

VERMONT RAIL PLAN – MEETING HANDOUT (5/24/2021)

INITIATIVES, ANALYSIS, & IMPLEMENTATION TABLE HANDOUT

This handout contains material that may be useful during discussions based on presentations made developing the Plan.

In April 2020, the Vermont Agency of Transportation (AOT or VTTrans) began an update to the State Rail Plan and State Freight Plan. They are separate documents updated in a coordinated manner.

- The Rail Plan provides a framework to maintain and enhance the rail system over the next 20 years. As required, it covers rail freight and intercity passenger service (Amtrak). Commuter rail is addressed in the Vermont Public Transit Policy Plan.
- The Freight Plan provides a framework to maintain and enhance all modes of freight movement—rail, highway, air, and water.

Work completed for both efforts can be found at the links below. A link is also provided to an online mapping tool being used to gather input as well as serve as a “single hub” for intercity passenger rail and freight-related data that partners may find useful.

WHERE TO GO FOR MORE INFORMATION

- Rail Plan Webpage: <https://vtrans.vermont.gov/rail/reports>
- Freight Plan Webpage: <https://vtrans.vermont.gov/planning/freight>
- Rail/Freight Online Mapping Tool: <http://bit.ly/VTFreightRailMap>

The remainder of this handout focuses on the Rail Plan. The Rail Plan includes both policy/program initiatives and location-specific initiatives. Policy/program initiatives are shaded green in tables with both. The handout includes the following items:

1. A summary table of potential initiatives that could be pursued by anyone. It may help with grant applications.
2. An overview of the process for technical analysis of potential initiatives. Technical analysis supports well-informed discussions of next steps.
3. A summary table showing the results of analysis of each potential initiative at the time they were evaluated. These quantitative scores were combined with ballpark costs, feasibility, and qualitative considerations in developing a subset of initiatives that VTTrans intends to implement.
4. One-page summary of recommendations for VTTrans focus
5. VTTrans implementation table

TABLE 6.1 POTENTIAL INITIATIVES

Initiative Description	Primary Goal Area	Freight or Passenger	Notes	Performance Measure Addressed	ID #
Educate shippers about rail carload and intermodal service options and contracting approaches	Economic Development	Freight	Work with economic development agencies to encourage intermodal rail freight use by private businesses where viable.	Recruit rail using businesses/Freight Volume	5
Preserve and fully use industrial land parcels with access to rail sidings as well as the rail infrastructure that provides the access.	Economic Development	Freight	Work with RPCs, railroads, agencies, economic development groups, municipalities, etc. to update inventory of these properties and help publicize in a strategic manner. Maintain viability of industrial zoned land near existing or potential sidings, spurs, etc.	Recruit rail using businesses/Freight Volume	6
Develop quick-response capability to leverage economic development opportunities	Economic Development	Freight	Collaborate with State and local economic development agencies to develop tools to help identify, promote, and calculate public/private benefits of developing rail-served sites.	Recruit rail using businesses/Freight Volume	7
Maintain and modernize freight rail yards such as NECR and CP Yards	Economic Development	Freight	Improve sorting of cars for various destinations and support functions such as car/locomotive maintenance, storage, and inspection. VTrans can be supportive, though this would be done by the railroad companies (e.g., NECR and CP).	Other (yards and sidings)	20
Burlington Railyard Enterprise Project - multimodal transportation infrastructure improvements. See: https://www.ccrpcvt.org/our-work/transportation/current-projects/scoping/railyard-enterprise-project/	Economic Development	Both	This is primarily a road project. \$100,000 is in the Governor's proposed FY22 budget for preliminary engineering.	Other (Improvements to railyards)	116
Track and respond to COVID-19-related changes regarding impacts on the passenger and freight rail system, both direct and from demographic changes	Funding	Both	Work with Departments of Health & Education (school enrollment), RPCs, and others to understand demographic and transportation change. Increase advertising and bike/ped station access where population is increasing; engage more with e-commerce shippers to understand supply chain changes due to COVID-19 and how rail may help serve changing needs.	Other (COVID-19 impacts)	12
Seek grants and innovative funding approaches for freight and passenger rail	Funding	Both	Continue to position the State to pursue federal grant opportunities and collaborate with ACCD and other economic development agencies on opportunities.	Other (funding)	18
Upgrade all rail lines to 286K weight-bearing capability	Increase Use/Expand Capacity	Freight	286,000 pounds is the national standard for loaded freight rail car weight. Increasing all lines to this standard will improve regional and national connections and enhance freight business opportunities in the State.	286,000-pound bridges	2
Further enhance marketing of Vermont passenger rail	Increase Use/Expand Capacity	Passenger	Work more closely with ACCD, economic development and tourist groups, chambers, to promote passenger rail opportunities and connections to local tourist attractions.	Passenger ridership	4
Extension from Burlington to Essex Junction to connect <i>Ethan Allen Express</i> with <i>Vermont</i> .	Increase Use/Expand Capacity	Both	See results of modeling. This is a complicated initiative that would need further exploration. Need to first do track improvements in #126.	Passenger ridership	103
Work to reduce causes of delay to <i>Ethan Allen Express</i> and <i>Vermont</i> service within and beyond Vermont's borders.	Increase Use/Expand Capacity	Passenger	Most of the delays that effect on-time performance of the <i>Ethan Allen Express</i> and <i>Vermont</i> occur outside Vermont. Working with other states and railroads to ensure delays within and beyond Vermont's borders are addressed can improve service reliability and attract more riders.	Passenger ridership On-time performance	21

