

Vermont Smart Growth, VMT and GHG Research

PROJECT TITLE

Vermont Smart Growth, VMT and GHG Research

STUDY TIMELINE

July 2022 – October 2023

INVESTIGATORS

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KEYWORDS

Smart Growth
Vehicle Miles Traveled
Land Use Planning
Greenhouse Gas Emissions

FUNDING

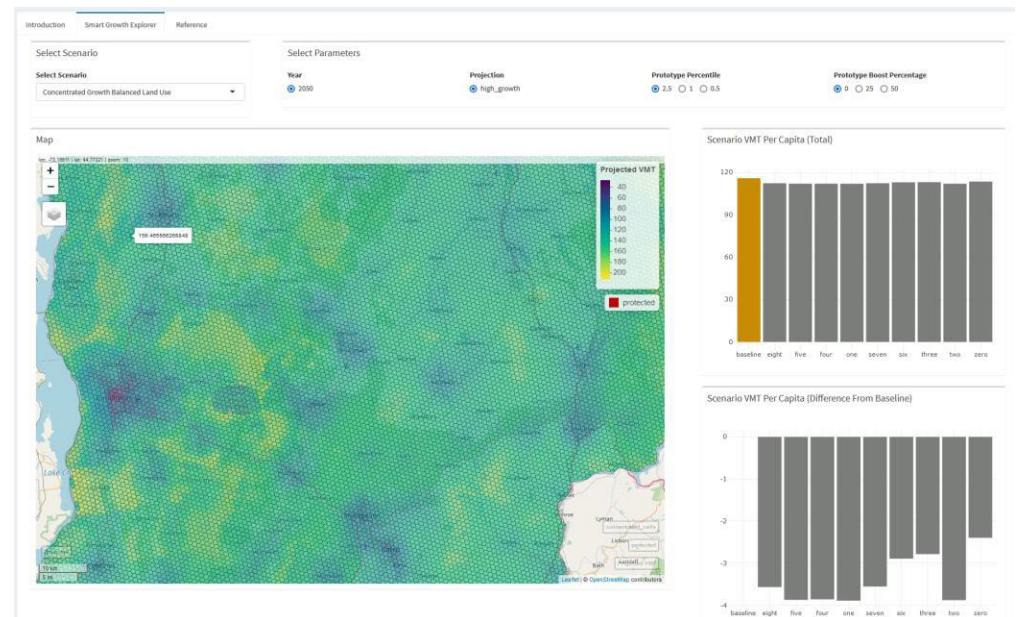
RDWP022-701
\$140,000



More information about the VTrans Research Program, including additional Fact Sheets, can be found at: <http://vtrans.vermont.gov/planning/research>

Introduction or Problem Statement

This project has leveraged big data to understand how compact, mixed-use development in Vermont affects vehicle miles travelled (VMT), mode share, greenhouse gas (GHG) emissions, and other VMT reduction co-benefits (i.e. health, safety, and reduced maintenance costs) compared to more dispersed development patterns.



Methodology or Action Taken

The research team has developed a model estimating VMT based on passively collected location-based data and built environment factors across Vermont. The model is linked to downstream estimates of changes in GHG emissions, health impacts, and other co-benefits associated with VMT reductions. The project team, in coordination with stakeholders, has developed several future growth scenarios, modeling the implications of land use policies and influential built environment parameters. The various future scenarios and adjustable parameters are embedded in an interactive dashboard tool that will be shared with decision makers and the public.

Conclusions or Next Steps

The team is finalizing a dashboard tool that will allow policy makers to evaluate a host of different growth scenarios. Users will be able to adjust model parameters to better understand the implications of land use policies on vehicle miles traveled and the co-benefits of reduced VMT out into the future.

Potential Impacts and VTrans Benefits

The project helps VTrans and other stakeholders understand how land use policy and future development patterns may help meet GHG emission reductions targets as promulgated in the Vermont Pathways Analysis Report. Further, this project seeks to understand how smart growth development patterns may reduce

infrastructure maintenance costs, provide health benefits, and spur economic development opportunities in Vermont communities.