UVM Transportation Research

Vermont State Senate Committee on Transportation
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University of Vermont

THE UNIVERSITY OF VERMONT
TRANSPORTATION
RESEARCH CENTER

UVM Transportation Research Center

- Established in 2006 with $16 million grant from US DOT
- Located in the College of Engineering and Mathematical Sciences
- 12 core faculty and research staff + many additional affiliated researchers from across campus
- Provides research opportunities for undergraduate, MS and PhD students
- Home to several affiliated transportation research and outreach programs
  - National Center for Sustainable Transportation (https://ncst.ucdavis.edu/)
  - Transportation Infrastructure Durability Center (https://www.tidc-utc.org/)
  - Vermont Clean Cities Coalition (https://vtccc.w3.uvm.edu/)
  - Northeast Transportation Workforce Center (http://netwc.net/)

Learn more at https://www.uvm.edu/cems/trc

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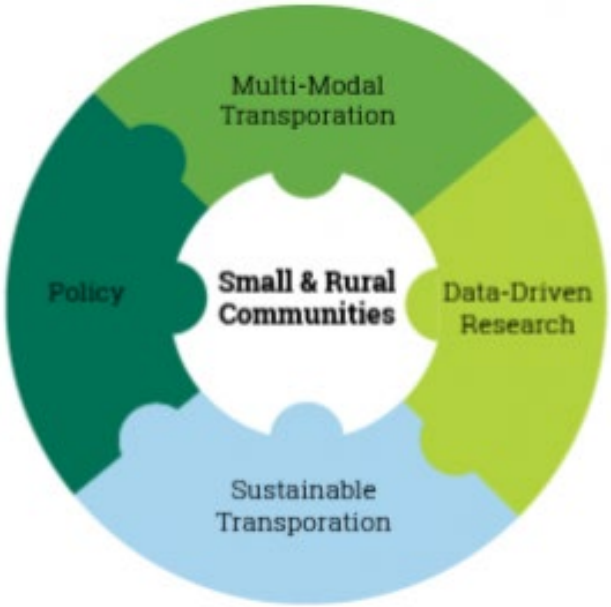
Diverse Research Portfolio Focused Around Sustainability in Small and Rural Communities



Current Research Areas & Expertise:

- Alternative and Multi-Modal Transportation
- Energy, Emissions & Environmental Impact Modeling
- Equity and Travel Behavior Analysis
- Safety, Infrastructure and Maintenance
- Sustainable Communities and Land Use

Learn more about our current research: https://www.uvm.edu/cems/trc/current-projects

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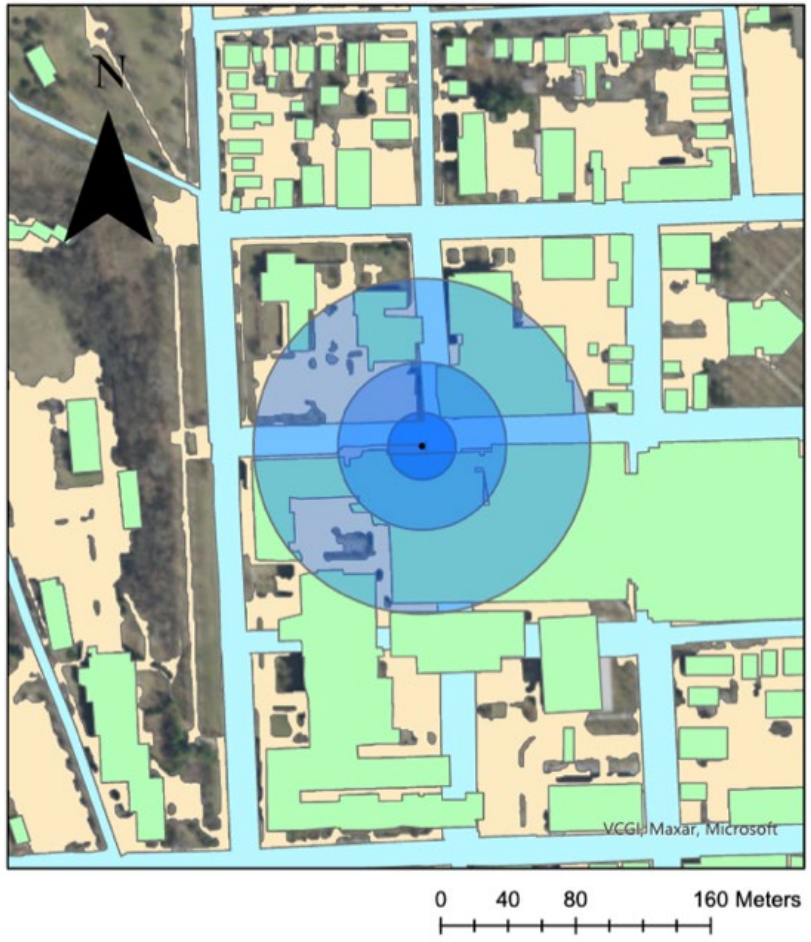
Using Recycled Materials in Roadways

