RAIL WITH TRAIL

Preliminary Feasibility Assessment of Building an Active Transportation Corridor from Portland to Yarmouth

December 2017

PACTS

GPCOG
GREATER PORTLAND
COUNCIL OF GOVERNMENTS

SUMMARY

This report provides preliminary information about the technical feasibility of adding a trail along a 10 mile stretch of rail from Portland north to Yarmouth. It also assesses the level of community support for such a project.

In 2017, the Greater Portland Council of Governments facilitated a short, 5-month process with support from the region's transportation planning agency and the municipalities of Yarmouth, Cumberland, Falmouth and Portland.

We looked at rail *with* trail, not rail *to* trail. This is an important distinction. Our project purpose was to investigate how feasible it would be to add a trail to the existing rail right-of-way so as to preserve the potential for future restoration of freight and/or passenger rail service to the currently inactive rail corridor. For the purposes of this study, a trail is a shared-use path designed for people to walk, run, and bike on.

A well-attended public meeting indicated a high level of community support for adding a trail to the rail corridor. Residents supported a trail because it would give people an option to avoid driving and traffic, bike safely, and commute in a climate-friendly way. Others cited the benefits of improved quality of life, public health, economic development, and increased property values.

Many residents expressed that it is important to preserve the rail because public transportation is an important piece of the region's future transportation network. A few opposed constructing a trail because they felt it could undermine the feasibility of restoring rail service. Others offered the opinion that it would be less costly to convert the rail to a trail. One stakeholder suggested paving the line for rapid bus.

The rail right-of-way was purchased by the Maine Department of Transportation for rail purposes. A freight operator, Genesee and Wyoming, holds an operator easement, but is not currently operating freight service on the rail line. If a trail were to be added to this rail corridor, the Maine Department of Transportation would need to approve such a use.

Trails have been constructed next to active rail lines elsewhere in the country. There are lessons learned from these projects, as well as from experiences in Maine. Most notably, it is critical to carefully design a trail so as to not degrade existing rail service or the potential for restoring rail service.

The rail right-of-way from Portland to Yarmouth is wide – 99 feet in most places. But, there are other physical constraints that would need to be addressed, such as crossing the Presumpscot River, going under the Falmouth Spur, and widening existing embankments within the right-of-way in places where the ground slopes steeply away from the railbed. All of these constraints could be engineered with enough funds.

A rough cost estimate for building a trail alongside the rail from the Portland B&M factory to just north of Yarmouth's village is almost $23 million, with about a third of these costs related to bridge crossings. It may prove practical to route some of the potential trail onto roads to get around these physical constraints and reduce costs. This report offers a few options for off-rail, alternative segments of the trail.

The next steps are in the hands of you – the community. If, after reading this preliminary assessment, the municipalities and its residents want to further explore creating an active transportation corridor between Portland and Yarmouth, a more detailed feasibility study needs to be developed. There are many details that are not available at this "10,000-foot high" level of project scoping. In order to begin to answer important questions about a rail with trail, a preliminary project plan would need to be developed and discussed with the Maine Department of Transportation, Genesee and Wyoming, the Northern New England Passenger Rail Authority, and the community at large.

ORIGINS OF THIS REPORT

In May of 2017, the Town of Yarmouth, Town of Cumberland, Town of Falmouth, the City of Portland, and the East Coast Greenway Alliance requested support from the region's transportation planning agency, the Portland Area Comprehensive Transportation System (PACTS), to explore a rail-with-trail facility along the St. Lawrence and Atlantic Rail corridor.

This report is a result of that request. This preliminary feasibility assessment was commissioned by PACTS with an allocation of $4,000, which was matched with $1,000 from the four interested municipalities. PACTS also provided technical support available through another project to develop a regional active transportation plan.

Kristina Egan, the Executive Director of the Greater Portland Council of Governments (GPCOG), prepared this report with engineering support from Vanasse Hangen Brustlin, Inc.

THANK YOU

The author is grateful to the following people for providing information for and input into this report:

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- Patricia Quinn, Executive Director, Northern New England Passenger Rail Authority
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- Rick Harbison, Nathan Broaddus, Dianna Fletcher, and Ian Edgecomb, GPCOG

Many people in the community also shaped this report by sharing their time and insights. We offer a special thanks to Senator Cathy Breen, Tony Donovan, Matt Teare, and Paul Weiss, along with the sixty community members who braved a snowy December night to share their hopes, concerns and thoughts about the potential for adding a trail alongside the rail.

PROJECT PURPOSE AND METHOD

The purpose of this five month project was:

> *"To explore the possibility of and support for active transportation corridor alternatives that would connect Portland, Falmouth, Cumberland, and Yarmouth, address congestion on 295, and protect the potential for restoring freight and passenger rail, including a rail with trail along the St. Lawrence and Atlantic."*

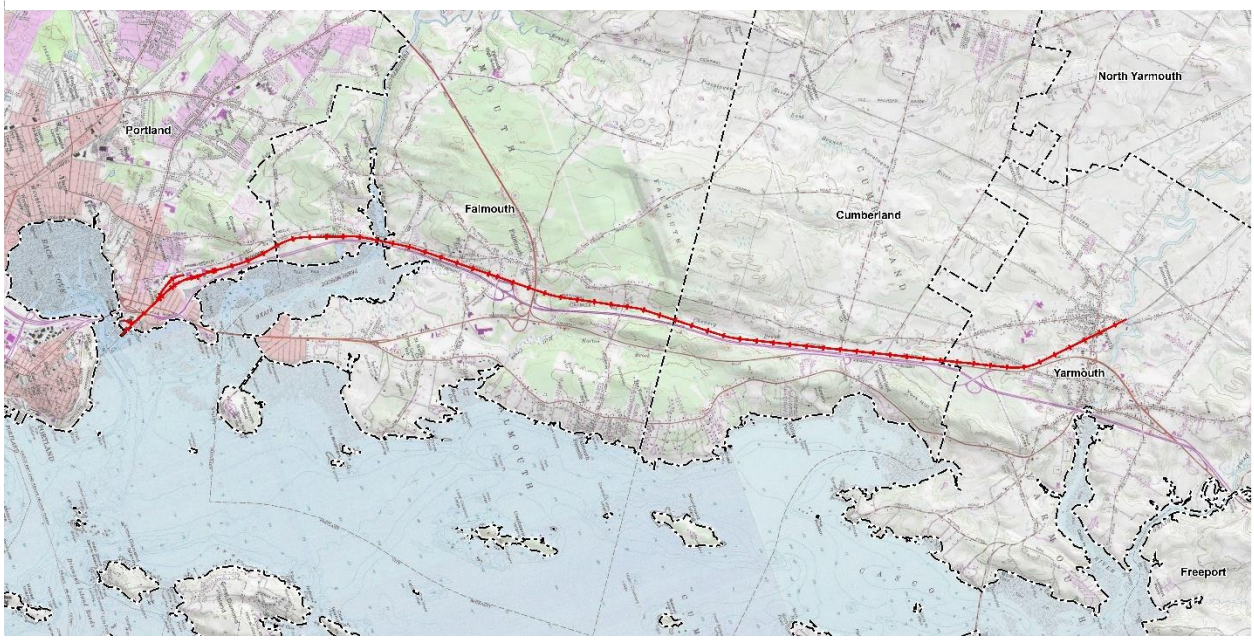
The method for approaching this work was to:

