



Date February 23, 2023

To Office of Transportation Planning
Attn: Makaela Niles, Project Manager
Massachusetts Department of Transportation

From Western Mass Rail Coalition

RE **Northern Tier Passenger Rail Study - Comments and Suggestions**

Dear Makaela,

With this letter we are submitting the following set of comments regarding the presentation¹ that was made as part of the Northern Tier Rail Study Public Workshop meeting on January 11, 2023.

Sincerely,

Western Mass Rail Coalition

¹ [Northern Tier Passenger Rail Study Public Workshop Presentation](#), January 11, 2023

Northern Tier Passenger Rail Study Comments

The ridership estimates need further work

On the surface the ridership estimates seem rather low.

Commenting first on the projected ridership for the North Adams station stop –

The Study Team’s forecast for North Adams range from:

220 – 440 annual boardings for the Lower Investment Alternative

1,430 – 4,180 annual boardings the Higher Investment Alternative

This works out to about one (1) boarding per day for the lower investment alternative and between 4 and 11 boardings per day for the higher investment alternative. Both sets of numbers seem exceedingly low considering that the study team has proposed six round trips trains a day.

We think it would be useful to compare the projected boardings for North Adams with the actual boardings for the [Brunswick train station](#), the northern terminus of Amtrak’s *Downeaster* service which operates daily between Boston, Portland, and Brunswick.

We think these stations are comparable for a number of reasons, in particular because their populations are similar and because they both are terminal stations on rail corridors whose other terminal is Boston North Station.

North Adams MA

Boardings (projected)	1,430 – 4,180/year¹
Population	20,492 (2020) incl. Williamstown
Proposed train service	6 round trips/day
Travel time to Boston by train ²	2hr 48m

Brunswick ME

Boardings² (actual)	approx. 32,000/year (65,109 riders in FY2022)
Population	21,756 (2020)
Train service	5 round trips/day (Amtrak Downeaster)
Travel time to Boston by train	3hr 20m

What is noteworthy is that the actual boardings at the station in Brunswick (with 5 round trips per day) are *8 to 22 times greater* than the projected boardings in North Adams (with 6 round trips per day) — even after considering that the travel time by train from Brunswick to Boston is about 30 minutes longer than the projected travel time by train from North Adams to Boston.

The Downeaster service to Brunswick has been operating for about 10 years now, so part of the difference could be because it takes time to build ridership.

Ridership in Brunswick is high because the Northern New England Passenger Rail Authority (NNEPRA) has set fares at very reasonable levels and they have very actively promoted Downeaster service since its inception.

We think the study team should take another look at the ridership numbers for North Adams. They should consider the possibility that what happened in Brunswick, when the Downeaster arrived, could happen in North Adams as well.

¹ Boarding numbers shown are for the Higher Investment Alternative.

² For boardings we assumed that half of reported ridership is boarding and the other half is detraining at the station.

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And now if we look at the projected ridership for Greenfield —

The Study Team's forecast for Greenfield range from:

2,370 – 6,660 annual boardings for the Lower Investment Alternative

7,370 – 20,350 annual boardings for the Higher Investment Alternative

This works out to about 6 – 18 boarding per day for the lower investment alternative and 20 – 56 boardings per day for the higher investment alternative — with six round trips trains a day, as proposed by the study team.

These numbers also seem low compared to the actual boardings in Brunswick (a comparable station) and when one considers that Greenfield would be only a 2 hour train ride from Boston, with the Higher Investment Alternative.

We think it is very important to carefully factor in the potential ridership that could exist with a well-timed connection between the *Vermont* and points west of Greenfield, in particular Boston.

The connection in Greenfield would work just like the connection that takes place today when *Valley Flyer* riders step off the train at New Haven Union Station and then board an Amtrak Northeast Corridor train to continue their journey.