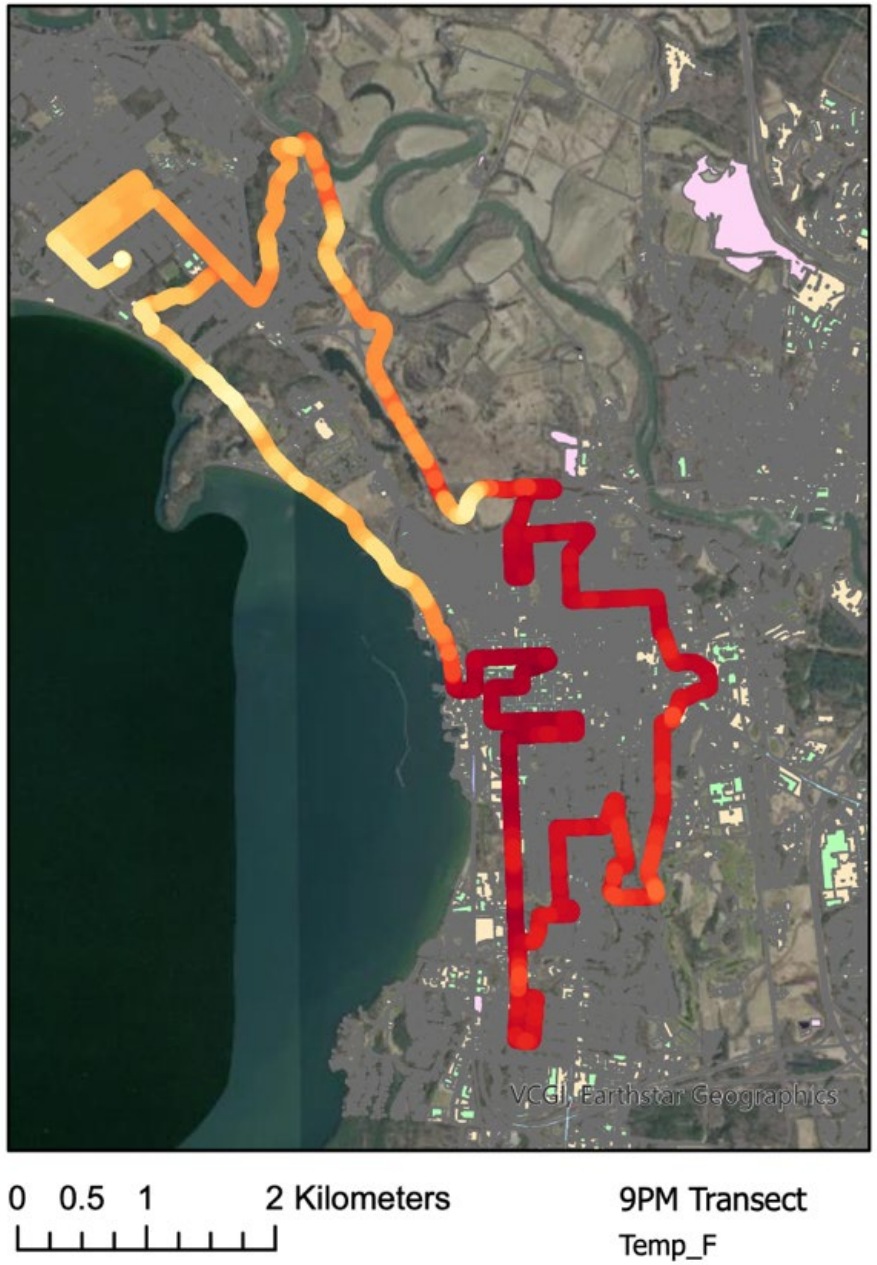
PGA Images from CSWD: https://cswd.net/wp-content/uploads/20201221-All-About-Glass.pdf