Initiative Description	Primary Goal Area	Freight or Passenger	Notes	Performance Measure Addressed	ID #
Bring the <i>Vermont</i> up to 79 MPH	Increase Use/Expand Capacity	Both	See results of modeling. Would require signaling system and track work west of White River Junction, as well as installation of signaling system between Brattleboro and East Northfield, MA.	Passenger ridership On-time performance	105
Bring the Western Corridor up to 79 MPH	Increase Use/Expand Capacity	Both	See results of modeling. Would require signaling system and track improvements between Whitehall, NY and Burlington.	Passenger ridership On-time performance	106
Upgrade NECR Winooski Branch Bridges and Track to 286k standard (Burlington to Essex Junction)	Increase Use/Expand Capacity	Both	This is Class I track, rated at 10 MPH for freight. This initiative would serve freight and support extending Ethan Allen service from Burlington to Essex Junction (#103). Some work was completed to support Middlebury Tunnel detour (rail, ties, bridge timber replacement).	Bridges capable of 286,000 pounds and passenger track Class 4	126
Upgrade GMRC Bridges and Track to 286k standard (Rutland to Bellows Falls)	Increase Use/Expand Capacity	Freight	8 bridges with a load rating <286k, 17.9 miles of track is 90 lb. rail or lower. Preliminary engineering and/or right-of-way costs for the rehabilitation of three bridges on this line are in the Governor's proposed FY22 budget.	Bridges capable of 286,000 pounds	112
Upgrade WACR Montpelier & Barre Sub. Bridges and Track up to 286k standard (Montpelier to Barre)	Increase Use/Expand Capacity	Freight	3 bridges not capable of handling 286k, 12.7 miles of 90 lb. rail or lower. Preliminary engineering costs for the rehabilitation of one bridge on this line are included in the Governor's proposed FY22 budget.	Bridges capable of 286,000 pounds	113
Upgrade WACR Connecticut River Line Bridges and Track up to 286k standard (White River Junction to Newport)	Increase Use/Expand Capacity	Freight	21 bridges load rating not sufficient for 286k, rail weight between 90 and 115 pounds. Preliminary engineering costs for the rehabilitation of five bridges, and construction costs for the rehabilitation of three bridges on this line are included in the Governor's proposed FY22 budget.	Bridges capable of 286,000 pounds	115
Achieve full Domestic Double Stack Clearance on NECR (Alburgh to MA border)	Increase Use/Expand Capacity	Freight	Lowest clearance is 19'6" (US 5 in Hartland and US 7 in Georgia, VT). 14 total restrictions in Vermont to double-stack access. Presently handles some international containers, but NECR cannot handle double-stacked domestic containers.	Vertical clearance	120
Achieve full GMRC/CLP Double Stack Clearance (NY border to Bellows Falls)	Increase Use/Expand Capacity	Freight	19'2" clearance restriction in Proctorsville (GMRC) and Rutland Center (CLP).	Vertical clearance	121
<i>Vermont</i> Extension to Montreal – one round trip/day	Increase Use/Expand Capacity	Passenger	See results of modeling. This is a key, well-underway priority.	Passenger ridership	100
<i>Vermont</i> Extension to Montreal – two round trips/day	Increase Use/Expand Capacity	Passenger	See results of modeling.	Passenger ridership	102
<i>Vermont</i> connection at Springfield, MA to trains to Boston	Increase Use/Expand Capacity	Passenger	See results of modeling. Would provide connection for <i>Vermont</i> at Springfield to train service MassDOT is exploring in the "East-West Passenger Rail Study." See: https://www.mass.gov/east-west-passenger-rail-study .	Passenger ridership	109
Add passenger service on the Albany-Bennington-Burlington freight route to supplement <i>Ethan Allen Express</i> service in Western Corridor	Increase Use/Expand Capacity	Passenger	See results of modeling. This is envisioned as supplementing the existing Ethan Allen Express service, which is routed via Whitehall, NY, with additional service routed via Bennington. Previous studies ^{xxxix} have evaluated other alternatives, and coordination between Vermont and New York State will be necessary to advance any service alternative in this corridor. Need to first do track improvements in #110.	Passenger ridership	104
Add a second daily service to the <i>Ethan Allen Express</i> New York City to Burlington.	Increase Use/Expand Capacity	Passenger	See results of modeling.	Passenger ridership	107
Extend one Valley Flyer service from Greenfield, MA to White River Junction	Increase Use/Expand Capacity	Passenger	See results of modeling. Under current FRA regulations, installation of PTC is not required. PTC likely would be part of a broader upgrade in the future.	Passenger ridership	108

