

VERMONT RAIL PLAN

INITIATIVES & SCREENING HANDOUT – VERSION 12/24/2020

In April 2020, the Vermont Agency of Transportation (AOT or VTTrans) began an update to the State Rail Plan (2015) and State Freight Plan (2012 with a 2017 update) to meet Federal requirements. Although two separate documents, there is a significant amount of overlap between the two efforts.

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 provided by Amtrak. Commuter rail is a form of public transit that is addressed as part of public transit plans.¹ The Freight Plan provides a framework to maintain and enhance all modes of freight movement in Vermont—rail, highway, air, and water.

Significant work has been completed for both efforts and can be found at the below links. A link is also provided to an online mapping tool being used to visualize the initiatives and gather feedback on them.

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 document focuses on the Rail Plan update and is composed of three parts:

- A summary table of potential initiatives that could be pursued by anyone. It may help with grant applications.
- An overview of the screening process being used by VTTrans to inform its discussion preparing an implementation table.
- A summary table showing the draft screening results for each potential initiative. These quantitative scores will be combined with cost, feasibility, and qualitative considerations in VTTrans discussions preparing a short implementation table. **Please visit the Rail Plan web page for the most recent version of the summary and for the supporting spreadsheets.**

¹ <https://vtrans.vermont.gov/planning/PTPP>

Summary of Potential Initiatives

Potential initiatives are the range of actions that would support and enhance intercity passenger rail and freight rail in Vermont. Examples of initiatives include improving tracks to carry the current car weight standard of 286,000 pounds (286k), modernizing communication systems, or enhancing processes. The 20 policy or program initiatives start at ID #1 and are shaded green. The 22 location-specific initiatives start at ID #100. **The initiatives in this table are not recommendations. A screening process is applied to these initiatives to support discussions identifying a shorter set for implementation by the Vermont Agency of Transportation.**

Some initiatives may be most effective when considered and developed as part of overall network efforts rather than considered only individually. This potential impact will be considered when identifying initiatives to move forward for implementation.

This table is not in priority order. It is sorted by the goals of the Rail Plan to help focus on making progress. The goals are:

GOALS OF VERMONT STATE RAIL PLAN

- Maintain existing system in a state of good repair [Maintenance]
- Expand capacity to accommodate growth [Expand Capacity]
- Increase use of rail system use, both for freight and passenger service [Increase Use]
- Fund the rail system adequately and in a sustainable manner [Funding]
- Improve intermodal connectivity [Intermodal Connectivity]
- Act on opportunities for additional ancillary economic development based on the rail system [Economic Development]
- Enhance safety, security, and resilience [Safety]

Initiative	Primary Goal	Freight or Passenger	Notes	ID #
Educate shippers about rail 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	5
Preserve rail siding access to existing industrial sites.	Economic Development	Freight	Update inventory and help publicize industrial zoned land near existing or potential sidings	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	7
Preserve and fully use parcels with access to rail spurs	Economic Development	Freight	Coordinate with railroads, agencies, economic develop groups, RPCs, etc.	17
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	20

Initiative	Primary Goal	Freight or Passenger	Notes	ID #
			such as car/locomotive maintenance, storage and inspection	
Burlington Railyard Enterprise Project - multimodal transportation infrastructure improvements	Economic Development	Both	Burlington City Council voted to pursue funding after completion of scoping study in 2020. See: https://www.ccrpcvt.org/our-work/transportation/current-projects/scoping/railyard-enterprise-project/	116
Upgrade all lines to 286K weight-bearing capability	Expand Capacity	Freight	286,000 pound is the national standard for freight rail cars. Increasing all lines to this standard will improve regional and national connections and enhance freight business opportunities in the State	2
<i>Vermonter</i> Extension to Montreal – one round trip/ day	Expand Capacity	Passenger	See results of modeling	100
<i>Vermonter</i> Extension to Montreal – two round trips/ day	Expand Capacity	Passenger	See results of modeling	102
<i>Vermonter</i> connection at Springfield, MA to trains to Boston	Expand Capacity	Passenger	See results of modeling Would provide connection for <i>Vermonter</i> at Springfield to train service MassDOT is exploring	109
Upgrade GMRC Bridges and Track to 286k standard (Rutland to Bellows Falls)	Expand Capacity	Freight	8 bridges with a load rating <286k, 17.9 miles of track is 90 lb. rail or lower	112
Upgrade WACR Montpelier & Barre Sub. Bridges and Track up to 286k standard	Expand Capacity	Freight	3 bridges not capable of handling 286k, 12.7 miles of 90 lb. rail or lower	113
Upgrade WACR Connecticut River Line Bridges and Track up to 286k standard (White River Junction to Newport)	Expand Capacity	Freight	21 bridges load rating not sufficient for 286k, rail weight between 90 and 115 pounds	115
Achieve full NECR Double Stack Clearance (Alburgh to MA border)	Expand Capacity	Freight	14 restrictions to double-stack access along NECR.	120
Achieve full GMRC/CLP Double Stack Clearance (NY border to Bellows Falls)	Expand Capacity	Freight	19'2" clearance restriction in Proctorsville (GMRC) and Rutland Center (CLP)	121
Track and respond to COVID-related changes regarding impacts on the passenger and freight rail system, both direct and from demographic changes	Funding	Both	Work with Dept. 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	12