Sand Pit in Hinesburg, VT – Google Maps

For more information visit: https://www.uvm.edu/cems/trc/safety-infrastructure-and-maintenance

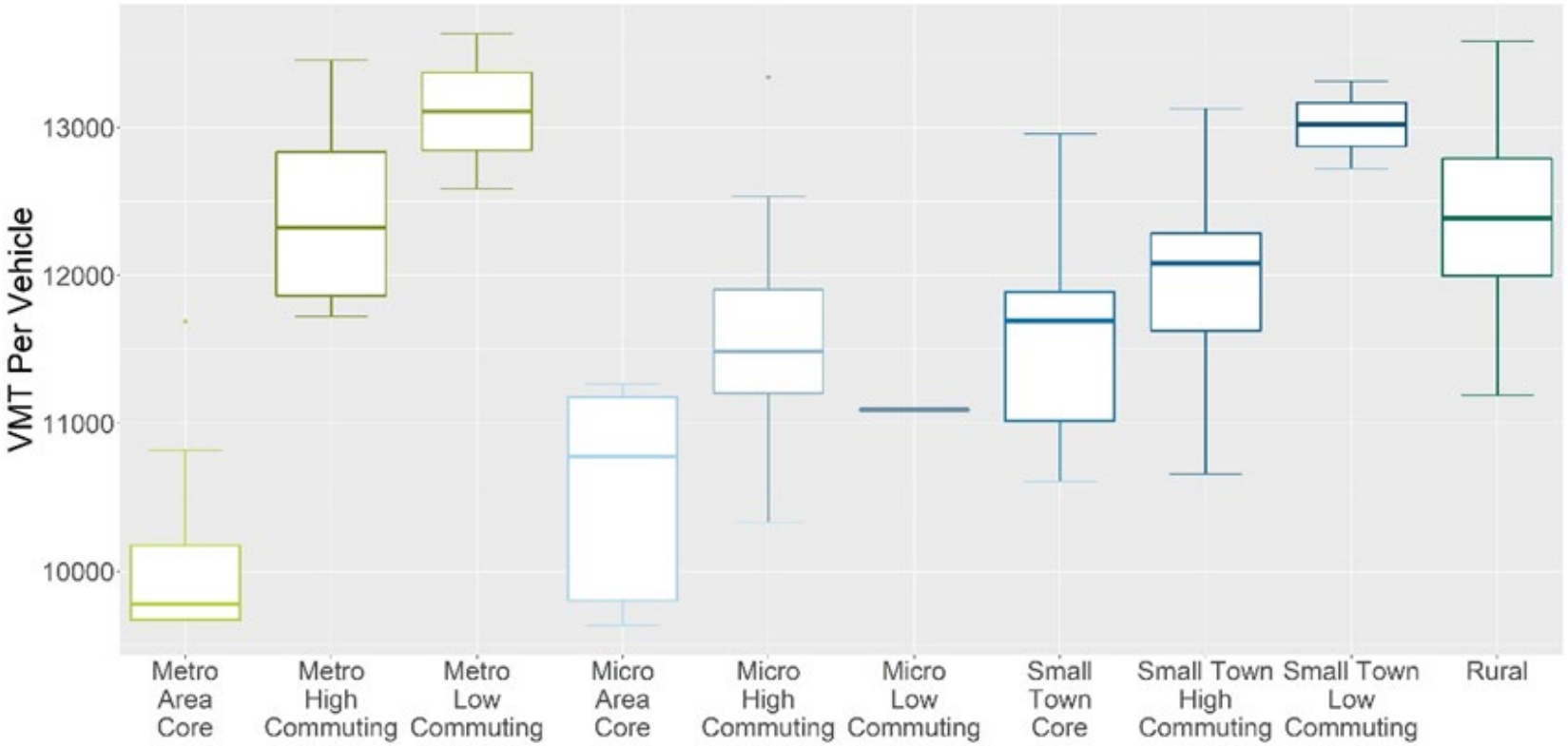
Transportation Infrastructure and Heat Exposure