Initiative Description	Primary Goal Area	Freight or Passenger	Notes	Performance Measure Addressed	ID #
Add whistle stop in Brandon and Shelburne areas once <i>Ethan Allen Express</i> is extended to Burlington	Increase Use/Expand Capacity	Passenger	Brandon is approximately 15 miles from both Rutland and Middlebury, Shelburne is approximately 15 miles from Vergennes and 7 miles from Burlington. Would need to assess balance of added access with added travel time.	Passenger ridership	123
Facilitate development of freight transload locations in or near Vermont	Intermodal Connectivity	Freight	As demand warrants, work with customers and railroads to identify opportunities to expand or develop new transload facilities. An intermodal site could be explored where there are high volumes and Class 1 access.	Recruit rail using businesses/Freight Volume	8
Maintain and improve freight network connections for Vermont businesses to regional short-haul markets and competitive Class I railroad (mix of physical and policy matters)	Intermodal Connectivity	Freight	Advocate on behalf of Vermont businesses for enhanced operating agreements between shortline and Class I railroads to improve efficiency of interchanges. Make physical improvements to support effective interchanges, for example for the State-owned Bennington Rail Yard to be able to support interaction with long Class 1 train sets.	Recruit rail using businesses/Freight Volume	9
Improve multi-modal connections including bicycle, pedestrian, and transit to Amtrak stations. Improve wayfinding	Intermodal Connectivity	Passenger	Work with transit and tourist services to match scheduling, increase comfort and reliability of transfers. Work with municipalities to develop station area plans, improve wayfinding, and enhance bicycle and pedestrian accommodations (crosswalks, grade crossings, paths/trails, bicycle lanes, bicycle parking). Consider equity so everyone can access to train services. Improve sharing of Amtrak guidance for bringing bicycles on trains.	Passenger ridership	14
Explore transit-oriented development (TOD)	Intermodal Connectivity	Passenger	Work with municipalities and Regional Planning Commissions (RPCs) to explore and support TOD opportunities near Amtrak stations, including zoning, utility and other infrastructure, multimodal connections (see ID#14), and other needs.	Passenger ridership	15
Passenger Rail Station Improvements Statewide	Intermodal Connectivity	Passenger	This includes, but is not limited to, the list of ADA improvements in Table 4.1. Rutland & White River Junction are VTrans/City of Rutland responsibility. Montpelier (2022), Bellows Falls (2022), Brattleboro (2022-23), Essex Junction (2021) have projects planned by Amtrak.	Other (asset management and station conditions)	111
Maintain State-owned freight trackage at FRA Track Class 2 or better and State-owned passenger rail trackage at Class 4 or better where viable based on geography	Maintenance	Both	Long-term goal for the State to upgrade where necessary and then maintain rail at levels suitable for competitive and cost-effective use. Class 2 is 25 MPH for freight, 30 MPH for passenger. Class 4 is 60 MPH for freight, 80 MPH for passenger.	FRA Class 4 for passenger rail lines On-time performance	3
Workforce development and training	Maintenance	Freight	Partner on job training with Dept. of Labor, educational facilities, and businesses to ensure that critical rail-related jobs can be filled.	Other (workforce)	11
VTR track upgrade between Manchester and Rutland to continuous welded rail (CWR) and 115 lb. capacity.	Maintenance	Freight	Higher track weight to allow for higher train speeds (passenger and freight) as well as maintain State of Good Repair. This improvement could also support Initiative #104.	Rail weight	110
Add quiet zone near South Summit St. crossing in Essex Junction	Maintenance	Passenger	Quiet Zone analysis required: https://railroads.dot.gov/elibrary/how-create-quiet-zone Quiet zones could be explored if supported by analysis as part of Initiative #103 or #126	Rehabilitate and upgrade rail crossings	124
Maintain, publicize, and enhance appropriate communication regarding rail movement and storage of hazardous materials (hazmat) while respecting rail exemptions from local control	Safety	Freight	Publicize voluntary efforts by railroads and emergency management organizations, such as the local first responder classes offered by VRS, VEM, Vermont Hazardous Materials Response Team, and others.	Other (rail as a good neighbor)	10