Initiative	Primary Goal	Freight or Passenger	Notes	ID #
Seek grants and innovative funding approaches for freight and passenger rail	Funding	Both	Continue to position State to pursue federal grant opportunities and collaborate with ACCD and other economic development agencies on opportunities	18
Further enhance marketing of Vermont passenger rail	Increase Use	Passenger	Work more closely with ACCD, economic development and tourist groups, chambers, etc.	4
Extension from Burlington to Essex Junction to connect <i>Ethan Allen Express</i> with <i>Vermont</i> .	Increase Use	Both	See results of high-level modeling. This is a complicated initiative that would need further exploration. Also see #126 improving freight movement in the corridor	103
New Albany-Bennington-Manchester Route to Burlington	Increase Use	Passenger	See results of modeling Bus service was put in place to assess demand	104
Bring the <i>Vermont</i> up to 79 MPH	Increase Use	Both	See results of modeling Would require signaling system and track work west of WRJ	105
Bring the Western Corridor up to 79 MPH	Increase Use	Both	See results of modeling Would require signaling system from Whitehall NY to Burlington	106
Add a second daily service to the <i>Ethan Allen Express</i> New York City to Burlington.	Increase Use	Passenger	See results of modeling	107
Extend one Valley Flyer service from Greenfield, MA to White River Junction	Increase Use	Passenger	See results of modeling. This low-volume service may be required to meet FTA regulations. Under current FRA regulations, installation of PTC is not required. PTC likely would be part of a broader upgrade in the future	108
Add whistle stop in Brandon and Shelburne areas once <i>Ethan Allen Express</i> is extended to Burlington	Increase Use	Passenger	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	123
Upgrade NECR Winooski Branch Bridges and Track to 286k standard (Burlington to Essex Junction)	Increase Use	Both	This is Class 1 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 done to support Middlebury Tunnel detour (rail, ties, bridge timber replacement)	126

Initiative	Primary Goal	Freight or Passenger	Notes	ID #
Facilitate development of freight transload and intermodal terminals in or near Vermont	Intermodal Connectivity	Freight	As demand warrants, work with customers and railroads to identify opportunities to expand or develop new transload or intermodal freight facilities in the State	8
Maintain and improve freight access to regional short-haul markets and competitive Class I railroad connections	Intermodal Connectivity	Freight	Advocate and educate on behalf of Vermont businesses for operating agreements between shortline and Class I railroads to improve efficiency of interchanges	9
Improve multi-modal connections to Amtrak stations	Intermodal Connectivity	Passenger	Work with transit & tourist services to match scheduling, increase comfort and reliability of transfers	14
Improve wayfinding signage and explore transit-oriented development (TOD)	Intermodal Connectivity	Passenger	Work with municipalities. Support TOD near Amtrak stations.	15
Improve pedestrian and bicycle access and facilities at and near Amtrak stations	Intermodal Connectivity	Passenger	Work with municipalities to develop station area plans, improve wayfinding, and enhance bicycle and pedestrian accommodations (crosswalks, bicycle lanes, bicycle parking)	16
Passenger Rail Station Improvements statewide	Intermodal Connectivity	Passenger	See list of ADA improvements in Vision, Goals, Needs & Potential Initiatives Memo (forthcoming)	111
Post freight rail system performance measures, including trends	Maintenance	Freight	Performance measures may need to be modified. Could be in VTransparency or elsewhere	1
Maintain State-owned freight trackage at FRA Track Class II or better and state-owned passenger rail trackage at Class III or better where viable based on geography	Maintenance	Both	Class II is 25 MPH for freight, 30 MPH for passenger. Class III is 40 MPH for freight, 60 MPH for passenger.	3
Workforce Development	Maintenance	Freight	Partner on job training with DOL, educational facilities, and businesses	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 SOGR	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	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, such as the local first responder classes offered by VRS. Share the big picture, for example that storage of fuel in Vermont responds to bad winters when there were shortages.	10