1) **Conduct interviews with key stakeholders**, including: the Maine Department of Transportation, which owns the rail right-of way; Genesee & Wyoming, the railroad company that holds the easement to operate freight rail service on the St. Lawrence and Atlantic railway; the Northern New England Passenger Rail Authority, which is leading a study to determine the market for passenger rail service from Portland to Lewiston-Auburn; and the Maine Rail Transit Coalition and the Sierra Club, advocacy groups that support passenger rail to Lewiston-Auburn.
2) **Tour the rail line** to develop a working understanding of the geography, topography, constraints, opportunities, and connection points to places in the region.
3) **Develop preliminary technical information** including: creating base maps that show the rail right-of-way, topography, environmental constraints, utilities, culverts, bridges, and road crossings; evaluating alternative segments of the trail that could be diverted off the rail to avoid costly constraints; developing order of magnitude cost estimates for the project; and developing case studies of other places that have developed a trail alongside an active rail line.
4) **Gather input from the region's residents** by holding a public meeting to provide preliminary technical information, explore the benefits of the potential project, identify concerns with the project, develop alternative route segments, and discuss case studies of rails with trails.
5) **Produce a final report** for the community, which is this document.

STUDY AREA

The study area is approximately 10 miles long, following the St. Lawrence and Atlantic railway and spanning from Portland (near the B&M bean factory), through Falmouth and Cumberland, and ending just north of downtown Yarmouth (near the Royal River Park and Yarmouth Historical Society). The railroad parallels the I-295 highway for most of this 10-mile stretch.

Figure 1: Study Area from Portland to Yarmouth



BACKGROUND

Currently, rail use has been discontinued on the 10-mile stretch explored in this report. Tracks remain and rail service, were it to resume, is limited to 25 miles per hour[1]. No multi-use trail exists on any portion of the rail property, and walking or biking on the rail right-of-way is prohibited.

Right-of-Way Ownership

The tracks along the St. Lawrence and Atlantic Railroad run from Portland north to Yarmouth, then to Lewiston-Auburn and then northwest to New Hampshire, Vermont, and eventually Canada. The Maine Department of Transportation purchased a portion of this rail right-of-way from the Auburn/New Gloucester line to Portland. The purpose of the purchase was to preserve the rail corridor for rail freight and/or passenger service.[2]

Freight Rail Service

The rail line has been used to transport freight in the past, most recently ferrying raw materials to the Portland baked bean factory, B&M. This freight service concluded in late 2015, and no rail service has run on the line since.

Genesee & Wyoming, the private freight railroad company that includes short line operator St. Lawrence and Atlantic Railroad, has an operating easement for transporting freight on the rail line.

[1] This is based on existing Track Charts.

[2] For the law governing the state's role in preserving railroad, see the State Railroad Preservation Act.

That easement expires at the end of 2018. Genesee & Wyoming has the option to renew. Genesee and Wyoming expressed opposition to adding a trail to the rail corridor for safety and liability reasons.

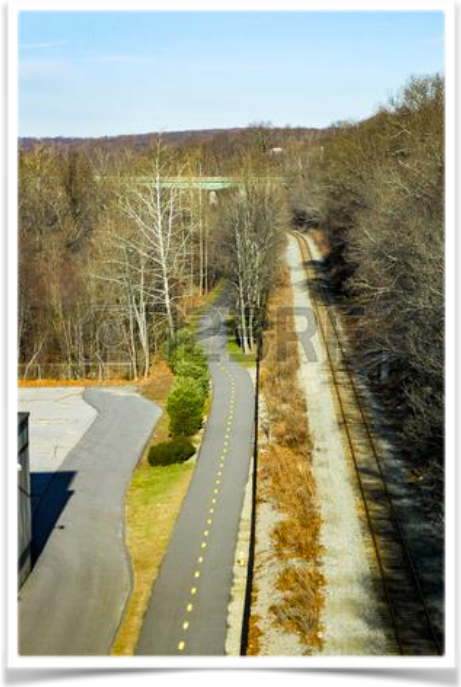
In the meantime, the railroad and MaineDOT will continue to explore opportunities for bringing freight rail customers onto the rail line.

Potential for Passenger Rail Service

The legislature recently funded a study of passenger rail service between Portland and Lewiston-Auburn. The first phase of the study will determine the market demand; the second phase will determine the cost to build and operate passenger rail service and assess environmental impacts. The Northern New England Passenger Rail Authority, which operates the Downeaster, is leading the effort. This study, slated to be completed in about a year, follows a previous 2011 feasibility assessment[3] conducted by the Maine Department of Transportation.

Rails with Trails

Figure 2: The Blackstone River Bikeway, Rhode Island (2002)



Paths for walking and biking have been installed alongside active rail lines in many parts of the country. For more information, see Appendix A: *Rail-With-Trail: A Growing Trend*, a report prepared by the East Coast Greenway Alliance.