In 2016 the Massachusetts Department of Transportation and the Vermont Agency of Transportation, in coordination with the Connecticut Department of Transportation, completed a three-year feasibility and planning study known as the Northern New England Intercity Rail Initiative. (NNEIRI Study)

This study recommended that a new round trip passenger train between Boston and Montreal via Springfield be established. The projected annual ridership between Eastern MA and Vermont/Montreal for this new service is shown in this table:

Eastern MA – Southern VT	34,700
Eastern MA – Northern VT	28,200
Eastern MA – Montreal	113,100
TOTAL	176,000 riders/year

Data source: [Northern New England Intercity Rail Initiative Study Summary](#), 2016, page 10

If we conservatively estimate that half (50%) of the ridership that was projected in the NNEIRI Study would be willing to travel between Boston and Vermont/Montreal by making a connection in Greenfield we are left with 88,000 riders/year on this route.

In this case, roughly 44,000 people per year (121 people per day on average) would be boarding a train in Boston to travel to Greenfield to connect with the northbound Vermonter and another 44,000 people a year (121 people per day on average) would be stepping off the southbound Vermonter in Greenfield to board a train destined to Boston.

This ridership does not appear to be accounted for in the current projections for the Northern Tier Passenger Rail Study at the moment and it should be.

The need for an intermediate stop in the Athol-Orange area

We strongly recommend that the study team include an intermediate stop between Greenfield and Fitchburg, since these two stops are separated by a distance of nearly 50 miles.

An intermediate stop would allow people who live east of Greenfield to more easily use the proposed service to travel to Boston rather than requiring them to drive to the station in Fitchburg — or west to Greenfield (opposite the direction they wish to travel by train) from Millers Falls, as example.

The ideal location for such a stop seems to be the Athol-Orange area which has a combined population of nearly 20,000 people and is approximately halfway between Greenfield and Fitchburg.

The need for an intermediate stop at Porter Square in Cambridge

We recommend that the study team include a stop for this proposed service at the existing MBTA Porter Square Station in Cambridge since approximately 30% of all riders on the MBTA Fitchburg line step on or off at this station.¹

¹ [Commuter Rail Counts, Fitchburg Line, 2018](#)

Upgrades to support higher speeds will be needed

In the presentation the study team outlined two sets of infrastructure investments, referred to as the Lower Investment Alternative and the Higher Investment Alternative.

The Lower Investment Alternative envisions that no significant track improvements will be made to the corridor before service starts.

Without track improvements the run time between Boston and Greenfield and North Adams would be 2hr 35m and 4hr respectively and trains would operate at an average speed of less than 30 mph between North Adams and Fitchburg. We think these running times are too long and the train speed too slow to support sustained ridership.

If this project is to move forward the track improvements outlined in the Higher Investment Alternative will be necessary so that trains can operate with lower running times and at higher speeds along the Northern Tier Corridor.

The infrastructure investment costs estimates seem unreasonable high

The Study Team's proposed investment estimates seem very high when compared to

- (a) the Patriot Corridor Project, which was the previous heavy rehabilitation of this line in 2011, and
- (b) the Knowledge Corridor – Restore Vermonter project which was completed in 2015.

The capital cost per mile for these each of these projects can be summarized as follows:

Patriot Corridor Project (2009 – 2011)

\$ 0.5 million per mile (in 2022 dollars), as detailed in Appendix 1

Knowledge Corridor Project (2011 – 2015)

\$ 3.7 million per mile (in 2022 dollars), as detailed in Appendix 2

Northern Tier Project – Lower Investment Alternative

\$ 11.0 million per mile (in 2027 dollars), as detailed in Appendix 3

Northern Tier Project – Higher Investment Alternative

\$ 24.8 million per mile (in 2027 dollars), as detailed in Appendix 3.

Of course these projects are not identical, but we think that they are similar enough to allow us to compare the cost per mile for each project.

The Northern Tier capital improvement numbers, on a cost per mile basis, are *22 times higher* for the lower investment option and *50 times higher* for the higher investment option compared to the Patriot Corridor project.

The Northern Tier capital improvement numbers, on a cost per mile basis, are *3 times higher* for the lower investment option and *6 times higher* for the higher investment option compared to the Knowledge Corridor project.