Initiative	Primary Goal	Freight or Passenger	Notes	ID #
			Maintain appropriate communication among State agencies, municipal staff and first responders, and railroads. Explore opportunities as part of shift underway to Statewide Emergency Planning Committee.	
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. Work with railroads to identify priorities and funding to increase resilience.	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. -Continue to explore positive ways for railroads and other Vermonters to resolve issues in a way that strengthens Vermont's economy and communities.	19
Upgrade public grade crossings on current and planned Amtrak passenger rail routes to gates and flashers (phased implementation)	Safety	Both	Includes <i>Ethan Allen</i> extension to Burlington and <i>Vermont</i> extension to Montreal. Prioritize through Section 130 effort. Cost of upgrades and maintenance could increase subsidy required of State for Amtrak service	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	125

For more detail, see the following technical memos and resources:

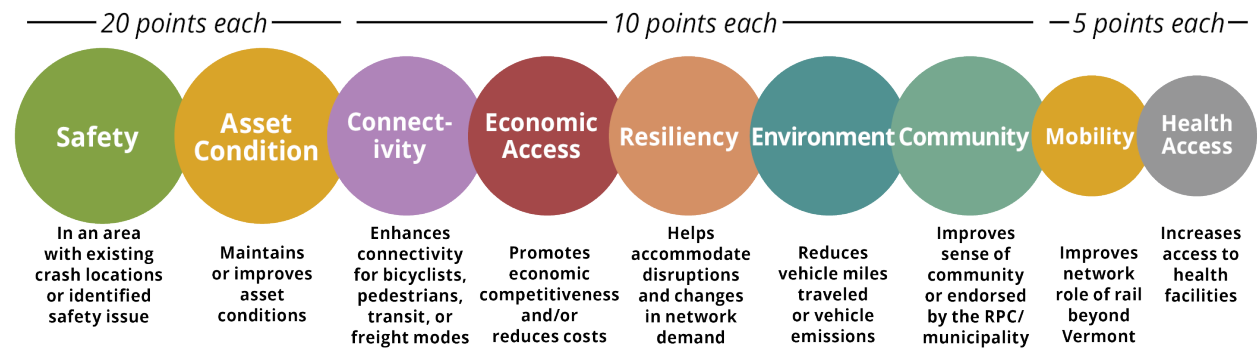
- Existing Conditions: https://vtrans.vermont.gov/sites/aot/files/planning/documents/Tech%20Memo%20%231_DataCollection%26ExistingConditions_10282020_Finalclean.pdf
- Commodity Flow and Economic Futures: https://vtrans.vermont.gov/sites/aot/files/planning/documents/TechMemo2_CommodityFlowEcFuture_20201130Final.pdf
- Vision, Goals, Needs & Potential Initiatives: LINK COMING SOON

- “Integrating Freight Facilities and Operations with Community Goals” (National Cooperative Highway Research Program Synthesis 320) - http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_320.pdf

Screening

The list of potential location-specific and policy/program initiatives was screened using a simplified version of VTrans Project Selection and Project Prioritization (VPSP2). As illustrated below, this screening considers the initiative’s potential effectiveness within each of the VPSP2 goal areas. It uses the weights developed through an extensive process for VPSP2 overall. See the draft Initiative Screening workbook for more details.

VTRANS PROJECT SELECTION AND PROJECT PRIORITIZATION (VPSP2) GOAL AREAS



There are two summary tables for the initiatives, one for location-specific initiatives and one for the policy/program initiatives. Each are set up in a similar manner with the following columns:

- 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 total 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 in developing the VTrans implementation table

These summary tables are shown on the following pages with initiatives in each table listed in order from highest score to lowest score. The location-specific initiatives have a maximum possible score of 100, the policy/program initiatives have a maximum possible score of 20.