MaineDOT has minimum standards for the development of a trail next to a rail, including a required set-back of 15 feet from the rail. MaineDOT can grant exceptions, but will not compromise safety, efficient rail line operations, or maintenance. For this project, if a trail were to be built alongside the tracks, experts agree that careful attention is needed to design the trail in such a way to avoid degrading the potential for rail service. This includes addressing drainage issues and ensuring that any community commitments be kept for building fencing or barriers between the operating rail and the trail users to ensure smooth restoration of rail.

[3] http://www.maine.gov/mdot/planning/docs/portlandnorth/intercity_rail_report_rev2_AUG2011.pdf

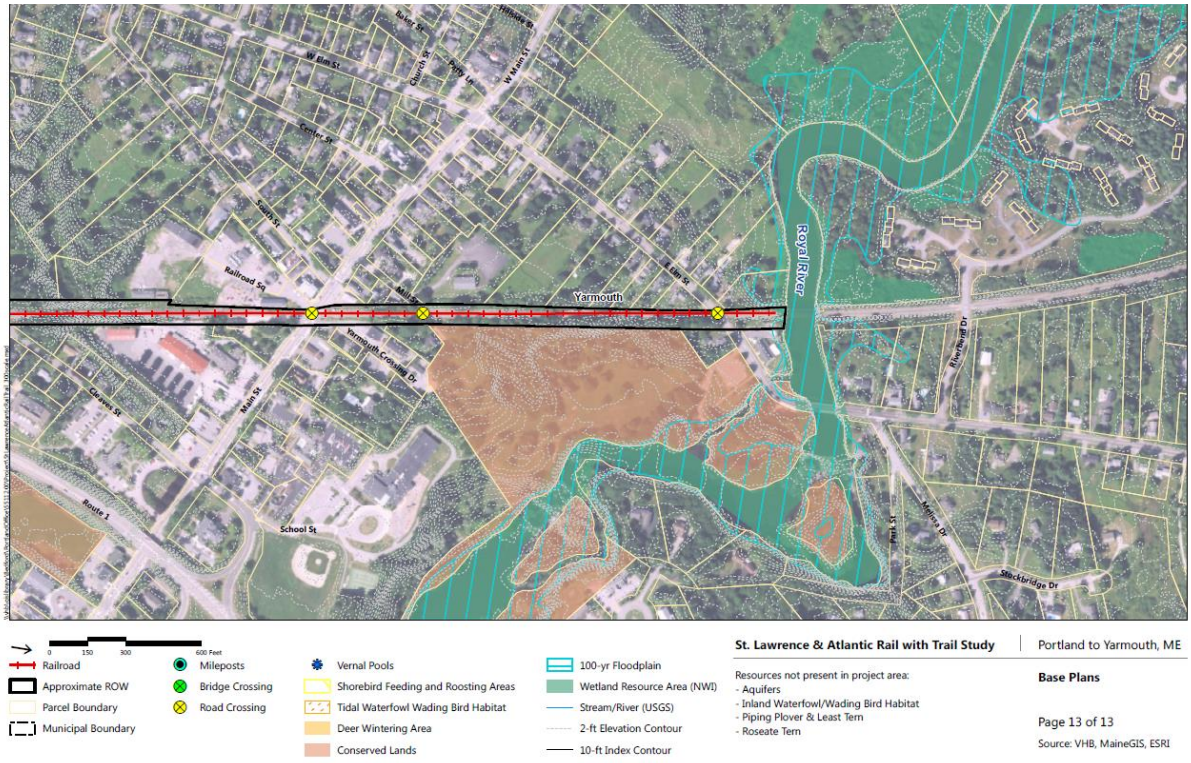
EXISTING CONDITIONS

The tracks in the study area run through 4 municipalities and cross 5 bridges, 6 large culverts, and 9 roads. There are physical and environmental constraints to adding a multi-use trail next to the rail.

The rail right-of-way is 99 feet in width in most places, 55 feet to the west and 44 feet to the east of the center of the existing tracks. Based on the additional width to the west side and the connections to existing communities to the west, this study has assessed a trail along the west side of the tracks.

Base mapping for the study area was developed by VHB from available Geographic Information System (GIS) data obtained through Maine Office of GIS and ESRI. Data used for evaluation includes aerial photography, municipal boundaries, property and right-of-way (ROW) lines, existing topography, and various environmental layers including wetlands, floodplains, streams, conservation land, deer wintering areas, and bird habitats. The mapping was developed at a scale of 1 inch = 300 feet for presentation purposes in the form of color graphics for 13 different segments of the line, running from Portland north to Yarmouth. Detailed maps for all segments are available here. A sample of these graphics is shown below.

Figure 3: Sample map of northern most segment of the study area (Yarmouth)



Photos of existing bridge crossings of the Presumpscot River, Falmouth Spur, and Veranda Street are shown below.

Figure 4: Presumpscot River crossing

Figure 5: Falmouth Spur bridge crossing

Figure 6: Veranda Street bridge crossing

PRELIMINARY ASSESSMENT OF FEASIBILITY

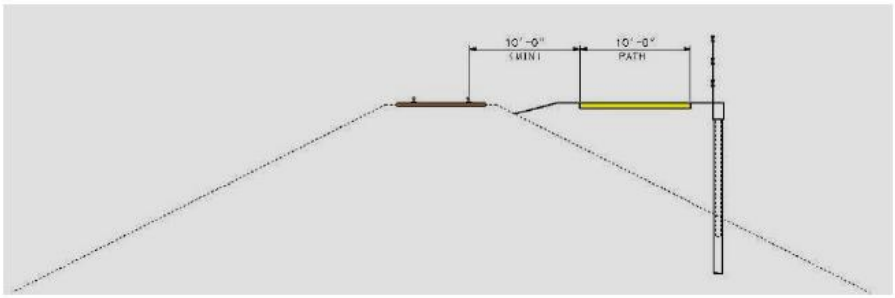
The assessment included obtaining available information from various resources including MaineDOT, Maine Office of GIS and ESRI. This GIS data was overlayed within the existing railroad ROW to identify environmental impacts and associated construction impacts for construction of a 10-foot wide trail alongside the existing rail, not precluding the potential for future freight or passenger rail service. This assessment contains minimal detail and therefore is only useful as a first

step in assessing the potential for further consideration of a potential rail with trail along this corridor.