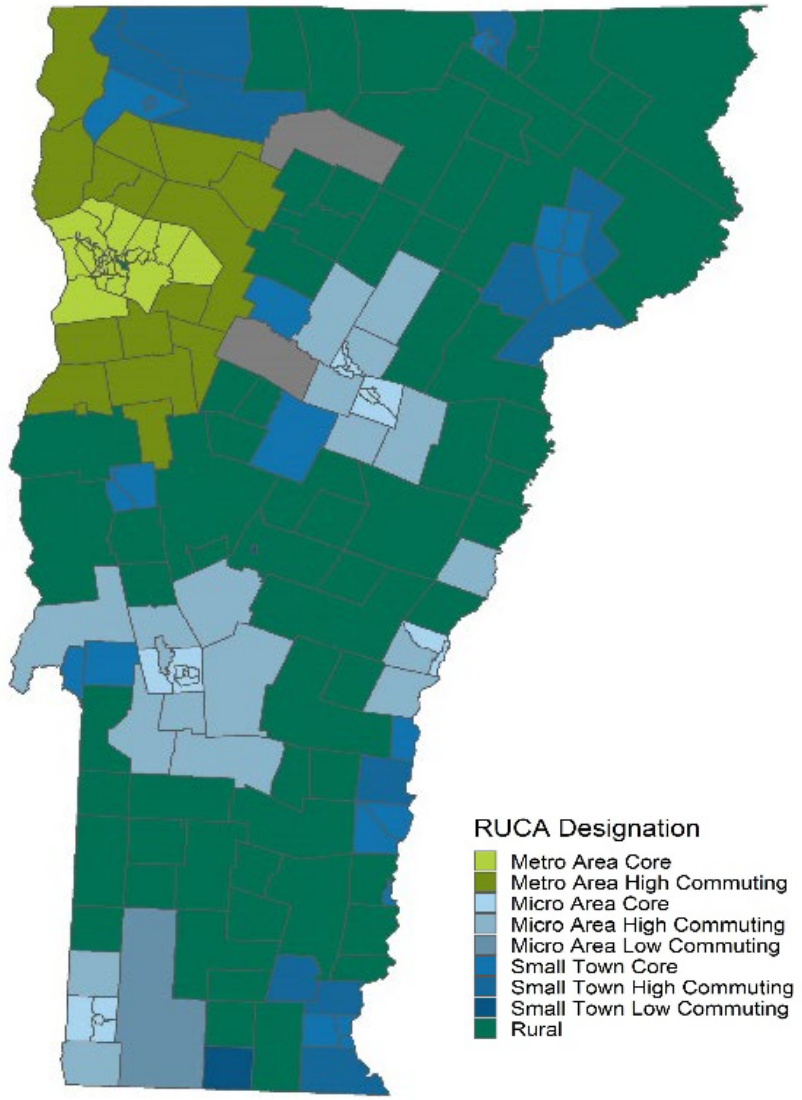




For more information visit: https://www.uvm.edu/cems/trc/energy-emissions-and-environment