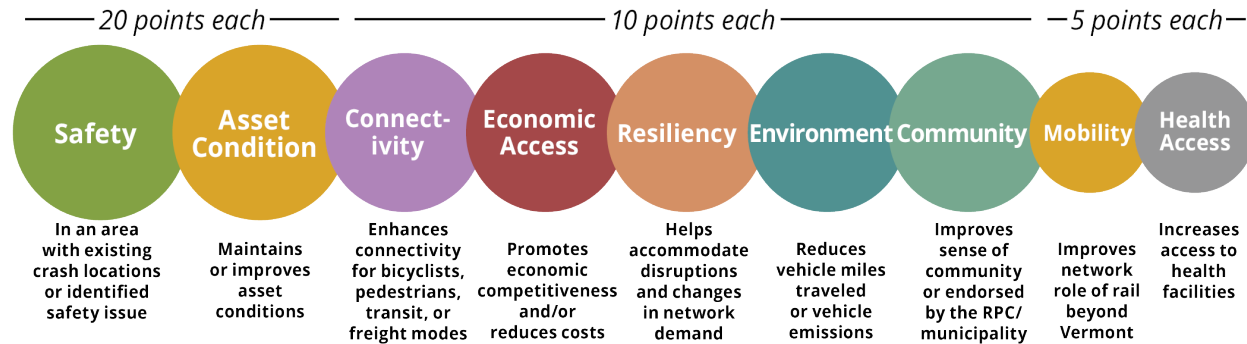
Initiative Description	Primary Area	Goal	Freight or Passenger	Notes	Performance Measure Addressed	ID #
				Share the big picture, for example that storage of fuel in Vermont responds to bad winters when there were shortages. Maintain appropriate communication among State agencies, municipal staff and first responders, and railroads.		
Increase resilience of rail system to make critical infrastructure more resilient now and to prepare for increasing storm severity	Safety		Both	180 miles of rail (109 State-owned) in flood risk areas (see Figure 4.15. Work with railroads to identify priorities and funding to increase resilience. Maintain culverts, monitor erosion areas, consider physical improvements and agreements to be as ready as reasonable.	Other (resiliency)	13
Publicize existing voluntary efforts of railroads and encourage “freight as a good neighbor” (NCHRP Syntheses 320) while respecting rail’s exemptions from local control	Safety		Freight	Highlight and support coordination on rail maintenance, operations, and construction activities. This could include: -Proactively share information such as FAQs that will be on the VRS website in early 2021; -Collaborate more on getting information visible to varied audiences such as outreach campaigns ahead of <i>Ethan Allen</i> extension to Burlington; and -Continue to explore positive ways for railroads and other Vermonters to resolve issues in a way that strengthens Vermont’s economy and communities.	Other (rail as a good neighbor)	19
Phased deployment of gates/flashers at existing and planned Amtrak public road grade crossings	Safety		Both	Long-term goal of State. Safety at rail crossings is being addressed in multiple programs including the underway 2020/2021 Section 130 analysis. Cost of upgrades and maintenance could increase subsidy required of State for Amtrak service.	Rehabilitate and upgrade rail crossings	122
Improve multi-modal crossings, such as WACR line at Montpelier Main Street and bike path area	Safety		Freight	2020 VTrans Bicycle & Ped. grant, See 2019 Scoping study: https://www.montpelier-vt.org/DocumentCenter/View/7105	Rehabilitate and upgrade rail crossings	125

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PROCESS FOR TECHNICAL ANALYSIS OF INITIATIVES

The list of potential location-specific and policy/program initiatives was explored and summarized using a simplified version of VTrans Project Selection and Project Prioritization (VPSP2). As illustrated below, this process considers the initiative's potential effectiveness within each of the VPSP2 goal areas. It uses the weights developed through an extensive process for VPSP2. See the draft Initiative analysis workbook for more details. Worksheets from it are posted on the Rail Plan web page under Technical Memos, Reports, & Resources

VTRANS PROJECT SELECTION AND PROJECT PRIORITIZATION (VPSP2) GOAL AREAS



There is a summary table for the location-specific initiatives and one for the policy/program initiatives. Each has the following information.