The evaluation looked at four types of typical sections along the corridor based on the existing topography.

1. A “normal” section was considered where the ground adjacent to the track was mostly flat and minimal cut or fill would be required to construct an adjacent trail.
2. A “fill” section was considered where the ground adjacent to the track sloped down and away from the track but at a slope that would allow construction of a path by filling in the ground adjacent to the track and still stay within the existing railroad ROW.
3. A “cut” section was considered where the ground adjacent to the track sloped up and away from the track but at a slope that would allow construction of a path by cutting into the terrain adjacent to the track and still stay within the existing railroad ROW.
4. Finally, a “retaining wall” section was considered in areas where the adjacent ground sloped away with steep slopes, and a retaining wall would be required to allow the trail to be constructed and remain within the existing railroad ROW.

High Fill with Retaining Wall Typical Section



The rail corridor study limits were just under 10 miles long. The existing rail line is not centered within the 99-foot ROW and is offset 55 feet to the west and 44 feet to the east of the rail centerline. Since Route I-295 parallels the corridor to the east, and the wider section of ROW is to the west, construction requirements appear to be more amenable on the west side. Additionally, since connection to the surrounding four communities are more easily made to the west, the trail was considered along the west side of the existing rail line.

There are 5 bridge crossings within the study corridor including I-295 and Veranda Street in Portland, the Presumpscot River and Falmouth Spur in Falmouth, and Tuttle Road in Cumberland. The 9 at-grade road crossings are located at Lunt Road, Bucknam Road, and Johnson Road in Falmouth, and the remaining at-grade crossings are in Yarmouth at the Park & Ride, Portland Road, Cleaves Road, Main Street, Mill Street, and E. Elm Street.

Based on the railroad's valuation plans, there are approximately 60 culvert crossings, 6 of which are considered large including Scitterygusset Creek, Mill Creek, and Chenery Brook.

Cost Estimates

Order of magnitude conceptual cost estimates were developed to assess the potential feasibility of a rail with trail based on a review of the existing available data and evaluation process mentioned above. These cost estimates are very conceptual, as is the proposed design, and based on previous rail with trail projects and conceptual unit costs. The estimated costs will, however, provide an overall order of magnitude guide as well as a way to compare individual segments.

The costs have been broken out based on each of the four communities. Overall the order of magnitude cost of the rail with trail for the entire length between Portland and Yarmouth is $22.6M dollars or approximately $2.3 million per mile.

Saint Lawrence Atlantic
Rail with Trail Feasibility Assessment
Order of Magnitude - Opinion of Conceptual Costs

Munic.	Costs	Miles	Sheet #	Total Length	Normal ($110/LF)		Fill ($300/LF)		Fill w/ Wall ($1300/LF)		Cut ($300/LF)		Grade X-ings	Bridge	Total Cost	
					Length	Cost	Length	Cost	Length	Cost	Length	Cost	Cost	Cost*		
Portland	$5,900,000	1.7	1	490	490	$ 53,900		$ -		$ -		$ -		$ 2,500,000	$ 2,553,900	I-295
			2	2,970	1950	$ 214,500		$ -		$ -	1020	$ 306,000		$ 1,000,000	$ 1,520,500	Veranda Street
			3	2,730	2410	$ 265,100	320	$ 96,000		$ -		$ -			$ 361,100	
			4	2,830	1570	$ 172,700	380	$ 114,000	880	$ 1,144,000		$ -			$ 1,430,700	
Falmouth	$10,700,000	3.8	5	2,970	2410	$ 265,100		$ -	330	$ 429,000	230	$ 69,000			$ 763,100	
			6	2,800	1,370	$ 150,700	190	$ 57,000	1240	$ 1,612,000		$ -		$ 2,000,000	$ 3,819,700	Presumpscot R
			7	2,880	620	$ 68,200	2140	$ 642,000	120	$ 156,000		$ -			$ 866,200	
			8	2,840	1540	$ 169,400		$ -	520	$ 676,000	780	$ 234,000	$ 100,000		$ 1,179,400	Lunt / Bucknan
			9	2,760	1400	$ 154,000		$ -	530	$ 689,000	830	$ 249,000		$ 1,750,000	$ 2,842,000	Falmouth Spur
			10	2,970	2280	$ 250,800		$ -		$ -	690	$ 207,000			$ 457,800	
			11	2,650	1980	$ 217,800	370	$ 111,000	300	$ 390,000		$ -	$ 50,000		$ 768,800	Johnson
Cumberland	$3,800,000	2.7	12	2,940	2040	$ 224,400	120	$ 36,000	780	$ 1,014,000		$ -			$ 1,274,400	
			13	2,920	2480	$ 272,800		$ -	440	$ 572,000		$ -			$ 844,800	
			14	2,700	2700	$ 297,000		$ -		$ -		$ -		$ 200,000	$ 497,000	Tuttle Road
			15	2,950	2650	$ 291,500	160	$ 48,000	140	$ 182,000		$ -			$ 521,500	
			16	2,840	2560	$ 281,600		$ -	280	$ 364,000		$ -			$ 645,600	
Yarmouth	$2,200,000	1.7	17	2,810	2130	$ 234,300	680	$ 204,000		$ -		$ -	$ 25,000		$ 463,300	Park & Ride
			18	3,020	2110	$ 232,100	910	$ 273,000		$ -		$ -	$ 75,000		$ 580,100	Portland / Clea
			19	2,840	2090	$ 229,900	200	$ 60,000	550	$ 715,000		$ -	$ 75,000		$ 1,079,900	Main / Mill
			20	270	40	$ 4,400	230	$ 69,000		$ -		$ -	$ 50,000		$ 123,400	E Elm
		9.9		52,180	36,820	$ 4,050,200	5,700	$ 1,710,000	6,110	$ 7,943,000	3,550	$ 1,065,000	$ 375,000	$ 7,450,000	$ 22,593,200	
															$ 22,600,000	Rounded

Note: This Order of Magnitude Opinion of Conceptual Costs is based on a conceptual alignment that runs adjacent to the existing rail line and based on mimimal available data.

