

Vermont Transportation Carbon Reduction Strategy Update

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U.S. DOT Carbon Reduction Program

**Infrastructure Investment
and Jobs Act (IIJA)**

\$32 million

\$6.3 annually over 5 years

- Public Transit
- Transportation Alternatives
- Congestion Mitigation
- Efficient Street and Traffic Lighting
- Travel Demand Management Strategies
- Deployment of Alternative Fuel Vehicles and related Infrastructure
- Carbon Reduction Strategy

Objectives & Approach

Objectives:

Support Vermont's aggressive requirements for GWSA requirements for GHG emissions reduction - Transportation sector contributes to 40 percent of reduction

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

- Describes how new Carbon Reduction Program funding will be used

Approach:

Phase 1: Develop a methodology to estimate GHG emissions from VTrans' Capital Program

Phase 2: Develop Carbon Reduction Strategy

Technical and Advisory Committees

Technical Committee

Agency of Transportation
Agency of Natural Resources
Chittenden County Regional Planning Comm.
University of Vermont
Vermont Climate Council
Environmental Action Network

Advisory Committee

Agency of Transportation
Agency of Natural Resources
Agency of Commerce and Community Dev.
Department of Health
Department of Environmental Conservation
Chittenden County RPC
Mount Ascutney Regional Commission
VT Public Transit Association
VT Natural Resources Council
Champlain Valley Office of Economic Opportunity
Federal Highway Administration

Project Tasks and Schedule

Phase/Task	2022					2023								
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
I.I: Project Initiation	█													
I.II: Methodology Options	█	█ ¹												
I.III: Methodology Refinement and Application			█	█	█ ²	█	█ ³							
I.IV: Documentation and Training							█	█	█	█				
II.I: Stakeholder and Public Engagement		█	█	█	█	█	█	█	█	█	█	█	█	█
II.II: Gap Analysis							█	█	█					
II.III: Scenario Evaluation								█	█ ⁴	█	█	█ ⁵	█	
II.IV: Carbon Reduction Strategy										█	█	█	█ ⁶	█
Technical Committee	★		★			★		★					★	
Advisory Committee						★		★				★		★
Focus Groups & Public Meetings							★					★		

- 1 - Recommendation of methodology
- 2 - Testing of methodology
- 3 - Application of methodology/legislature presentation
- 4 - Scenario development
- 5 - Scenario analysis and recommendations
- 6 - Draft Carbon Reduction Strategy

What we have completed: Methodology and Capital Program Evaluation

Methodology:

- Construction and maintenance: FHWA Infrastructure Carbon Estimator (ICE)
- Transit operations: National Transit Database and operator data + emission factors
- GHG sketch analysis spreadsheet tool – provides rough estimates of GHG reductions based on type/context of project

Capital Program Evaluation:

- Current programmed projects in the capital budget will have a small impact (<0.10%)
- Implications for programming
 - Which project types have greater impact on GHG reductions
 - How does, can, should that play into project prioritization

Where we are:

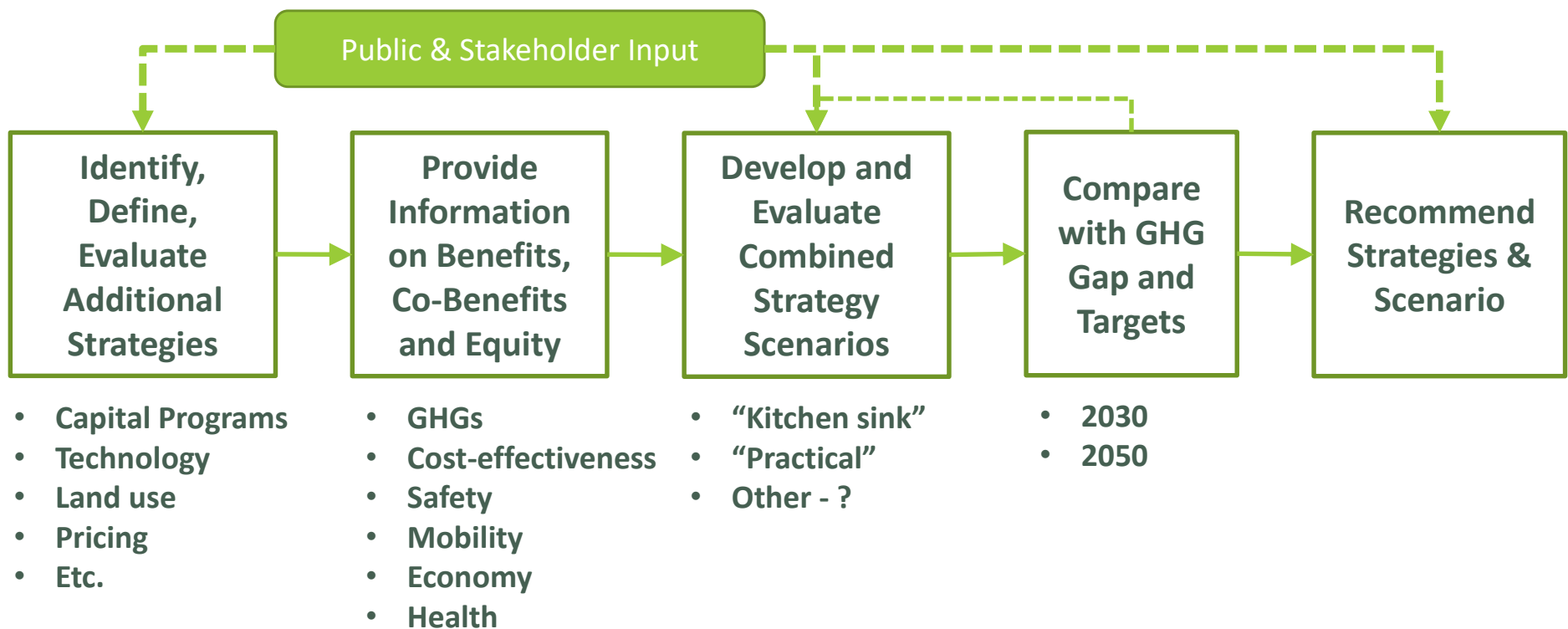
Gap Analysis & Public and Stakeholder Engagement

Gap Analysis: Baseline – VTrans Capital Program Impacts – Evaluate the Gap

Public & Stakeholder Engagement:

- Two rounds of focus groups with up to 6 stakeholder groups (12 meetings)
 - Community-based organizations, including equity/environmental justice groups
 - Business community
 - Transportation and freight industry
 - Environmental groups
 - Regional planning and public transportation
 - Elected officials
- Two sets of virtual public meetings
 - First scheduled March 23, 12 pm & 6 pm
- Project webpage and social media content

What's left: Strategies, Scenarios, Recommendations



Carbon Reduction Strategy

Considerations

Opportunities

Challenges



- The majority of GHG emission reductions will come from technological advances including clean vehicles and fuels. VTrans can play an important supporting role in these advances, for example, by assisting with deployment of **electric vehicle (EV) charging infrastructure**. However, it may be hard to quantify the specific contribution of VTrans’ activities to overall benefits achieved through State electrification policies and programs.
- It is also hard to “move the needle” much just through the types of investment choices normally included in a **transportation agency’s capital program**. This is especially true in a state like Vermont where there is already a minimal focus on capacity expansion and primary emphasis on system preservation and multi-modal investments. Transit services, bicycle and pedestrian infrastructure, and travel demand management can play dividends for mobility, equity, public health, and local economies, but will have only incremental effects on GHG emissions.
- Because of the relative importance of “**co-benefits**” of transportation investments, it is essential that consideration of GHG benefits be integrated into the overall consideration of transportation benefits supporting the **State’s goals**, and that the full range of benefits of these various types of investments be communicated when discussing and making investment decisions.

Carbon Reduction Strategy

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- The short-term (2030) benefits of **land use strategies** in a state like Vermont, with low population growth rates, will be modest; but they will multiply over the long-term (2050). Land use decisions are made mainly at a local(municipal) level, but VTrans can support and reward transportation-efficient land use through project selection criteria and investment decisions.
- **Pricing strategies** such as carbon pricing, cap-and-invest, and vehicle feebates can have larger emissions benefits but can also elicit substantial public concern. If there is any hope for these strategies to be implemented, they must be designed carefully, and in close collaboration with stakeholder groups representing various segments of the public and Vermont's business community, to address potential concerns regarding equity and economic impacts. Again, most of these strategies go beyond VTrans' purview to implement; VTrans can be an important partner but not the lead agency.
- With these considerations in mind, it is essential to clearly communicate robust information on the **effectiveness, cost- effectiveness, and co-benefits** of the various transportation GHG reduction opportunities so that stakeholders and the public can understand what can realistically be achieved, and what some of the more difficult choices may be when working to meet GHG reduction targets.

