



Resilience Improvement Plan

Draft Process Underway

February 6, 2023



Promoting Resilient Operations for Transformative, Efficient, and Cost Saving Transportation (PROTECT)

Introduced as part of 2021 IIJA/BIL

Formula funds - \$37 million to VT over 5 years

Discretionary grants

Purpose: [H]elp make surface transportation more resilient to natural hazards, including climate change, sea level rise, flooding, extreme weather events, and other natural disasters through support of planning activities, resilience improvements, community resilience and evacuation routes, and at-risk costal infrastructure.

Sample of Uses PROTECT Formula Funds:

Source:

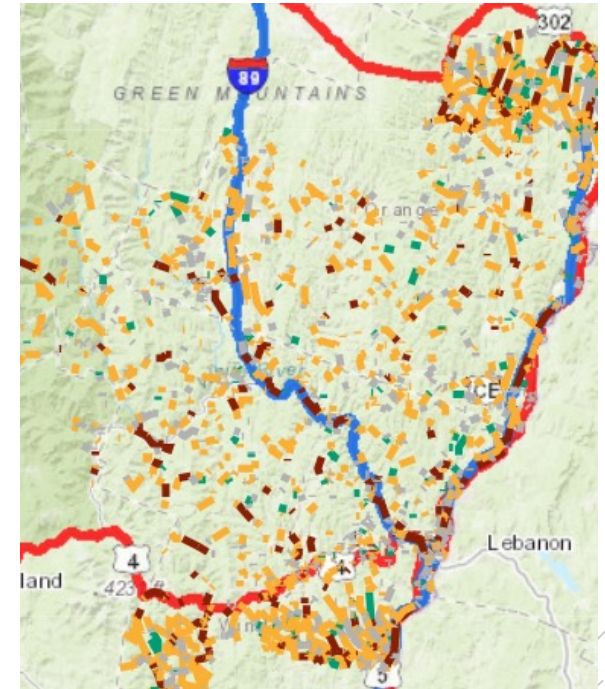
https://www.fhwa.dot.gov/bipartisan-infrastructure-law/protect_fact_sheet.cfm

- **Planning Activities:** developing a Resilience Improvement Plan; Resilience planning, predesign, design, ... technical capacity building [§ 11405; 23 U.S.C. 176(c)(2) and 176(d)(3)];
- **Transportation Resilience Improvements** to improve the ability of an existing surface transportation asset to withstand one or more elements of a weather event ..., or to increase the resilience of surface transportation infrastructure from the impacts of changing conditions, such as ...flooding, wildfires, extreme weather events, and other natural disasters [§ 11405; 23 U.S.C. 176(d)(4)(A)];
- **Community Resilience & Evacuation Routes** [§ 11405; 23 U.S.C. 176(d)(4)(B)];

Making Vermont More Resilient...and Financially Stable

The PROTECT Formula Program does not require States and MPOs to develop a Resilience Improvement Plan before spending PROTECT Formula Program funds. However, a Resilience Improvement Plan **can reduce the non-Federal cost share for a project by up to 10 percent.**

*Lots of opportunities
as shown in this
TRPT analysis*



Vermont already has developed much of the required contents...

So let's do a
Resilience
Improvement
Plan !

ELEMENTS OF PLAN

- Define risks and vulnerabilities of concern
- Identify external and internal partners and their connection to resilience
- Summarize how resilience is addressed in existing plans
- Identify processes and strategies to promote resilience
- Develop a framework for project selection and implementation
- Establish methods to measure performance
- Define next steps and future actions

Draft Goals

1. **Less damage in the future.**



Major natural events result in *less damage* to the transportation system in the future than in the past.

2. **Systems return to normal quickly.**



The transportation system *returns to normal quickly* after major events.

3. **Vermont is resilient for all people.**



All people have transportation options to safely evacuate or get to essential locations.

4. **Essential freight moves.**



Essential freight continues to arrive at key destinations for distribution and delivery to Vermonters.

5. **Resilience efforts are coordinated.**



Resilience investments benefit transportation systems and Vermont's communities, environment, economy, and other critical infrastructure sectors.

OVERVIEW OF SYSTEM MEASURES OF RESILIENCE FOR BASELINE & PERIODIC REVIEW

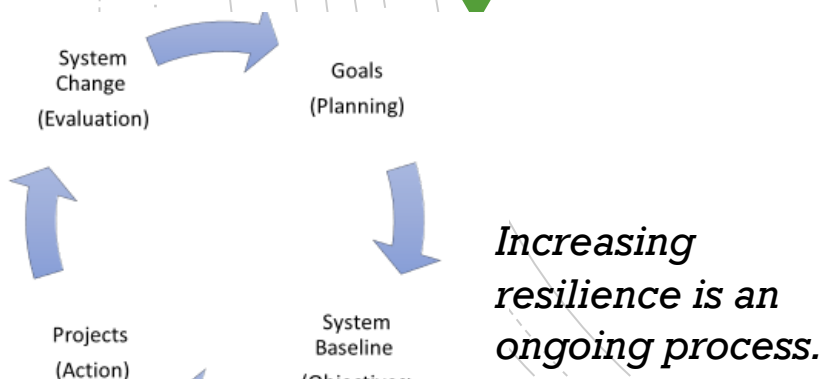
How would we know if we were making progress toward the goals?

