Environmental Policy and Sustainability Program Overview

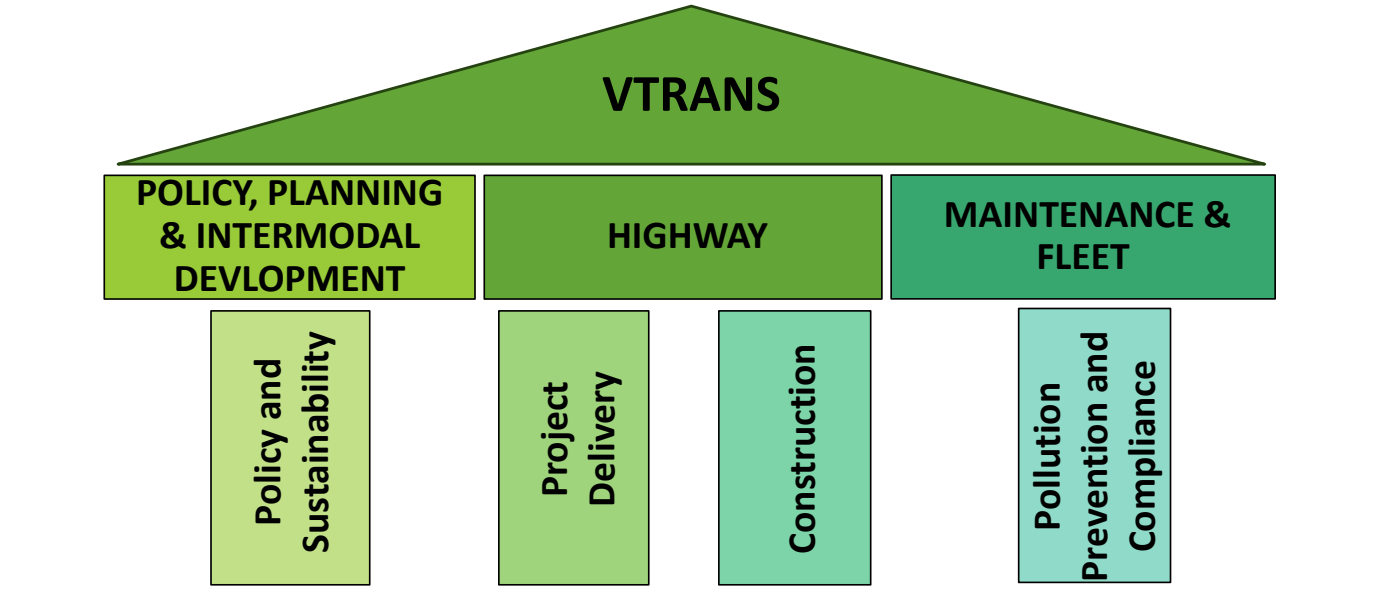
ANDREA WRIGHT, ENVIRONMENTAL POLICY MANAGER

PATRICK MURPHY, STATE POLICY DIRECTOR

HOUSE TRANSPORTATION COMMITTEE

JANUARY 23, 2025

VTrans Environmental – Four Pillars



MISSION - Through excellent customer service, provide for the safe and efficient movement of people and goods in a socially, economically, and environmentally sustainable manner.

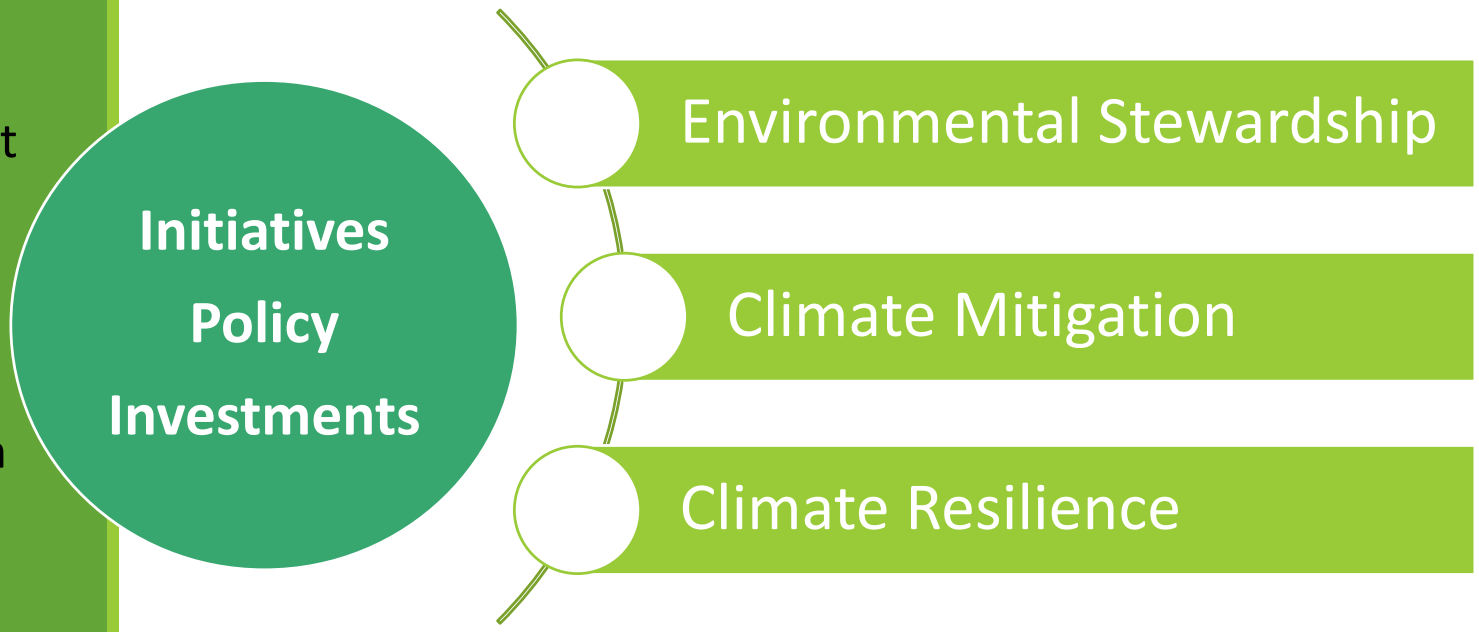
VISION - A safe, reliable, and environmentally sustainable multimodal transportation system that grows the economy, is affordable to use and operate, and serves vulnerable populations.