This reflects an order of magnitude cost[4] to construct the paved trail alongside the rail, within the existing right-of-way. Costs could be reduced by routing some segments of the path onto public roads to avoid some of the most costly constraints, such as a river crossing.

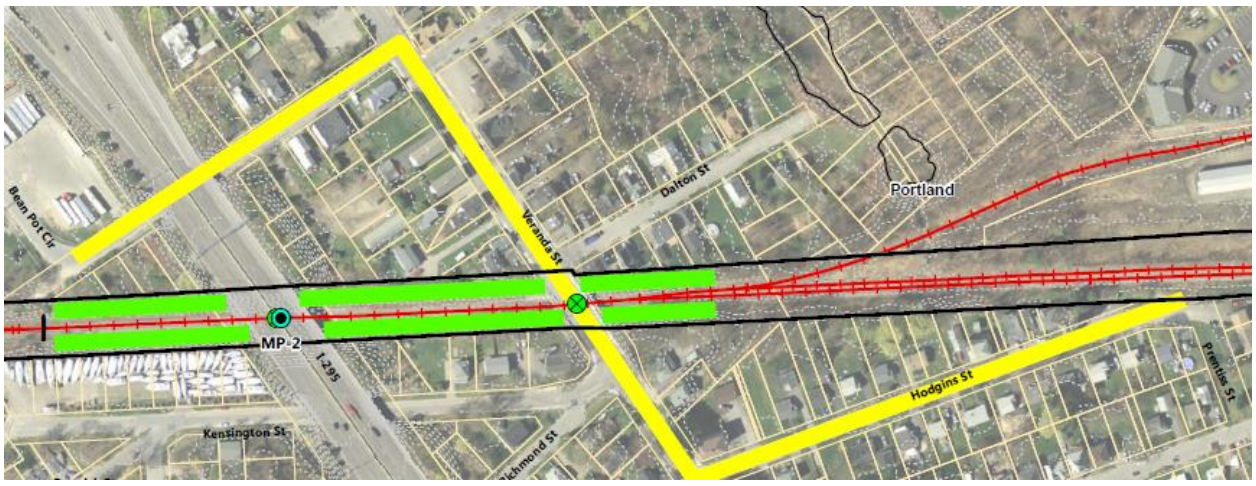
Breaking out the corridor into community segments may be the best approach as a start, with the Yarmouth segment being the most attainable based on constraints and costs. The Yarmouth segment is approximately 1.7 miles long, does not include any bridge crossings, and includes logical connections to existing facilities and destinations. The costs per community are listed below.

Community	Total Length (miles)	Order of Magnitude Cost ($M)
Portland	1.7	$5.9M
Falmouth	3.8	$10.7M
Cumberland	2.7	$3.8M
Yarmouth	1.7	$2.2M
Totals:	**9.9**	**$22.6M**

ALTERNATIVE SEGMENTS

Several bridge crossings in Portland and Falmouth were considered as constraints that could potentially be bypassed with alternative routes to avoid costly bridge reconstruction, as shown in the following figures. In Portland, the trail could utilize existing roads/sidewalks along Sherwood Street to Veranda Street to Hodgins Street to avoid the I-295 and Veranda Street bridge crossings.

Figure 4: Portland - On road segment to avoid I-295 and Veranda Street bridge crossings

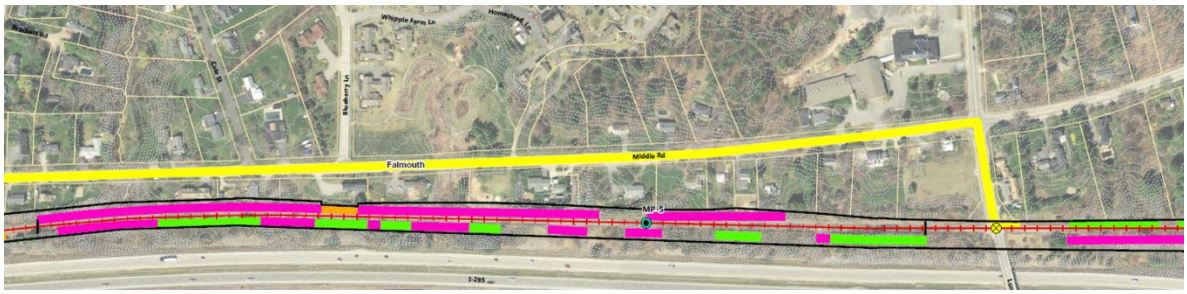


[4] Note that the conceptual order of magnitude cost estimate used 200-scale mapping to identify the limits of the various typical sections, which included 20 separate plan sheets. Assumptions were made to develop a cost per linear foot for each proposed typical section along the length of the corridor. Additional assumptions and conceptual costs were assigned for bridge crossings and at-grade crossings.

Similarly, the bridge crossing of the Presumpscot River in Falmouth could potentially be bypassed with an alternative alignment (Pine Road to Middle Road to Lunt Road). The alternative route would likely require some additional changes to the existing roads to accommodate bicycle and pedestrian use. Note that these improvements and costs were not assessed.

Figure 5: Falmouth – First portion of on road segment to avoid Presumpscot River bridge crossing

Figure 6: Falmouth – Second portion of on road segment to avoid Presumpscot River bridge crossing



REGIONAL CONNECTIONS

The potential trail along the St. Lawrence and Atlantic could connect to other trails in the region, and would also become part of the regional transportation network. In Yarmouth for example, the Beth Condon Trail and the Park and Ride are logical connections for the trail. In Falmouth, the town has identified the exploration of a potential trail along this very corridor in the 2016 Falmouth Bicycle and Pedestrian Plan. If the trail were constructed, it would also connect to other future improvements identified in the Plan. Other communities also have adjacent trails or plans for future trails including Portland along Veranda Street.

During the public meeting held for this project several attendees voiced support for the potential trail and the connections that could follow. Several participants recommended the trail connect to the Back Cove trail and continue over the trestle bridge in Portland to the Eastern Promenade Trail.