Goal	Possible System Measures
There is less damage in the future.	High risk locations that have been made more resilient through capital or program approaches
Systems return to normal quickly.	Speed of return to reliable travel times.
Vermont is resilient for all people.	Speed of return to regular fixed route transit schedules.
	Efforts completed in locations where high transportation risk and high social vulnerability coincide that will increase ability of vulnerable populations to travel to safety.
Essential freight moves.	Number of ways to get freight to emergency distribution sites
Resilience efforts are coordinated.	Number of transportation resilience efforts specifically developed to also address recommendations of other plans
	Number of VTrans resilience-related projects specifically designed to also increase resilience of natural systems

How might we screen project ideas to make progress on goals?

EXAMPLE OF CONNECTED GOAL – SYSTEM – PROJECT IDEA SCREENING

Goal	System Measure	Project Idea Screening Measure
There is less damage in the future.	High risk locations have been made more resilient through capital projects or other strategies.	Does the project make a high-risk or repeat damage location less likely to be damaged in major natural events?



SCREENING POTENTIAL PROJECT IDEAS

How we could screen for projects that advance resilience goals*

*To be coordinated with Vermont [Project Selection and Prioritization \(VPSP2\)](#)

Goal	Possible Project Idea Screening Measures
There is less damage in the future.	Does the project make a high-risk or documented repeat damage location less likely to be damaged in major natural events?
Systems return to normal quickly.	Does the project back-up (increase redundancy) in the transportation network for Functional Class 1, 2, and 3 roads, transit, or rail?
Vermont is resilient for all people.	
	Does the project improve access or increase travel options for high social vulnerability areas?
Essential freight moves.	Does the project improve access or increase mode options to get freight to emergency distribution sites?
Resilience efforts are coordinated.	Does the project specifically also support implementation of recommendations from other State agency plans that relate to resilience and risk management?
	Does the project specifically include natural systems resilience approaches as well as traditional strategies?

SCAN FOR PRIORITIES

Dare we say
“Draft
Prioritization”?

This uses TRPT & Capital Program contents.

Yes=1 Yes=1 Yes=1 Yes=1

ID	Location	Project	Highly Vulnerable Location	Highly Critical Location	Project In Design	Ready To Build	Sum	Notes

More-detailed FHWA measures will follow for PROTECT funds, but this process would give us a head start.

It likely wouldn't be needed for ideas proceeding into VPSP2.

What's Next?

Steps to Completing First RIP

- Take the RIP as far as reasonable while getting it done, knowing there's more to come.
 - How to define incremental cost of resilience in projects?
 - Use measures to develop financially unconstrained list of potential resilience improvement areas
- Provide revised draft to internal and external partners for review, coordinate with update of State Emergency Management Plan
- Informal meeting with FHWA-Vermont Division
- Complete, submit to FHWA, and share first final RIP

What About After this RIP?

Implement and Refine RIP

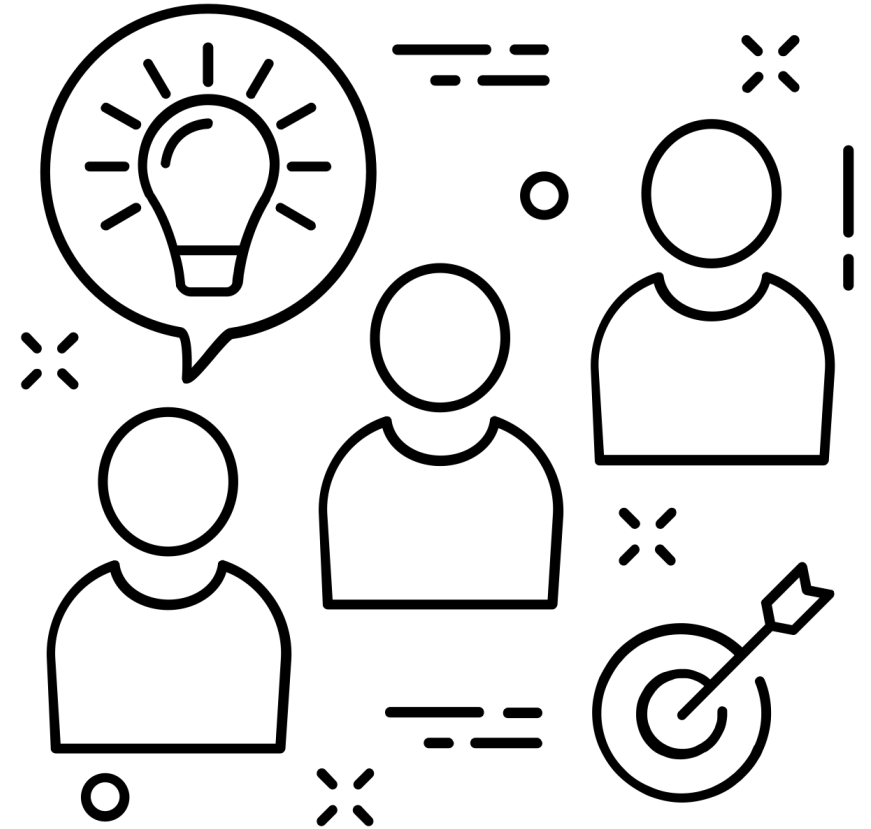
- Complete first actions in RIP
- Continue to communicate with internal and external partners
 - Define how RIP will be incorporated in other agency processes
- Stay engaged as this field develops—prepare to update RIP

Discussion!

What else would be helpful to include in the RIP?

What are we missing in the measures?

How do you want to participate?



Thank You!

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