If we use the Knowledge Corridor \$3.7 million cost per mile (in 2022 dollars) the capital cost of the *Higher Investment Alternative* works out as follows:

Track work	\$3.7 million x 83 miles =	\$ 307 million
Construction contingency (35%) =		\$ 107 million (35% was used in the East-West Rail Study)
Signals & Grade Crossings =		\$ 143 million (includes 50% contingency)
TOTAL		\$ 557 million

This number (\$557 million) would seem to be “in the ballpark,” or even on the high side, when one considers that most of the Northern Tier Corridor is in significantly better physical condition than the Knowledge Corridor was back in 2011.

We think it would be appropriate for the study team to take another look at the capital costs and see if maybe the projected costs are too high.

The estimated cost for bridge work seems to be very high

The study team has proposed that \$450 million dollars be spent on bridge work for the Northern Tier Project. This would appear to suggest that the study team feels that many of the bridges on this line need to be replaced before passenger service can be provided on this line.

A lay person would ask the obvious question here, which is why would it be necessary to spend \$450 million on bridges to support passenger trains when the existing bridges are safely supporting freight trains today.

Notably, the bridges along the Knowledge Corridor, many of which are of the same vintage as the bridges on the Northern Tier Corridor, were upgraded to support passenger service at a cost that was a fraction of what the study team says needs to be spent before passenger trains can operate on the Northern Tier Corridor.

It would seem to us that rather than spend \$450 million replacing bridges, if that is what is being proposed, that the study team should look to the lessons learned from the Knowledge Corridor project — where appropriate bridge repairs were made and permanent speed restrictions were imposed on some bridges (if needed).

Rolling Stock expense

Why has the study team included a cost (\$44.54 million) for rolling stock (coaches and engines) in the cost alternatives?

This cost apparently assumes that the MBTA would be the operator of the service, which would appear to be contradictory to MassDOT's apparent desire for Amtrak to be the operator of intercity passenger rail service in the Commonwealth.¹

If Amtrak were the operator of the service then there would not be any fixed capital cost for rolling stock since Amtrak's cost for providing the service would include usage-based costs associated with using Amtrak-owned rolling stock.

¹ [Massachusetts Intercity Passenger Rail Governance White Paper](#), November 12, 2021

Capital costs associated with a phased introduction of service

Decision makers may wish to consider the possibility of phasing the introduction of passenger rail service on this route, as example a first phase being a one-seat ride between Greenfield and Boston, and a second phase being, an extension of the Greenfield–Boston service to North Adams.

With this in mind we request that the study team adapt its work so that the capital and operating costs are clearly broken out into two parts, (a) Greenfield-Boston service, and (2) an extension of this service from Greenfield to North Adams.

To be clear, we are not asking with this letter that the introduction of this service be phased. We are only asking that the costs be clearly detailed so that decision makers in the future can understand the costs associated with a possible phasing of the service.

Involvement of the rail corridor's owner in the development of capital costs

The presentation that was made by the study team during the January 11, 2023 Public Workshop meeting summarized, at a very high level, significant capital improvements to the privately owned rail corridor between Fitchburg, Greenfield, and North Adams.

It is not clear at the moment what level of involvement the owners of this rail corridor (Pan Am Southern LLC) had in the development of the infrastructure improvements that the study team has summarized in the Public Workshop presentation.

With this in mind, it would be useful for the Working Group and the public to fully understand what involvement if any Pan Am Southern LLC has had in the development of proposed capital improvements and the associated costs for Northern Tier Study.

The high cost associated with starting the service with five round trips a day

We suggest that the study focus on a more modest introduction of service — with three round trips per day instead of five. Reducing the number of round trips at the start would significantly reduce the annual cost to operate the service.

With this in mind, we would suggest an early morning round trip, an early evening round trip, and afternoon trips that are timed to allow a westbound Northern Tier train to connect with the northbound Vermonter, and the southbound Vermonter to connect with an eastbound Northern Tier train.

The next study meeting should be a hybrid meeting in Greenfield

As a final comment, we would like to ask that future study meetings be hosted as hybrid meetings rather than virtual meetings.

As convenient as virtual meetings are, we feel that much is lost when all of the study meetings are only hosted as virtual meetings.