Environmental Policy and Sustainability

Policy, Planning and Intermodal Development Division

Staff:
5 FTE positions;
1 temp legislative intern

SFY 2025 Budget:
Federal Funds: $7.9M
State Funds: $531K
Local Funds: $1.2M



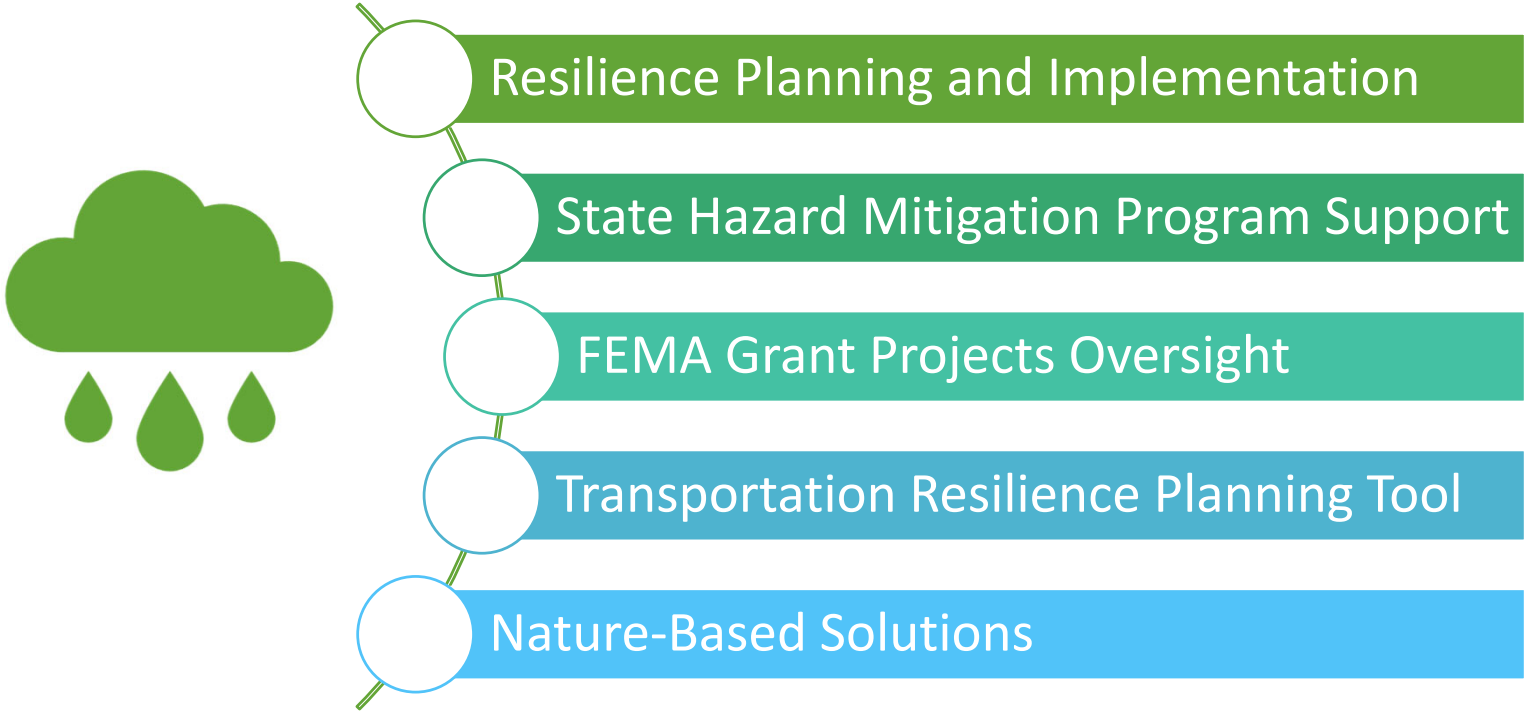
Environmental Stewardship

- Inter Agency Coordination
- Water Quality
- Vegetation Management
- Contaminated Soils
- Road Ecology
- Permitting Efficiency