Additional considerations as VTrans develops its short implementation table include high-level cost estimates, feasibility, stakeholder input, the potential to group or link some initiatives, how well the initiative advances the goals, and discussion.

Draft Screening Table: Location-Specific Initiatives

Initiative #	Initiative Name	Goal Area	State-owned infrastructure?	Passenger or Freight	Total Score	Notes on Initiative	Discussion on Inclusion in Implementation Table
100	Vermont Ext. to Montreal	Increase Use	Yes	Passenger	98	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	
116	Burlington Rail Yard Enterprise	Economic Development	Yes	Both	88	Burlington City Council voted to pursue funding after completion of scoping study in 2020. See: https://www.ccrpcvt.org/our-work/transportation/current-projects/scoping/railyard-enterprise-project/	
104	Albany-Bennington-Burlington Passenger Service	Increase Use	Yes	Passenger	78		
112	GMRC Bridges and Track Upgrades	Expand Capacity	Yes	Freight	77	8 bridges with a load rating <286k, 17.9 miles of track is 90 lb. rail or less. CP would like to see this line upgraded to 286k as a higher priority than the WACR Conn River	
102	Vermont Ext. to Montreal (X2 trips)	Increase Use	Yes	Passenger	75	No resiliency points as adding a 2nd service does not impact infrastructure	
113	WACR Bridges and Track Upgrades	Expand Capacity	Yes	Freight	74	3 bridges not capable of handling 286k, 12.7 miles of 90 lb. rail or lower	Additional track being constructed to handle pending growth in traffic
115	WACR Conn. River Bridges and Track Upgrades	Expand Capacity	Yes	Freight	74	21 bridges load rating not sufficient for 286k, rail weight between 90 and 115 pounds	
103	Ethan Allen: Extension from Burlington to Essex Jct.	Increase Use	Yes	Passenger	68	Also see #126 improving freight movement in the corridor	
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	
110	VTR Upgrade to CWR and 115lb (Rut-Manchester)	Maintenance	Yes	Both	63	Higher track weight to allow for higher train speeds (passenger and freight) as well as maintain SOGR	
126	NECR Winooski Track and Bridge Updates (Burlington to Essex Jct)	Increase Use	No	Freight	63	Pending details about 286k bridge needs in the corridor, non-state owned asset	



Initiative #	Initiative Name	Goal Area	State-owned infrastructure?	Passenger or Freight	Total Score	Notes on Initiative	Discussion on Inclusion in Implementation Table
108	1 Valley Flyer extended to White River Jct	Increase Use	Yes	Passenger	60		
107	2nd service on Ethan Allen	Increase Use	Yes	Passenger	55		
111	Passenger Rail Station Improvements	Intermodal Conn.	Yes	Passenger	55	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	
122	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.	Cost of upgrades and maintenance could increase subsidy required of State for Amtrak service. Crossings are being improved through several programs.
106	Western Corridor to 79mph	Increase Use	Yes	Passenger	53	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.	
109	Connection to future rail @ Springfield: MTL-BOS	Increase Use	Yes	Passenger	51	Intended to connect with future service (not Lake Shore Limited). Scores MTL-Springfield segment	
120	NECR Full Double Stack Clearance	Expand Capacity	No	Freight	49	Project unlikely to improve flood resiliency or environmental protection	
121	GMRC/CLP Full Double Stack Clearance	Expand Capacity	Yes	Freight	49	Project unlikely to improve flood resiliency or environmental protection	
123	Whistle stop in Brandon and Shelburne	Increase Use	Yes	Passenger	46	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	
105	Vermonter to 79mph	Increase Use	Yes	Passenger	43	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.	
124	Quiet Zone - South Summit St. Essex Jct	Maintenance	No	Other	29	Could be included as part of EAE to Essex Junction if that initiative is advanced and this one is not	