COMMUNITY INPUT

About 60 people came out on a snowy December evening in Falmouth for a public meeting to discuss the potential for a rail with trail project. There was widespread agreement among the participants that:

- The current corridor is underutilized
- The corridor would require significant investment for any new transportation uses
- The corridor deserves investment because it is a great opportunity to improve mobility in the region

In addition, the vast majority of the residents in attendance expressed a high level of support for adding a trail to the rail corridor.

Many residents also emphasized the importance of preserving the rail because public transportation is an important piece of the region's future transportation network. A few opposed constructing a trail because it could undermine the feasibility of restoring rail service. While others offered that it would be less costly to convert the rail to a trail. Several people who owned property that abuts the rail right-of-way expressed concerns about the trail's impact on their land and their families' quality of life.

Below is a summary of the key themes that resonated with many of the people who attended the public meeting. This summary includes some direct quotes from participants. Several others provided written and oral comments to GPCOG, which have been integrated into the below summary. Where there was dissent that is noted under the themes.

A trail would bring benefits to residents.

Residents supported a trail, citing many reasons, including:

- **Increased transportation choices.** People are eager for transportation choices. They would like to be able to opt out of traffic on I-295 and to choose not to use their cars. They would like to have safer walking and biking options. A trail would benefit city dwellers, and particularly kids in East Deering, as well as residents in the northern communities. Residents in new developments planned for Yarmouth village would also benefit.
- **Improved safety for cyclists.** There are only a few corridors that run north to south, and a dedicated path would be safer. Bicycling on Route 9 is perceived to be dangerous, while bicycling over Tukey's Bridge in Portland is "a nightmare" because the path is narrow and often crowded.

- **Improved quality of life.** The communities that host the path would be providing an amenity to their residents. Several attendees had lived near paths in other places around the country and attested to the positive impact it had on their quality of life.
- **Improved health.** A multiuse path on which people will walk, bike, and run encourages physical activity, which is important for reducing chronic disease and obesity.
- **Economic development.** Trails bring businesses that want to have access to trail users, and a trail will help increase economic development in the hosting communities.
- **Increased property values.** Some people who buy real estate want access to amenities, such as a path. This can result in increased property values in the towns that would host a trail. In other places in the nation with paths, real estate agents actively tout a path in their advertising.
- **Climate-friendly option.** Walking and biking is green transportation. It is climate-friendly because there are no emissions generated. Rail transit is also a climate-friendly transportation solution.
- **Attract people to the region.** There are many other places in the nation in which residents have a nearby, multiuse path, including the Minuteman and Blackstone River trails in Massachusetts, in Burlington, VT, Washington, DC, and Chicago. We need to attract more people to Maine's economy, and "if we build it, they will come."

It's important to preserve the rail.

Most of the residents at the public meeting supported a trail with the rail. Most of the residents also expressed the importance of preserving the potential for restoring rail service, citing the folly of tearing up rail in places around the country, including Burlington, VT. Giving up rail corridors curtails the potential of having a more transit-rich future for the region. Our region is "far behind" other regions in providing rail service and "the future of transportation is rail". Public transportation is "on the move" in the region with the recent expansions in service by the Downeaster and Metro.

Many acknowledged that our region didn't need to choose "either rail or trail", and that the two forms of transportation can be compatible. There were two notable exceptions to this view expressed at the public meeting and in written correspondence: the Maine Rail Transit Coalition and the Sierra Club. These groups expressed several concerns, and provided the following opinions, including:

- A trail will damage a rail bed, and has done so in multiple places in Maine.
- The right-of-way is too narrow to accommodate a trail, double-tracking, sidings, and trains running at high speeds.

- Restoring passenger rail is the top priority for the region and GPCOG and PACTS are spending misguided energy on exploring a trail.
- Trains will need to slow down if trail users are nearby, which will degrade the level of service for train passengers.
- Including a trail into the rail restoration project will make the rail project too expensive.
- The trail can't be used year-round due to the severe winter weather, whereas a rail can operate in the winter.
- The GPCOG study and the passenger rail study being led by the Northern New England Passenger Rail Authority are being done by the same engineering consultant, which represents a conflict of interest.

Others disagreed with prioritizing the rail preservation in the public meeting and in oral communications with GPCOG. Several people expressed that it wasn't practical to expect rail service to ever return. They suggested removing the tracks and converting the corridor to a trail because it would decrease complexity and cost. Another stakeholder suggested converting the corridor to a paved road dedicated to Bus Rapid Transit, as this would cost less than rail and achieve a similar purpose. A trail could be accommodated next to Bus Rapid Transit.

One stakeholder suggested investigating the potential for a "trail on top of rail." This would involve installing a "click-on" technology that would go over the tracks and would allow for rapid removal should rail service be restored.[5]

The trail needs to connect to downtown Portland and Back Cove.

The Grand Trunk trestle bridge used to connect the rail into downtown Portland, but is now unusable. The Maine Department of Transportation owns the bridge and the right-of-way, which connects into the narrow gauge railroad on Portland's eastern waterfront. If that connection were restored, it would relieve pressure on Tukey's bridge and provide an important connection to the peninsula, and to bike-friendly streets and trails in downtown Portland.

There are many users on the Eastern Promenade and Back Cove trails, and the potential new trail along the St. Lawrence and Atlantic, should connect to them. Portland Trails indicated that it is standing ready to help make these connections.

[5] To the author's knowledge, no such technology exists yet.

Going off-trail and onto public roads will reduce the trail's attractiveness.

The trail will be most useful to the region's residents if it is kept on the rail corridor. The corridor is flat and a straight-shot to Portland. It would also be a safer corridor to cycle than diverting onto public roads, in which there would be a mix of vehicular, bicycle, and pedestrian traffic. Having detours off the flat, direct rail line could lead to more costly fixes down the road.

The trail would be an important new piece of the region's trail network.

The potential trail would become part of the region's trail network. In the north, the trail would provide a connection to the Beth Condon Trail. It is important that as the new path is planned, it is planned to connect with existing trails.

Abutters concerns should be addressed.

People who own properties adjacent to the rail need to be heard, respected, and worked with to alleviate concerns. Several abutters attended the meeting, and expressed the following concerns:

- Trespassing: People might cross their properties to access the trail.
- Hunting rights: The question was posed about whether people who hunt on their own land will no longer be able to because there will be people on the path.