Climate Mitigation

- Electric Vehicle Incentives
- Electric Vehicle Charging Infrastructure
- Carbon Reduction Strategies
- Energy Efficiency
- Climate Action / Comprehensive Energy Plan

Climate Resilience



Climate Mitigation

VT Global Warming Solutions Act (GWSA)
Act 153 of 2020

- Reduce GHG emissions below 2005 GHG emissions in Vermont by no less than:
  - 26% below 2005 GHG emission levels by January 1, 2025;
  - 40% below 1990 GHG emission levels by January 1, 2030;
  - 80% below 1990 GHG emission levels by January 1, 2050.
- Create the Vermont Climate Council
- Develop a Climate Action Plan
- Assign Sectoral Proportionality

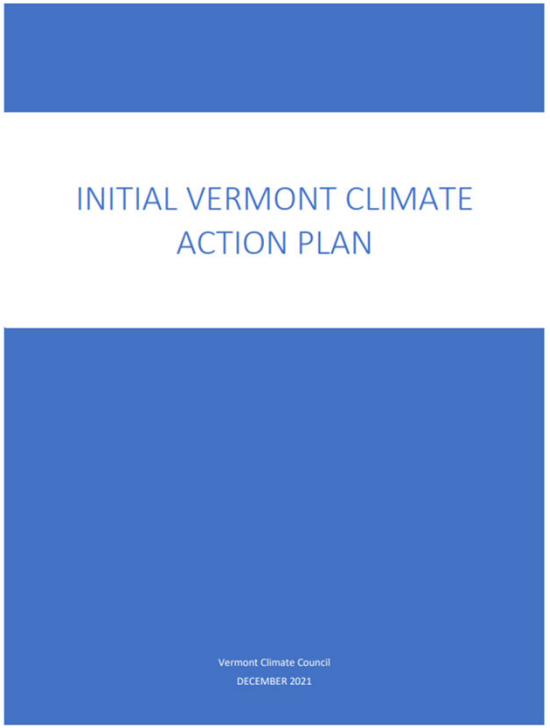
Climate Mitigation

VT Climate Action Plan

Sector – Pathways - Strategies – Actions

Transportation Pathways

- Electrification (Light-Duty Fleet)
- Electrification (Heavy-Duty Fleet)
- Reduce VMT
- Lower Carbon Intensity of Fuels
- Increase Vehicle Efficiency
- Effective Administration and Coordination of Climate Change Programs and Policy



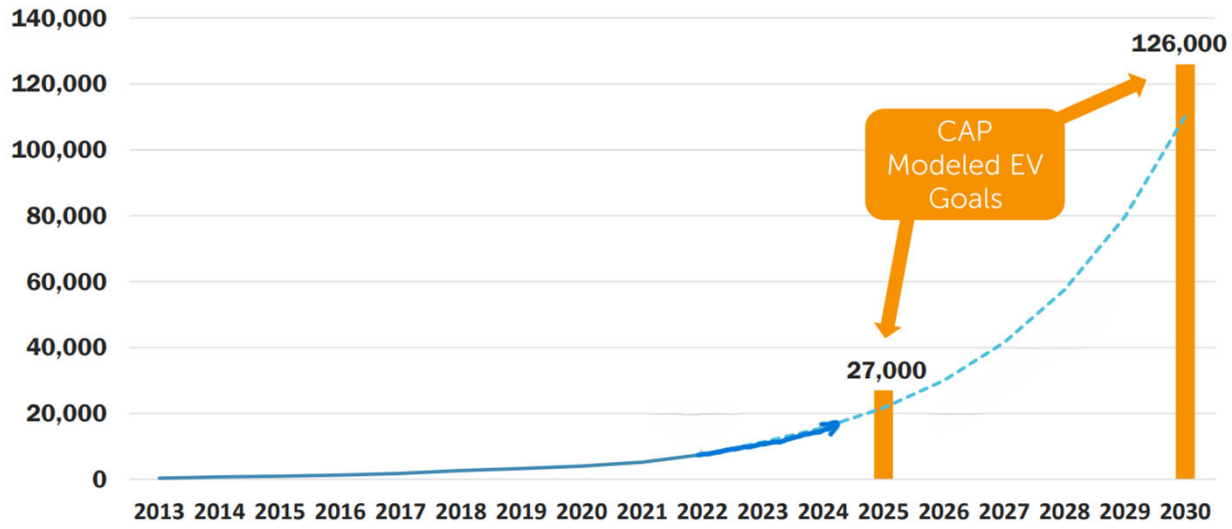
CLIMATE MITIGATION

Vermont needs EVs

CAP Pathways Modeling - Transportation Key Indicators:

- Number of EVs
- EV Shares of Sales
- VMT Reduction from Baseline
- EV Share of VMTs
- EV Managed Charging

How many vehicles does Vermont need to electrify?