Land Use and Vehicle Travel





For more information visit: https://www.uvm.edu/cems/trc/sustainable-rural-communities

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Transportation Policy Research is a Critical Gap in Vermont

Pathways to Achieving VT Climate and Energy Goals

VT Climate Action Plan Pathways to Achieve VT GHG Emission Reduction Targets[1]:

1. Light Duty Vehicle Electrification
2. Heavy Duty Electrification
3. Reduce Vehicle Miles Traveled
4. Lower the Carbon Intensity of Transportation Fuels

VT Comprehensive Energy Plan Pathways to Achieve Renewable Energy and GHG Reduction Goals[2]:

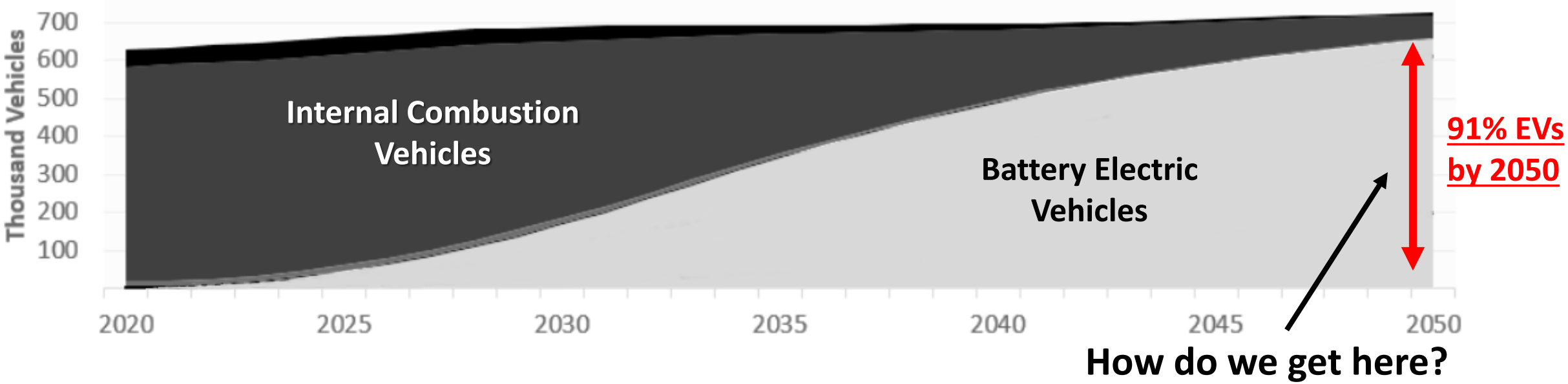
1. Vehicle Electrification
2. Cleaner Vehicles and Fuels
3. Support Land Use Patterns that Increase Transportation System Efficiency
4. Increase Transportation Choices

[1] https://anr.vermont.gov/content/vermont-climate-council-adopts-vermont-climate-action-plan

[2] https://publicservice.vermont.gov/content/2022-plan

Transportation Policy Research – How to Achieve Goals

Vehicle Electrification Pathway to Achieving VT Global Warming Solution Act GHG Reduction Requirements[1]



Effectiveness – Which combination of policies will allow us to follow this pathway?
Efficiency – Is this the least cost pathway to mitigating GHGs? Which electrification policies are most cost effective?
Equity – Are policies fair? Do they address existing inequalities?

[1] *Pathway Data from 2022 CEP Appendix D:*
https://publicservice.vermont.gov/sites/dps/files/documents/CEP_AppendixD_LEAPModelingReport.pdf