An in person meeting allows for the opportunity for the study team, the working group, and the public to meet face-to-face and build relationships with one another, which is something that is for the most part not possible in the two-dimensional world of virtual meetings.

In person meetings, with a hybrid option, we feel would lead to better communication and collaboration between everyone involved in the study process.

If a hybrid meeting is to be held it would make sense to us that it be hosted in Greenfield in the large public meeting room at the Olver Transit Center.

Western Mass Rail Coalition

An association of rail advocacy groups working together
to expand the use of passenger rail in Western Massachusetts.

westernmassrail.org

Member Organizations

Trains In The Valley

trainsinthevalley.org

Contact: Ben Heckscher

ben@trainsinthevalley.org

413-588-8260

Citizens for a Palmer Rail Stop

palmertrain.org

Contact: Ben Hood

palmertrain@gmail.com

(413) 283-2141

The Train Campaign

barringtoninstitute.org

Contact: Karen Christensen

karen@barringtoninstitute.org

413-528-0206

Chester Railway Station & Museum

chesterrailwaystation.net

Contact: Bob Daley

rdchester@comcast.net

413-354-6365

APPENDIX 1

Patriot Corridor project background and basis for cost per mile cost

Between 2009 and 2011 the rail corridor between North Adams and Fitchburg was substantially upgraded by Pan Am Southern LLC as part of the Patriot Corridor Project.

Approximately \$47.5 million¹ (in 2009 dollars) was spent on rehabilitation of the Pan Am Southern Main Line between Ayer MA and Mechanicville NY. The project included the rehabilitation of 138 miles of track, replacement ties, and just over 35 miles of new continuously welded rail.

When this work was completed the main line track between North Adams and Fitchburg included the following mix of track² —

	<u>Maximum speeds for track class</u>
2 route miles of Class 1 track	10 mph freight / 15 mph passenger
71 route miles of Class 2 track	25 mph freight / 30 mph passenger
19 route miles of Class 3 track	40 mph freight / 60 mph passenger

The capital cost for this 138 mile Patriot Corridor Project was \$ 63.3 million (in 2022 dollars) which works out to a cost of roughly \$0.5 million per mile (in 2022 dollars).

¹ MassDOT State Rail Plan, September 2010, Page 2-59.

² Pan Am Railways, Timetable No. 3, June 15, 2014.

APPENDIX 2

Knowledge Corridor project background and basis for cost per mile cost

Between 2011 and 2016 the Knowledge Corridor (a.k.a. the Connecticut River Main Line) between Springfield MA and East Northfield MA was totally rebuilt as part of the Knowledge Corridor – Restore Vermonter project.

The Knowledge Corridor project transformed 49 miles of Class 1 (10 mph freight) main line between Springfield MA and East Northfield MA to Class 4 track with a top passenger speed of 79 mph — at a cost of \$140 million in 2011 dollars.

The project included the replacement of approximately 95,000 railroad ties; installation of 49 miles of new continuously welded rail; installation of new turnouts and crossovers; installation of a new signal system; installation of new warning devices at 23 public grade crossings and four private crossings; upgrades to six bridges and the construction of new timber station platforms in Greenfield and Northampton.

The capital cost for the 49 mile Knowledge Corridor Project was \$ 182.2 million (in 2022 dollars) which works out to a cost of roughly \$3.7 million per mile (in 2022 dollars).

APPENDIX 3

Proposed Northern Tier Passenger Rail Project and basis for cost per mile cost¹

	Lower Investment	Higher Investment
Track work	\$ 273 million	\$ 1,418 million
Bridges	\$ 450 million	\$ 450 million
Signals & Grade XCs	\$ 145 million	\$ 143 million
Stations & Layover	\$ 46 million	\$ 46 million
TOTAL COST	\$ 914 million	\$ 2,057 million
Cost per mile	\$ 11.0 million per mile	\$24.8 million per mile

Notes:

All amounts are 2027 dollars

Mileage used was 83 miles (Fitchburg to North Adams)

Data source: Northern Tier Public Workshop presentation, January 11, 2023

¹ Not including rolling stock