- Water quality: Several streams exist near the rail bed, and there were concerns about run-off from the trail harming water quality.
- Property degradation or acquisition: If the trail needs to go onto public roads for segments, would that necessitate widening roads and taking people's properties along the road?
- Security: Since there are long stretches between the roads the trail would cross, how would the trail be secure and safe from crime?
- Property value: Would the trail negatively impact the value of abutters' homes?

Some of these questions were addressed by other community members who shared experiences from living near trails in other places of the country. Some noted that users of trails are typically good stewards of the corridor.

NEXT STEPS

The next steps are in the hands of you – the community. If, after reading this preliminary assessment, the municipalities and its residents want to further explore creating an active transportation corridor between Portland and Yarmouth, a more detailed feasibility study needs to be developed. In order to begin to answer important questions about a rail with trail, a preliminary project plan would need to be developed and discussed with the Maine Department of Transportation, Genesee and Wyoming, the Northern New England Passenger Rail Authority, and the community at large.

There are many details that are not available at this "10,000-foot high" level of project scoping. Questions remain about the physical constraints and the costs of building a trail. Questions, such as those posed by abutters at the public meeting, cannot be answered without a more detailed evaluation and without more detailed plans.

Additionally, more information is needed about the future of both freight and passenger rail on the St. Lawrence and Atlantic Corridor. A separate study is due out in the near future on the potential for passenger rail to Lewiston-Auburn. PACTS also will be developing a long-range Regional Transit Plan, which will look at the future of public transportation in the region, including rail. Importantly, more discussion is needed with the Maine Department of Transportation and the freight operator, Genesee and Wyoming, about what conditions would need to be met for a trail to be approved.

It is important to note what we studied, and what we did not, as additional investigation may be needed. This report assesses the potential for adding a trail next to train tracks. We did not study other suggestions that came from community members, including:

- **Rail *to* trail.** This would convert the rail bed to a multiuse trail, and involve removing the rail tracks.
- **Bus Rapid Transit.** This would convert the rail to a paved road that could be used for buses that would operate out of traffic and could serve a similar function to rail at a lower cost.

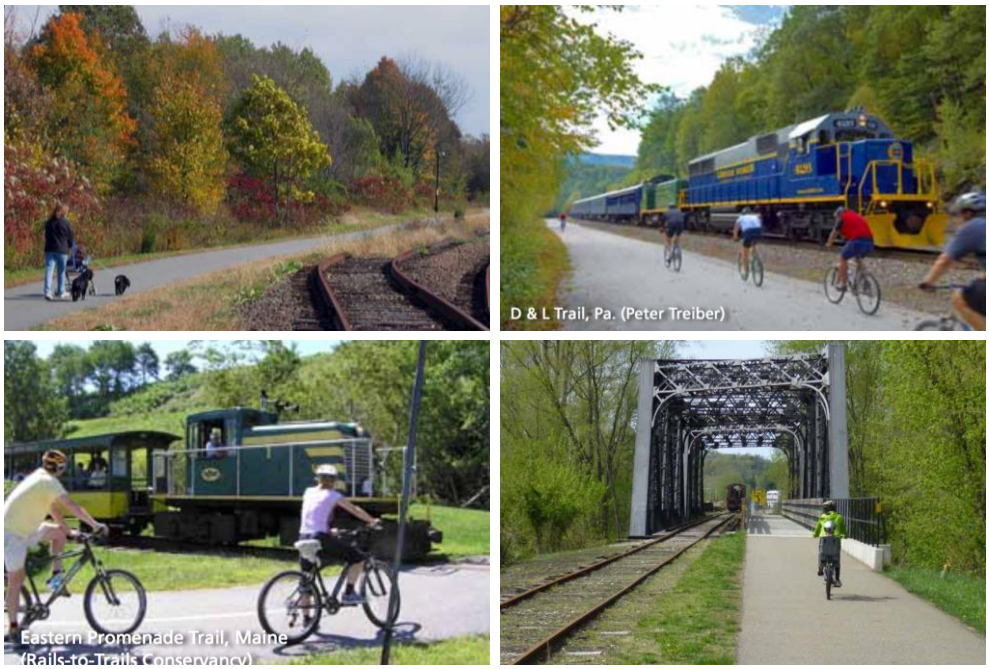
Lastly, in order for this project to move to the next phase, the communities of Portland, Falmouth, Cumberland and Yarmouth will need to remain engaged. Community input helps flag problems, as well as generate creative new solutions to challenges in planning and designing projects. There are many ways to structure community input, including establishing a citizen advisory group, holding public meetings, and creating a virtual space for community dialog.

ATTACHMENT A: RAIL WITH TRAIL CASE STUDIES

Rail-With-Trail: A Growing Trend

Prepared by, Molly Henry (East Coast Greenway Alliance)

December 13, 2017



INTRODUCTION

Across the United States there is a growing trend to add trails within rail rights-of-way while maintaining existing rail service. In 2013, a comprehensive Rails-To-Trails Conservancy (RTC) report[6] identified a total of 161 rail-with-trail locations in 41 states across the country as compared to just 20 projects in 2000 (an increase of over 700%). With so many existing rail-with-trail projects on the ground and even more coming on-line, there are numerous models to draw from for best practices. Studies demonstrate that if properly designed, multi-use paths within the shared railroad right-of-way can provide safe and efficient additions to a region's transportation network.

BACKGROUND

[6] Rails-to-Trails Conservancy, Rails-with-Trails, Sharing Corridors for Transportation and Recreation, 1996.

Rail-with-trail is safe
Rail-with-trail projects have a proven track record of providing a safe travel alternative while reducing incentives for dangerous trespassing. In most cases where there was a before and after comparison analysis, the vast majority of the corridors experienced either no change or a significant drop in trespassing once the trail was built[7].