- Initiative number
- Initiative name
- Primary goal area (see the "Summary of Potential Initiatives" section)
- If the initiative is on State-owned infrastructure
- If initiative focuses on passenger rail, freight rail or both
- Initiative score – note this is one element of the VTrans discussion developing its implementation table
- Notes on the initiative (location, clarification about purpose, etc.)
- Additional qualitative notes to consider

DRAFT Rail Plan Initiative Technical Analysis - Summary

Version: 1/7/2021

This is a sketch-level analysis to help move from the table of reasonable possible initiatives to a shorter implementation table for VTrans. It is for use with the update of the State Rail Plan within the Rail program and may evolve over time for various reasons.

The results of technical analysis of initiatives are an aid in making well-informed decisions rather than a precise answer. They are among the factors considered when deciding which initiatives to advance to implementation.

The intent is to keep this table easy to skim. Please see worksheets on Location-Specific and Program/Policy projects for analysis. See the Table of Initiatives for more description of initiatives.

Program/Policy initiatives start at ID #1. It's difficult to analyze their specifics so they have technical analysis scores 1-20. Location-specific initiatives start at ID #100. They have scores ranging from 0-100. These are different scales.

Very preliminary for discussion and refinement.

Location Specific Initiatives

Initiative #	Initiative Name	Goal Area	State-owned infrastructure?	Passenger or Freight	Technical Analysis Score	Technical Analysis Notes	Cost	Feasibility	Qualitative Considerations	Performance Measure (PM) Addressed
100	Vermonter Ext. to Montreal	Increase Use/Exp Cap	Yes	Passenger	95	Partial points for flood zone (the entire stretch of track over the Missisquoi National Wildlife Refuge is floodplain, in addition to the lake crossings) but missing data to give full points	Low	High	Previous commitment to extending this service	Passenger trips
116	Burlington Rail Yard Enterprise	Economic Devel.	Yes	Both	93	For more information see scoping study at https://www.ccrpcvt.org/our-work/transportation/current-projects/scoping/railyard-enterprise-project/	High	High	This is primarily a road project. VTrans has agreed to place it in the 2022 Capital Program so that preliminary design can begin.	Other
112	GMRC Bridges and Track Upgrades	Increase Use/Exp Cap	Yes	Freight	72	8 bridges with a load rating <286k, 17.9 miles of track is 90 lb. rail or less.	Medium	High	Critical east-west route. CP would like to see this line upgraded to 286k as a higher priority than the WACR Conn River	286k
104	Albany-Bennington-Burlington Passenger Service	Increase Use/Exp Cap	Yes	Passenger	85		High	Low	High cost and low feasibility. Relatively low increase in passenger ridership (64,000 - 94,000)	Passenger trips
113	WACR M&B Bridges and Track Upgrades	Increase Use/Exp Cap	Yes	Freight	84	3 bridges not capable of handling 286k, 12.7 miles of 90 lb. rail or lower. Includes new routing	Medium	Medium	Additional track being constructed to handle pending growth in traffic (granite) however there is a sense that this may be able to hold as a VTrans recommendation until the next update.	286k
115	WACR Conn. River Bridges and Track Upgrades	Increase Use/Exp Cap	Yes	Freight	69	21 bridges load rating not sufficient for 286k, rail weight between 90 and 115 pounds	High	Low	Generally identified as a lower priority by stakeholders	286k
102	Vermonter Ext. to Montreal (X2 trips)	Increase Use/Exp Cap	Yes	Passenger	83	No resiliency or safety points as adding a 2nd service does not impact infrastructure	Medium	Medium		Passenger trips
103	Ethan Allen Amtrak service extension to meet Vermonter: Burlington to Essex Jct.	Increase Use/Exp Cap	Yes	Passenger	80	Would require #126 improving infrastructure first. Would require system schedule changes for passenger transfers between the two services	Medium	High	In conjunction with Initiative #126, noted as a high priority by stakeholders.	Passenger trips