CLIMATE MITIGATION

Clean Transportation Incentive Programs

$27+ million invested

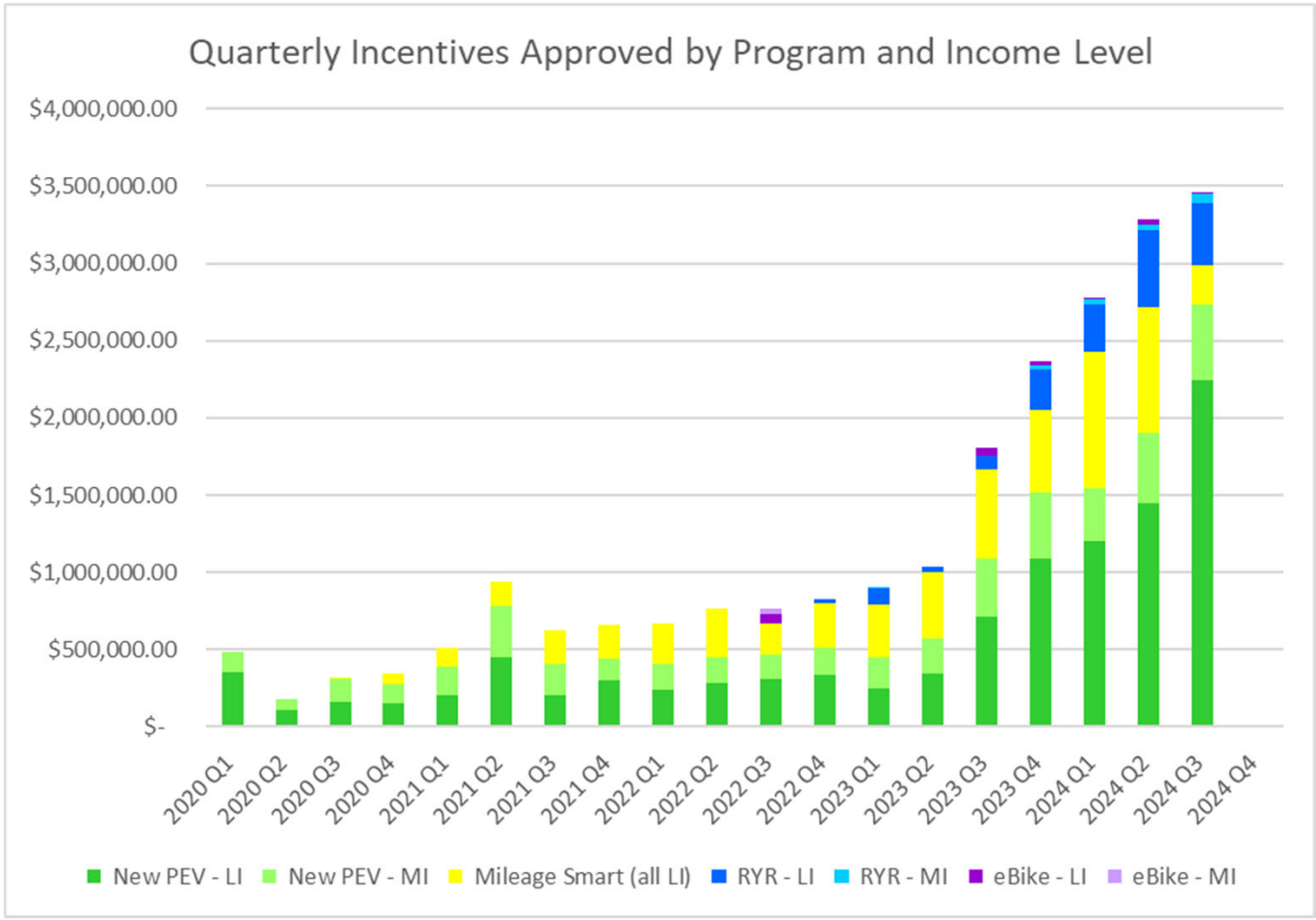
New Plug-In Electric Vehicle (PEV) Incentive Program	$17.1 million authorized $210,000 repurposed
MileageSmart (Used High Efficiency Vehicle Incentive)	$6.6 million authorized $1.4 million added from RYR
Replace Your Ride	$4.5 million authorized $3.245 million repurposed
eBike Incentive Program	$325,000 authorized
Electrify Your Fleet	$500,000 authorized

CLIMATE MITIGATION

Clean Transportation Incentive Programs

6,000 + vehicles incentivized

65% of incentives and 78% of funding to lower income Vermonters



CLIMATE MITIGATION

Electric Vehicle Charging Infrastructure

$21.2m NEVI
$2m ARPA
$11.6m CFI Request

$700k Committed
$17.9m Initial RFP

National Electric Vehicle Infrastructure (NEVI)

NEVI Plan required annually to access funding

EV charging on designated corridors

Charging and Fueling Infrastructure (CFI)

Corridor

Community

Build Out Alternative Fuel Corridors

15 Priority Locations:

- 5 Standard Fast Charging Locations
- 9 High Availability Fast Charging Hub Locations