Rails-with-trails create economic opportunity
Constructing trails along active railroads can multiply the value a community derives from the rail corridor while also providing residents and visitors with more transportation options. A study cited in the USDOT Rails-with-Trails report regarding the impact that trails have on tourism found that the Michigan Railroad Trail brings in $15 million of income to Ostego County and more than $100 million for northern Michigan. A 2001 study conducted by the Maine Department of Transportation found that Bicycle tourists account for $36.3 million in direct expenditures, $18.0 million in labor earnings, and 1,200 jobs.[8]

Other potential benefits of rail-with-trail (as cited in the 2002 USDOT study)
- Reduced liability costs
- Reduced petty crime, dumping, and vandalism
- Increased public awareness of railroad company service
- Improved access to transit for law enforcement and maintenance vehicles.

CASE STUDIES

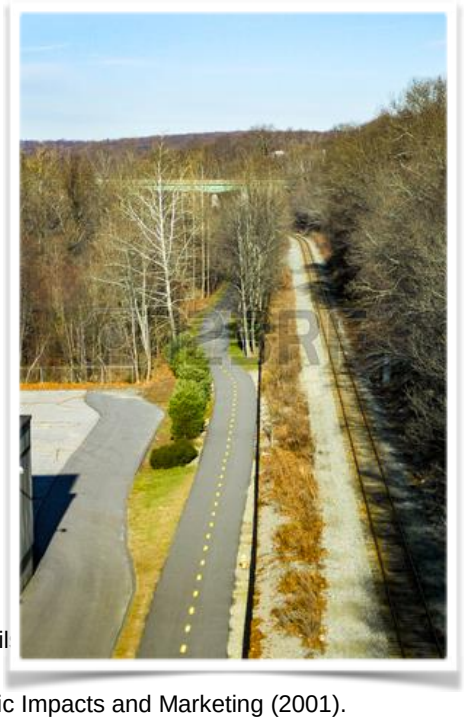
Case Study #1: The Blackstone River Bikeway, Rhode Island (2002)

Rail Length: 11.8 miles

Rail-with-Trail Length: 5 miles

Owner/Operator of ROW: Providence & Worcester Railroad (Genesee & Wyoming)

Train Service: An estimated 6 trains per day use the shared corridor, with speeds up to 40 mph



[7] U.S. Department of Transportation, Federal Highway Administration, Rail
2002)
[8] Maine Department of Transportation, Bicycle Tourism in Maine: Economic Impacts and Marketing (2001).

Trail Service: Approx. An estimated 120 users per day (2017)

Description/Impact: The Blackstone River Bikeway is part of the envisioned 48-mile greenway linking Worcester, MA to Providence Rhode Island. According to American Trails, “The PWRR saw the project as a way to improve operations and business opportunities in the State, hoping their cooperation would help with DOT support for other PWRR projects” Previous to construction of the trail the PWRR line experienced extensive trespassing. Since its opening in 2002 the right-of-way has experienced no increase in trespassing.

Case Study #2: The Burlington Waterfront Bikeway, Burlington, Vermont (1985)

Rail Length: 7.5 miles

Rail-with-Trail Length: 2 miles

Owner/Operator of ROW: Vermont Agency of Transportation with the Vermont Railway Company.

Train Service: Numerous trains operate throughout the day at a speed of 10 mph.

Trail Service: Approximately 150,000+ annual trail users.

Description/Impact: Before the trail was built, residents located in abutting residential properties frequently crossed the tracks as a cut through. The addition of the trail had the effect of "channelizing" pedestrian crossings which proved to dramatically reduce issues with trespassing. The contract agreement requires fencing for most of the length of the rail-with-trail to separate the rail and trail. The City of Burlington is responsible for fence and trail maintenance.

Case Study #3: Charlotte Rail Trail, Charlotte, NC (2007)

Rail Length: 9.6 miles

Rail-with Trail Length: 2 miles

Owner/Operator of ROW: Charlotte Area Transit System (CATS), City of Charlotte

Train Service: The LYNX Blue line carries an average of 16,400 passengers per day with speeds up to 25 mph.

Trail Service: Over 2,000 users per day (2015)

Description/Impact: The portions of the multi-use path which runs parallel to the LYNX system ranges from 6-12 feet in width. The rail right-of-way is 35 feet. The distance between the rail and trail is approximately 23 feet. There is fencing located along most of the corridor which separates the rail and trail. The fence height ranges from 3.5 to 5 feet. There are a few places along the corridor where there is no fencing. These fence-free areas are highly populated areas with busy commercial activity. There has been no safety issues reported for the entire trail, even in areas where fencing is not present.

Case Study #4: Cedar Lake Trail, Minneapolis, Minnesota (2011)

Rail Length: 14.5 miles

Rail-with-Trail Length: 3.5 miles

Owner/Operator of ROW: BNSF Railway & Hennepin County Rail Authority.

Train Service: The adjacent tracks currently carry a freight rail which is active 1-2 times per day at speeds up to 15 mph. In the near future the corridor will include a light rail commuter train which is projected to carry up to 34,000 passengers per day.

Trail Service: 750,000 annually (2016)

Description/Impact: The Minneapolis Park Board manages the 25 ft wide easement and trails, which includes two at-grade crossings. The distance between the rail and trail is approximately 70 feet. The corridor includes partial fencing located between the rail and trail, only in areas where the right-of-way narrows. While the rail is currently being occupied by freight, there are plans in place to include a light rail commuter train service in the near future. The trail helped improve railroad maintenance by upgrading the access roads.

Case Study #5: Springwater on the Willamette Trail - Portland, OR (2002)

Rail Length: 21.5 miles

Rail-with-Trail Length: 3.4 miles

Owner/Operator of ROW: Oregon Pacific Railroad (OPR)

Train Service: OPR runs both short-line freight and excursion trains through the corridor. OPR operates freight trains three times per week in the winter and tourist excursion trains five times a day in the summer, with a train speed up to 20 mph.

Trail Service: Over 1 million users annually (2006)

Description/Impact: The trail portion is a paved multi-use path ranging from 10-12 ft wide with soft shoulders. There is fencing along the corridor located between the rail and trail.

Conclusion

Railroad corridors like the St. Lawrence & Atlantic represent opportunity to create a more robust transportation network. With over 1,397 rail-with-trail miles (and growing) currently on the ground across the U.S. experience indicates these facilities can be implemented successfully. In maximizing the use of these corridors rail companies, residents and visitors all benefit from expanding mobility options.