126	NECR Winooski Track and Bridge Updates (Burlington - Essex Jct)	Increase Use/Exp Cap	No	Freight	78	Non-State asset. Work with NECR to upgrade rail and any necessary bridges to allow for 286k and FRA Class I/III. Currently Class I rail. Would be in conjunction or prior to ID #103: Extension of Ethan Allen to Essex Junction.	Medium	Medium	Noted as a high priority by stakeholders.	286k
108	1 Valley Flyer extended to WRJ	Increase Use/Exp Cap	Yes	Passenger	70	Will reduce VMT and improve safety statewide as rail is a safer mode of travel than vehicle. Supported by Town of Brattleboro	Medium	Medium		Passenger trips
106	Ethan Allen (Western Corridor) to 79 mph	Increase Use/Exp Cap	Yes	Passenger	70	Hard to estimate if this would improve resiliency. Includes necessary at-grade crossing improvements. This is assumed to not include track re-alignment. If track re-alignment was included, the resiliency score could increase. Will reduce VMT and improve safety statewide as rail is a safer mode of travel than vehicle.	High	Low		Passenger trips
105	Vermonter to 79 mph	Increase Use/Exp Cap	Yes	Passenger	70	Assumes Initiative #100 completed first. Includes necessary at-grade crossing improvements. Hard to estimate if this would improve resiliency. This is assumed to not include track re-alignment. If track re-alignment was included, the resiliency score could increase. Will reduce VMT and improve safety statewide as rail is a safer mode of travel than vehicle.	High	Low	SWCRPC Regional Plan identifies rail improvements for increased speeds as a transportation need	Passenger trips
111	Passenger Rail Station Improvements	Intermodal Conn.	Yes	Passenger	65	Montpelier (2022), Bellows Falls (2022), Brattleboro (2022-23), Essex Junction (2021) have projects planned by Amtrak. Rutland, WRJ are VT/City responsibility and not scheduled	Low	High	CCRPC would like Essex Junction broken out separately (if not all separate)	Other (asset management/stations)
107	2nd service on Ethan Allen	Increase Use/Exp Cap	Yes	Passenger	65		High	Medium		Passenger trips
125	Montpelier Main St. bike path and grade crossing improvements	Safety	Yes	Other	63	2020 VTrans Bicycle & Ped. grant. See 2019 Scoping study https://www.montpelier-vt.org/DocumentCenter/View/7105	Low	High		Rehab rail crossings
110	VTR Upgrade to CWR and 115lb (Rut-Manch)	Maintenance	Yes	Both	63	Higher track weight to allow for higher train speeds (passenger and freight) as well as maintain State of Good Repair (SOGR)	Low	High	Would take advantage of work completed under BUILD and TIGER grants in the Western Corridor	115 lb. rail
109	Connection to future rail @ Springfield: MTL-BOS	Increase Use/Exp Cap	Yes	Passenger	61	Intended to connect with future service (not Lake Shore Limited). Scores MTL-Springfield segment	Low	Low		Passenger trips
122	Phased deployment of Gates/flashers at existing and planned Amtrak public road grade crossings	Safety	Yes	Both	55	Long-term goal of State. Phased deployment at 80 public road crossings include Ethan Allen (to Burlington) and Vermonter (to Montreal) routes.	High	High	Cost of upgrades and maintenance could increase subsidy required of State for Amtrak service. Crossings are being improved through several programs.	Rehab rail crossings
120	NECR Full Double Stack Clearance	Increase Use/Exp Cap	No	Freight	54	Project unlikely to improve flood resiliency or environmental protection	High	Low		Vert Clearance
121	GMRC/CLP Full Double Stack Clearance	Increase Use/Exp Cap	Yes	Freight	54	Project unlikely to improve flood resiliency or environmental protection	High	Medium		Vert Clearance
123	Whistle stop in Brandon and Shelburne	Increase Use/Exp Cap	Yes	Passenger	51	Brandon is approx. 15 miles from both Rutland and Middlebury, Shelburne is approx. 15 miles from Vergennes and 7 miles from Burlington. Would need to assess balance of added access with added overall time	Low	Low	Feasibility of adding new stops along a new route is low.	Passenger trips
124	Quiet Zone - South Summit St. Essex Jct	Maintenance	No	Other	19	The specific request was for this location. However, if service is added to the Winooski Branch, this should include a corridor-wide review of the potential to implement. Could be included as part of EAE to Essex Junction if that initiative is advanced and this one is not	Low	Medium	While the individual initiative scores low, quiet zones should be a consideration if Initiative #103/126 is recommended	Rehab rail crossings