1 Active Location Opened April 23, 2024

Developing contracts for 11 of 14 Remaining Locations

Planning for next solicitation in the next 1-2 months

Corridor and Community Charging

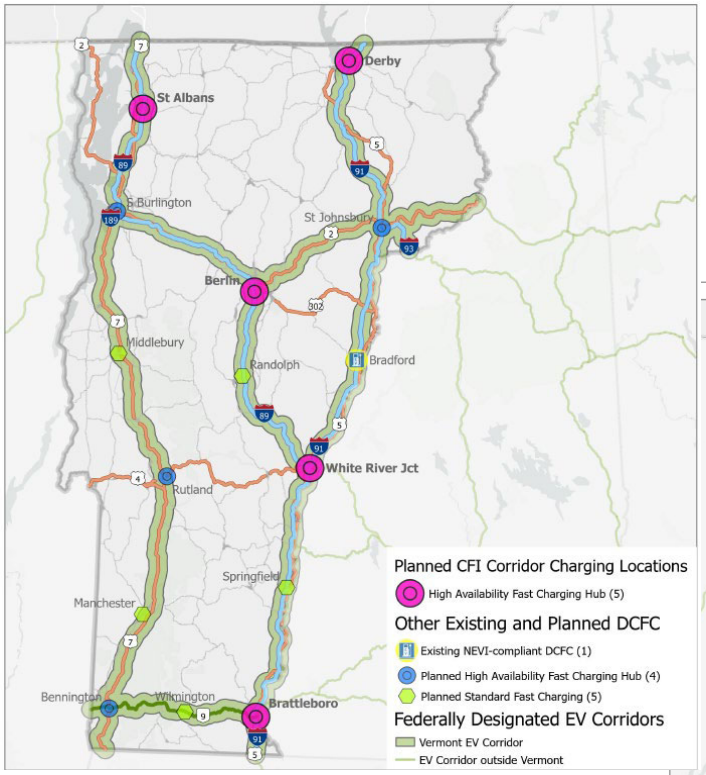
CFI Round 2:

DCFC at 5 Corridor Locations:

- Ports, Power, Parking Configurations for MHD/Fleet that exceed NEVI mins. (up to 8x 350 kW ports)

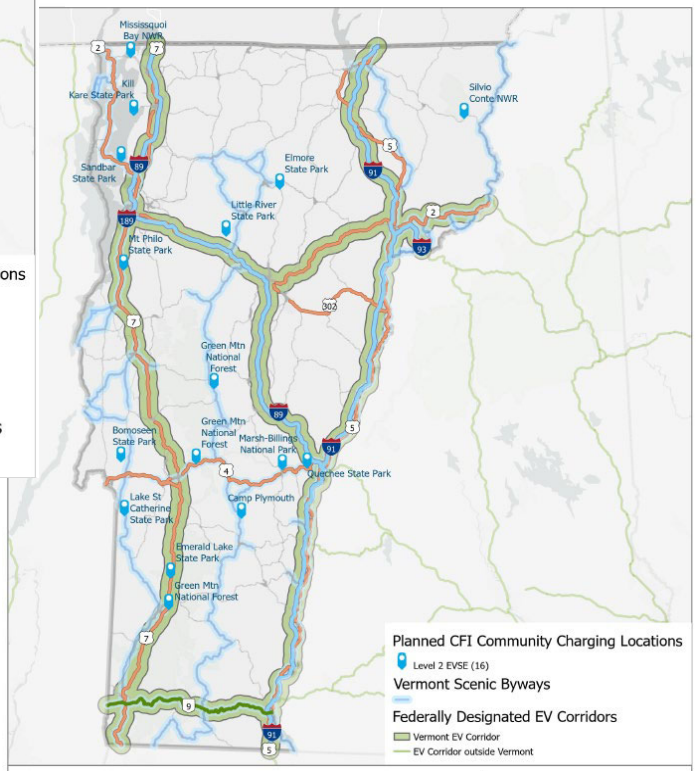
Level 2 at Community Locations:

- State Parks and National Recreation Areas
- Multiunit Dwellings,
- Workplaces
- Public Attractions



↑ MHD/Freight Charging along AFCs

↓ Level 2 Community Charging at State and Federal Recreational Areas



VERMONT AGENCY OF TRANSPORTATION

CLIMATE MITIGATION

Carbon Reduction Program

80% / 20% (Fed/State) Match

Variety of eligible projects to reduce GHG

Infrastructure Investment and Jobs Act
$32 million FFY 22 – FFY 26

Support Vermont's GWSA requirements for GHG emissions reduction

Support U.S. DOT requirements for each State to develop a Carbon Reduction Strategy

Phase I: Develop a methodology for evaluating the effect of the Agency Capital Program on GHG emissions

Phase II: Understand the gap in meeting needed reductions and recommend strategies to fill the gap

