Stops. Communities with Worcester Line Stops in Orange. Blue indicates adjacent communities.



Source: U.S. Census Bureau, American Community Survey 2023 5-YR, DP03 "Selected Economic Characteristics," DP04 "Selected Housing Characteristics"; 2020-2024 Census Population Estimates "Minor Civil Divisions"; MassGIS MBTA Bus Routes and Stops, RTA Bus Stops. ***Stop Communities in Orange.***

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