8.0 RECOMMENDATIONS AND NEXT STEPS FOR VTRANS

The table of potential initiatives in Chapter 6 describes 40 productive actions that could be undertaken by any of a range of entities—and indeed many will best be advanced through teamwork. Considering how initiatives can support each other is also important. **VTrans intends to focus on 23 of these initiatives as recommendations.**

8.1 Recommendations

The 23 recommendations are divided into three tiers of priority. **Within each tier the recommendations are sorted by main goal addressed—there is no additional prioritization of initiatives within each tier.** Some recommendations include more than one initiative from the table in Chapter 6. The recommendations are summarized on this page and described in Table 8.1. More detail is provided in Tech Memo 5. **VTrans also supports advancing the other initiatives from Chapter 6,** provided favorable conditions and funding.

First Priority Set

- Track and respond to COVID-related changes regarding impacts on the passenger and freight rail system, including marketing Amtrak, particularly as service is restarted.
- Extend *Vermont* to Montreal.
- Upgrade all State-owned freight rail lines to efficiently be able to handle the industry-standard freight railcar weight of 286,000 lbs. (286k).
- Passenger rail station Improvements.
- Phased deployment of gates/flashers at existing and planned Amtrak public road grade crossings.

Second Priority Set

- Burlington Rail Yard Enterprise project.
- Seek grants and innovative funding for freight and passenger rail.
- GMRC Bridges and Track Upgrades.
- WACR Connecticut River Bridges and Track Upgrades.
- WACR Montpelier & Barre Sub. Bridges and Track Upgrades.
- Work to reduce causes of delay to *Ethan Allen Express* and *Vermont* services within and beyond Vermont's borders.
- Maintain and improve connectivity to regional and Class I railroads to ensure market-competitive and efficient freight service.
- Improve transit, bicycle, and pedestrian connections to Amtrak trains.
- Maintain State-owned freight trackage at FRA Track Class 2 or better and State-owned passenger rail trackage at Class 4 or better where viable.
- Publicize existing voluntary efforts of railroads and encourage "freight as a good neighbor" while respecting rail's exemptions from local control.

Third Priority Set

- Preserve and fully use industrial land parcels with access to rail sidings as well as the rail infrastructure that provides the access.
- Improve track between Rutland and Manchester for freight and to make Albany-Bennington-Burlington passenger service a possibility.
- Add passenger service on the Albany-Bennington-Burlington freight track to supplement *Ethan Allen Express* service.
- Improve track on NECR between Burlington and Essex Junction for freight and to make extension of the *Ethan Allen Express* a possibility.
- Extend *Ethan Allen Express* to link with *Vermont* at Essex Junction.
- Publicize intermodal options to shippers and receivers. Facilitate development of additional freight transload locations in or near Vermont.
- Maintain and modernize freight rail yards such as NECR and CP Yards.
- Increase resilience of rail system to make critical infrastructure more resilient now and to prepare for increasing storm severity.

TABLE 8.3 IMPLEMENTATION TABLE

INITIATIVE ID#(S)	INITIATIVE NAME	PASSENGER, FREIGHT, OR BOTH	TIMING	CAPITAL COST ESTIMATE	ADDITIONAL OPERATING AND MAINTENANCE COST ESTIMATE	PERSONNEL ESTIMATE FOR POLICY OR PROGRAM INITIATIVES	LEAD AGENCIES/ ORGANIZATIONS
First Priority Set by Goal Area							
12, 4	Track and respond to COVID-related changes as they impact the passenger and freight rail system, including marketing Amtrak as service is re-started.	Passenger	Short-term			Ballpark of 2 additional hours/week for six months (for analysis, outreach)	VTrans, Amtrak, Freight Railroads
100, 102	Extend <i>Vermont</i> er to Montreal (track improvement & station)	Passenger	Short-term	\$0 (this will be explored in 2022)	Unknown (to be explored in the future)		VTrans, Amtrak
2	Upgrade all State-owned freight rail lines to efficiently accommodate industry-standard 286,000 lbs. (286k) railcars	Freight	Short to Long-term	\$131.1 million (includes ID# 112, 113, 115)	\$0		VTrans
111	Passenger Rail Station Improvements	Passenger	Short-term	\$5 million (estimate to be refined after further study)	TBD pending further study		Amtrak, Station Owners, VTrans
122	Phased deployment of gates/flashers on public at-grade crossings on routes with existing or planned Amtrak service	Both	Short to Long-term	\$40 million	Unknown		VTrans, local agencies responsible for roads/crossings
Second Priority Set by Goal Area							
116	Burlington Rail Yard Enterprise project	Both	Long-term	Up to \$22.6 million	Unknown		City of Burlington, CCRPC, VTrans, FHWA
18	Seek grants and innovative funding approaches for freight and passenger rail	Both	Short-term			3 hours/week on average--variable (including to	VTrans, Freight Railroads