Carbon Reduction Strategies due to FHWA by November 15, 2023

Strategies will be updated every 4 years

Carbon Reduction Strategy

Technical Analysis

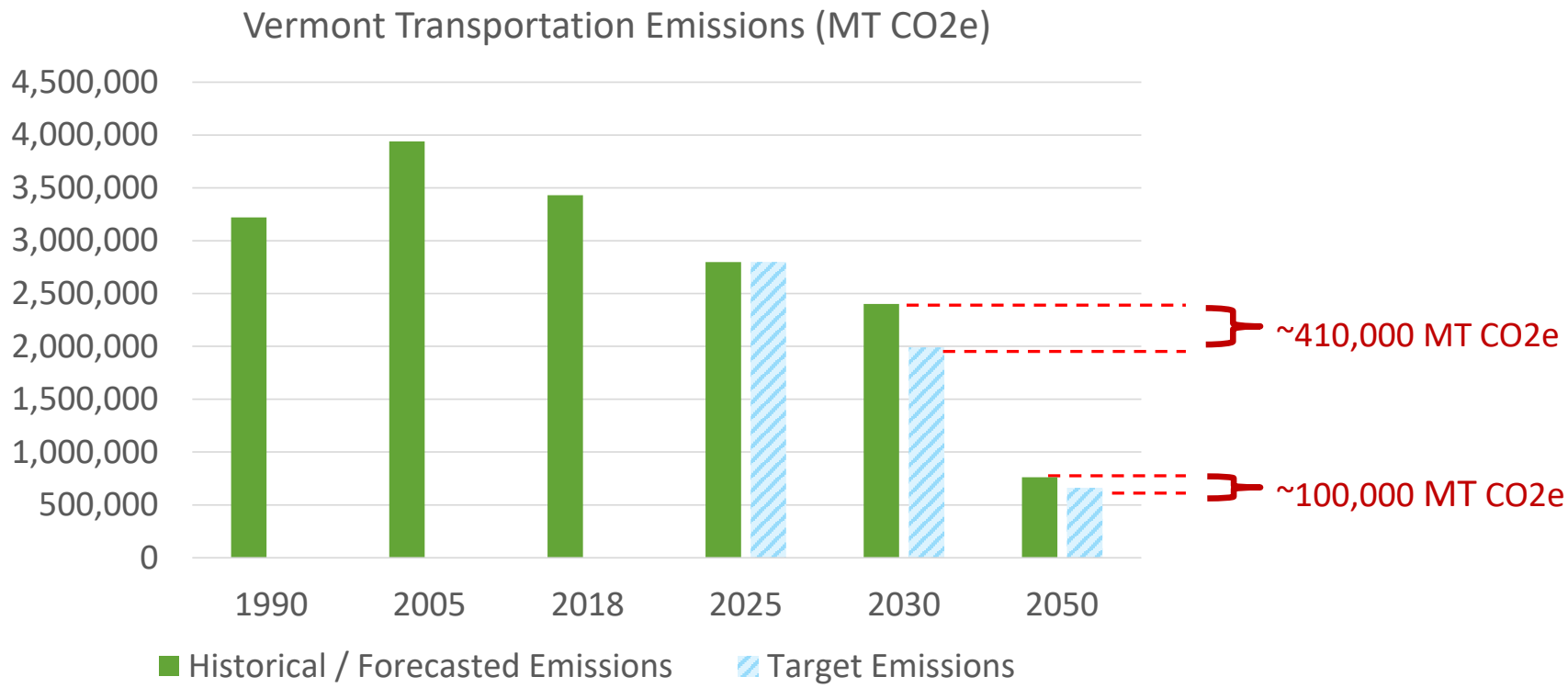
A **baseline forecast** of the state's transportation emissions through 2050, considering current adopted policies.

An assessment of the **GHG impacts of AOT's current Capital Program**, related to project construction, mode shift, efficient traffic operations.

An assessment of the **gap** between projected baseline emissions and emission levels required under the GWSA in years 2025, 2030, and 2050.

Development and evaluation of potential **strategies** to close the gap, including evaluation of potential benefits, costs, and co-benefits.

Gap Analysis



Strategy	CO_2 Reduction (2030 metric tons)	% of 2030 Gap Closed	Estimated Cost Through 2030 ($M)
Bicycle and pedestrian network expansion	220	0.1%	55.7
Transit service expansion	690	0.1%	44.0
Micromobility	1,420	0.3%	7.9
Travel demand management	80	0.0%	2.8
Transit vehicle electrification	4,260	1.0%	31.5
Land use	5,660	1.4%	NA[a]
Broadband expansion	5,300	1.3%	191.7
Advanced Clean Fleets	35,700	7.7%	79.3
Feebates	19,800	4.8%	NA[b]
Combined Effects			
Transportation investment and services	6,500	1.6%	141.8
Transportation + land use + broadband	17,600	4.3%	333.5
Transportation + land use + broadband + ACF + feebates	73,000	17.8%	412.8

GHG Reduction Strategies: 2030 Effects

Proposed Use of Carbon Reduction Program Funds (~$32M)

Project Type	Target %	Approximate Funds Available FY22-26	MT GHG Reduced (2030)
Bicycle and pedestrian projects, including Complete Streets, shared-use paths, bike lanes, and sidewalks, prioritized within designated smart growth locations (town and village centers)	33%	$9-10 million	130
Transit and micromobility services and incentives (e.g., microtransit, shuttles, e-bike incentives)	33%	$9-10 million	1,200
Fleet conversion, including conversion of transit buses and/or AOT heavy equipment to electric and/or other zero emission technology, and supporting infrastructure	33%	$9-10 million	530

Considerations:

- Cost-effectiveness
- Co-benefits
- Stakeholder/public support
- Alignment with CAP and LRTP
- Immediate need/ opportunity

CLIMATE MITIGATION

Carbon Reduction Program

Planned Funding to Date

~$13 million

- $4.0m for Bicycle and Pedestrian Infrastructure
- $3.0m for Mobility & Transportation Innovation
- $2.9m for Public Transit Electric Sprinter Vans & EVSE
- $2.5m for Public Fleet Electrification
- $1.1m for VTrans Fleet Electrification and EVSE