Draft Screening Table: Policy/Program Initiatives

Initiative #	Initiative Name	Goal Area	State-owned infrastructure?	Passenger or Freight	Total Score	Notes on Initiative	Discussion on Inclusion in Implementation Table
3	Maintain State-owned freight trackage at FRA Track Class II or better and state-owned passenger rail trackage at Class III or better where viable based on geography	Maintenance		Both	16	Class II is 25 MPH for freight, 30 MPH for passenger. Class III is 40 MPH for freight, 60 MPH for passenger.	
2	Upgrade all lines to 286K weight-bearing capability	Expand Capacity		Freight	13	286,000 pound is the national standard for freight rail cars. Increasing all Vermont lines to this standard will improve regional and national connections and enhance freight business opportunities in the State	
18	Seek grants and innovative funding approaches for freight and passenger rail	Funding		Both	13	Continue to position state to pursue federal grant opportunities and work collaboratively with ACCD and other economic development agencies to identify opportunities for freight funds	
13	Increase resilience of rail system to make critical infrastructure more resilient now and to prepare for increasing storm severity	Safety		Both	13	180 miles of rail (109 state owned) in flood risk areas. Work with railroads to identify priorities and funding to increase resilience	
6	Preserve rail siding access to existing industrial sites.	Economic Development		Freight	12	Update inventory and help publicize industrial zoned land near existing or potential sidings	
8	Facilitate development of freight transload and intermodal terminals in or near Vermont	Intermodal Connectivity		Freight	12	As demand warrants, work with customers and railroads to identify opportunities to expand or develop new transload or intermodal freight facilities in the State	
17	Preserve and fully use parcels with access to rail spurs	Economic Development		Freight	10	Coordinate with railroads, agencies, economic develop groups, RPCs, etc.	
19	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	10	Highlight and support coordination on rail maintenance, operations, and construction activities.	
9	Maintain and improve freight access to regional short-haul markets and competitive Class I railroad connections	Intermodal Connectivity		Freight	9	Advocate on behalf of Vermont businesses for operating agreements between shortline and Class I railroads to improve efficiency of interchanges	
16	Improve pedestrian and bicycle access and facilities at and near Amtrak stations	Intermodal Connectivity		Passenger	9	Work with municipalities to develop station area plans, improve wayfinding, and enhance bicycle and pedestrian accommodations (crosswalks, bicycle lanes, bicycle parking)	



Initiative #	Initiative Name	Goal Area	State-owned infrastructure?	Passenger or Freight	Total Score	Notes on Initiative	Discussion on Inclusion in Implementation Table
7	Develop quick-response capability to leverage economic development opportunities	Economic Development		Freight	8	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	
4	Further enhance marketing of Vermont passenger rail	Increase Use		Passenger	8	Work more closely with ACCD, economic development and tourist groups, chambers, etc.	
10	Maintain, publicize, and enhance appropriate communication regarding rail movement and storage of hazardous materials (hazmat) while respecting rail exemptions from local control	Safety		Freight	8	Publicize voluntary efforts by railroads. Share the big picture. Maintain appropriate communication. Explore opportunities as part of shift underway to Statewide Emergency Planning Committee.	
14	Improve multi-modal connections to Amtrak stations	Intermodal Connectivity		Passenger	7	Work with transit & tourist services to match scheduling, increase comfort and reliability of transfers	
15	Improve wayfinding signage and explore transit-oriented development (TOD)	Intermodal Connectivity		Passenger	7	Work with municipalities. Support TOD near Amtrak stations.	
1	Post freight rail system performance measures, including trends	Maintenance		Freight	7	Performance measures may need to be modified. Could be in VTransparency or elsewhere	
20	Maintain and modernize freight rail yards such as NECR and CP Yards	Maintenance		Freight	7	Supports sorting of cars for various destinations and support functions such as car/locomotive maintenance, storage and inspection	
11	Workforce Development	Economic Development		Freight	6	Partner on job training with DOL, educational facilities, and businesses	
12	Track and respond to COVID-related changes regarding impacts on the passenger and freight rail system, both direct and from demographic changes	Funding		Both	6	Work with Dept. of Health, Education (school enrollment), and RPCs, & others. to understand demographic and transportation change. Increase advertising and bike/ped station access where population is increasing; engage more with e-commerce shippers	
5	Educate shippers about rail and intermodal service options and contracting approaches.	Economic Development		Freight	5	Work with economic development agencies to encourage intermodal rail freight use by private businesses where viable	