INITIATIVE ID#(S)	INITIATIVE NAME	PASSENGER, FREIGHT, OR BOTH	TIMING	CAPITAL COST ESTIMATE	ADDITIONAL OPERATING AND MAINTENANCE COST ESTIMATE	PERSONNEL ESTIMATE FOR POLICY OR PROGRAM INITIATIVES	LEAD AGENCIES/ ORGANIZATIONS
						prepare applications), ongoing	
112	GMRC Bridges and Track Upgrades	Freight	Short to Long-term	\$30 million	\$0		VTrans
115	WACR Connecticut River Bridges and Track Upgrades	Freight	Short to Long-term	\$87.5 million	\$0		WACR, VTrans
113	Upgrade WACR Montpelier & Barre Sub. Bridges and Track up to 286k standard (Montpelier to Barre)	Freight	Long-term	\$13.6 million	\$0		WACR, VTrans
9	Maintain and improve connectivity to regional and Class I railroads, to ensure market competitive and efficient freight service for Vermont businesses (mix of physical and policy matters).	Freight	On-going			2 hours/week, ongoing (meetings, outreach)	VTrans, Freight Railroads, RPCs, local land use agencies
14	Improve transit, bicycle, and pedestrian connections to Amtrak trains. Improve wayfinding.	Passenger	On-going				VTrans, Amtrak, RPCs, local jurisdictions
21	Work to reduce causes of delay to <i>Ethan Allen Express</i> and <i>Vermont</i> service within and beyond Vermont's borders.	Passenger	Long-term			2 hours/week, ongoing (analysis, meetings)	VTrans, Amtrak, FRA, other states

INITIATIVE ID#(S)	INITIATIVE NAME	PASSENGER, FREIGHT, OR BOTH	TIMING	CAPITAL COST ESTIMATE	ADDITIONAL OPERATING AND MAINTENANCE COST ESTIMATE	PERSONNEL ESTIMATE FOR POLICY OR PROGRAM INITIATIVES	LEAD AGENCIES/ ORGANIZATIONS
3	Maintain State-owned freight trackage at FRA Track Class 2 or better and state-owned passenger rail trackage at Class 4 or better where viable based on geography	Both	Long-term			2 hours/week, ongoing (coordination)	VTrans, host railroads
19, 10	Publicize existing voluntary efforts of railroads and encourage "freight as a good neighbor" (NCHRP Syntheses 320) while respecting rail's exemptions from local control	Freight	On-going			2 hours/week (coordination, communication)	VTrans, Freight railroads, major shippers
Third Priority Set by Goal Area							
6	Preserve and fully use industrial land parcels with access to rail sidings as well as the rail infrastructure that provides the access	Economic Development	On-going			4 hours/week for six months (work with RPCs, ACCD, others)	RPCs, local jurisdictions, VTrans
104, 110	Improve track on Western Corridor between NY/Bennington to Rutland for freight. Potentially add passenger service Albany-Bennington-Burlington route to supplement <i>Ethan Allen Express</i> service.	Increase Use/Expand Capacity	Long-term	\$55 million	Unknown		VTrans
103, 126	Improve track on NECR Winooski Branch between Burlington and Essex Junction for freight. Potentially extend <i>Ethan Allen</i> Amtrak service to link with <i>Vermont</i>	Increase Use/Expand Capacity	Long-term	\$14 million	Unknown		VTrans, NECR

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8, 5	Publicize carload and intermodal rail options to potential shippers, including how to contract for them. Facilitate development of additional freight transload locations in or near Vermont	Intermodal Connectivity	Short-term			3 hours/week (outreach, meetings), ongoing	VTrans, Freight railroads, Economic Development Agencies (EDAs)
20	Maintain and modernize freight rail yards	Maintenance	Long-term			2 hours/week (meetings, coordination), ongoing	VTrans, Freight Railroads, Shippers
13	Increase resilience of rail system to make critical infrastructure more resilient now and to prepare for increasing storm severity	Safety	On-going			2 hours/week (analysis, coordination), ongoing	VTrans, Freight Railroads, ANR

Note: Policy and program initiatives are shaded. They are broad in scope, and then location-specific initiatives are priority starting sites.