CLIMATE MITIGATION

Research and Analyses

Smart Growth VMT and GHG Study

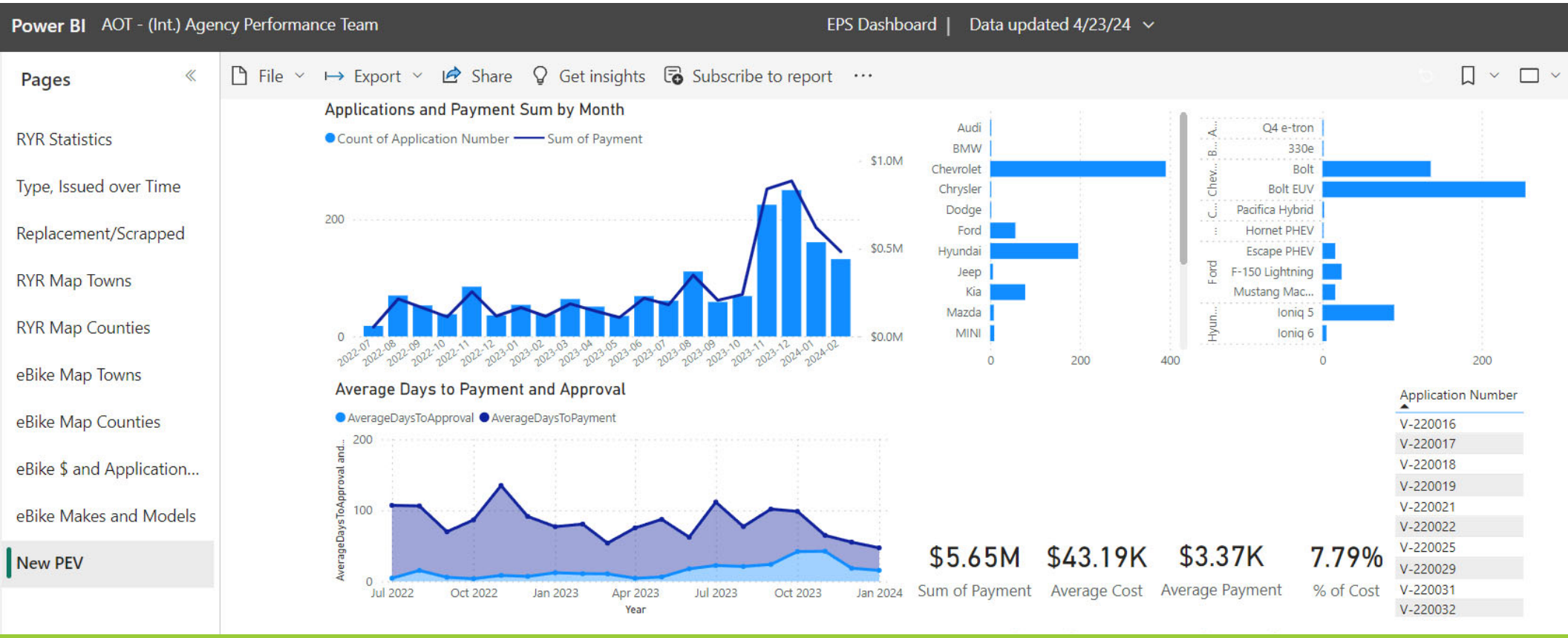
Evaluate how changes in built form and socio-economics characteristics change VMT.

VT Clean Transportation Incentive Programs GHG Reductions

Assess cost efficacy and equity of incentive programs and generate recommendations for improvement

Transportation Carbon Policy Analysis

Emission reductions and economic modeling to understand pros and cons of VT joining WCI or NYCI



VTrans Climate Dashboard

CLIMATE RESILIENCE

PROTECT PROGRAM

$28M Apportioned

10 Bridge and Culvert Upsizing Projects

1 Research Project

$37 million Formula Funds for VT

$1.4B Discretionary Grants Nationwide

80/20

(Federal/State or Local) Match

Planning

Resilience Improvement

Evacuation Routes

At-Risk Coastal Infrastructure

Resilience to Natural Hazards

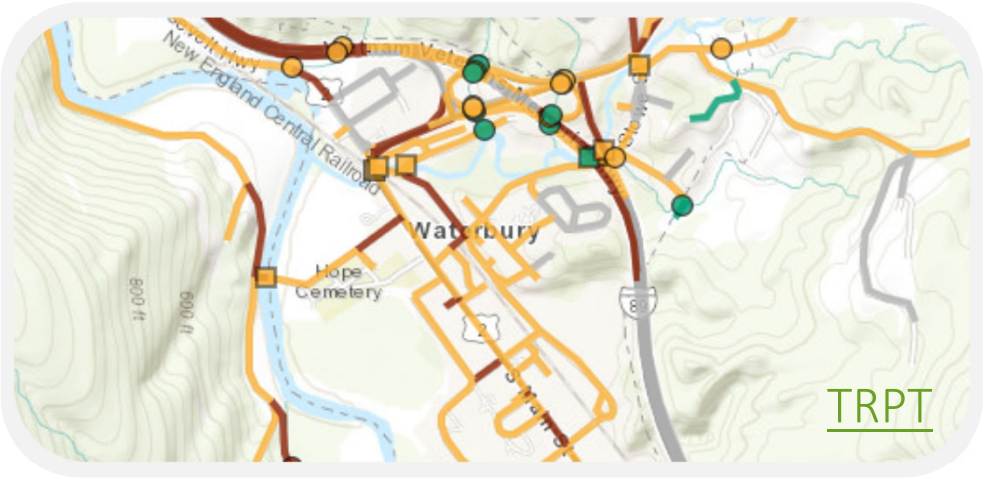
Resilience Improvement Plan (RIP)

Not Required, but Fed match increased by up to 10% with approved RIP and incorporation into LRTP/MTP)

Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation

CLIMATE RESILIENCE

Resilience Planning Tools



TRPT

Reducing Repeat Damage Tool

Resilience Improvement Plan (RIP)

GOALS

1. Less damage in the future.
2. Systems return to normal quickly.
3. Vermont is Resilient for all people.
4. Essential Freight moves.
5. Resilience efforts are coordinated.

Explore the VTrans RIP!

MEASURES

- High Risk & Repeat Damage
- Transit Resilience
- Social Vulnerability Index (SVI) & TRPT
- Resilience for Commodities Distribution
- Coordination with Other Plans

METRICS

- Each measure has a metric—a definition of what counts as “high”
- Locations where the measure is high get a point (or "flag")
- Flags can then be viewed or summarized by road segment or structure

VTrans Resilience Improvement Plan

Priority Locations

Structure Flag

- 4
- 3
- 2

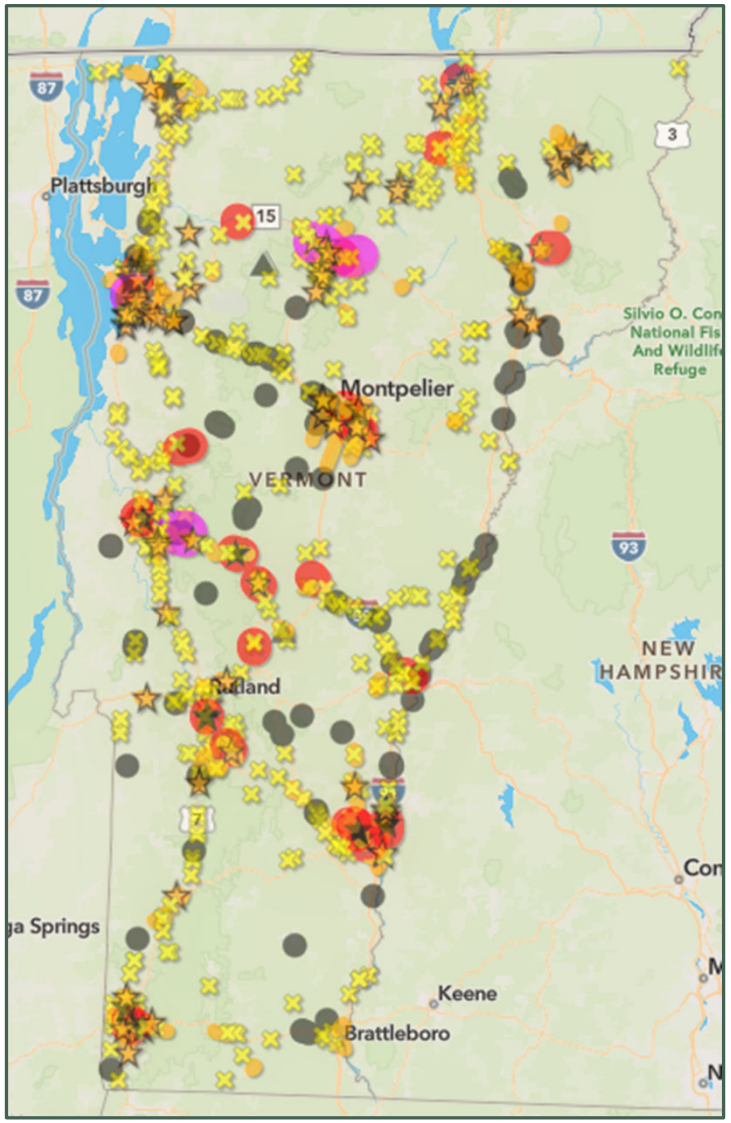
Road Flag

- 6
- 5
- 4
- 3

RIP Analysis - High Hazard Rock Slopes

Grades

- Rock: A
- Hybrid: A



Explore the web map

CLIMATE RESILIENCE

FEMA GRANT PROJECTS

Pre-Disaster Mitigation

$4,790,000

Route 9 Whetstone Brook

Marlboro - Brattleboro

Design & Construction

Building Resilient Infrastructure and Communities

$70,000

Railroad Trestle

Barre

Scoping Report

Hazard Mitigation

$900,000

Route 117

Jericho

Nature Based Design & Construction

Hazard Mitigation

$540,000

Route 108

Stowe

Erosion & Debris Adaptation

CLIMATE RESILIENCE

Research Projects

Nature-Based Solutions (NBS)

- Compile catalog of NBS suitable to Vermont
- Map potential NBS project sites
- Incorporate NBS in VTrans project development

Landslide Hazard Identification and Monitoring

- Map areas near VTrans infrastructure with high landslide risk

Resilience Value of Municipal Roads Management Practices

- Lifecycle cost/benefit of MRGP best management practices

Questions

Andrea Wright VTrans
Environmental Policy Manager
andrea.wright@vermont.gov
802-917-1586