



Vermont
Energy Investment
Corporation

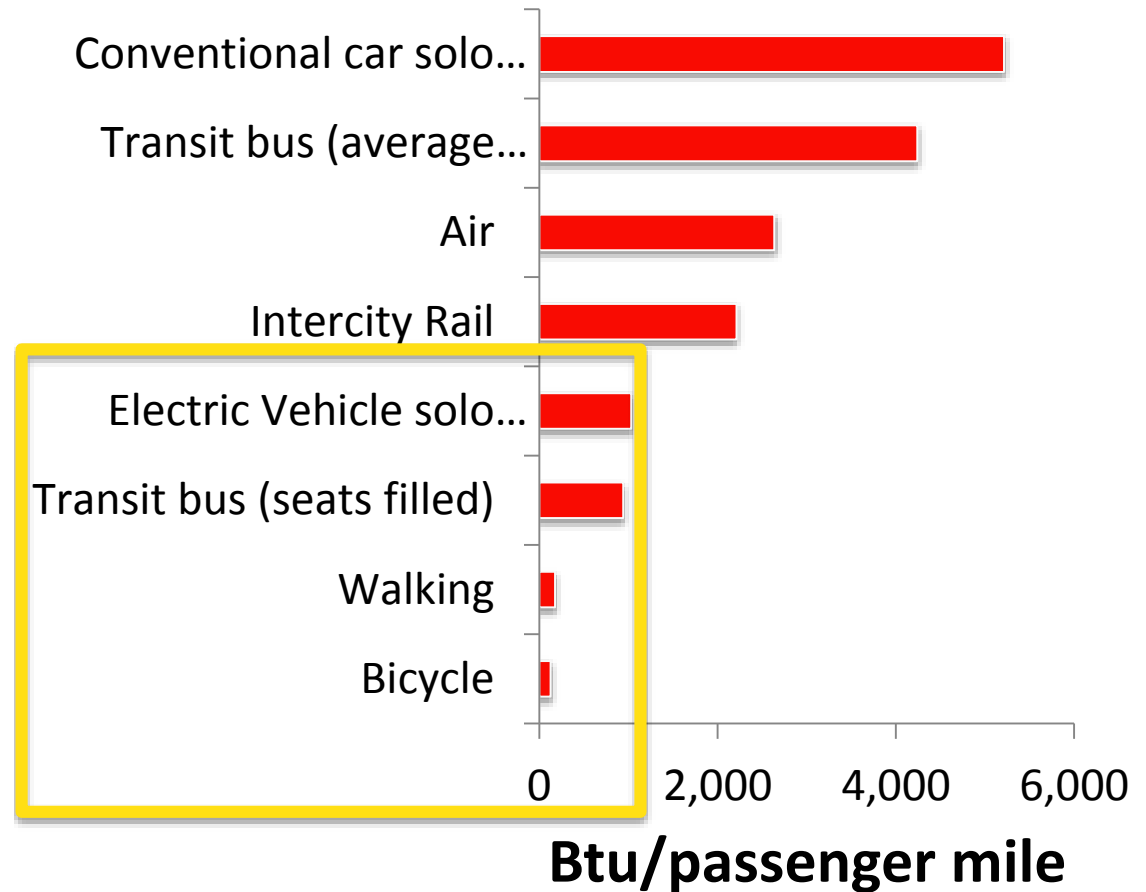
- Nonprofit with 25 years experience reducing economic, environmental costs of energy
- Comprehensive focus and results
 - Energy efficiency – Renewable energy – Transportation
- National & international consulting & implementation
 - Program design, planning, & evaluation – policy & advocacy – research
- Clients are government agencies, regulators, utilities, foundations, advocates
- Operate 3 Energy Efficiency Utilities



Transportation Technical Reference Manual

TRMs:

- Define Energy and Transportation Efficiency
- Detail Cost Effectiveness and Least Cost Planning
- Can be used for Fuel and Mode Switching



Technical Reference Manual

- Characterize efficiency
- Facilitate Least Cost Planning



Transportation TRM Users

- State Energy Offices
- Public Utility Commissions
- Utilities
- Transportation Planning Agencies

Approaches to Measuring Cost Effectiveness

- Total Resource Cost
- **Societal Cost**
- Program Administrator Cost
- Participant Cost
- Rate Payer Impact

Consumer costs

- Incremental cost of efficiency measure
- Operation and maintenance, energy costs

Utility Costs

- Impact on peak load

Societal Costs

- GHG emissions
- Health impacts
- Congestion impacts (travel time, reliability)

- Accounting for Externalities
- Factors to consider in future analyses
- Geographic and Temporal Variation in Externalities
- Non-energy Benefits

Factors included in this analysis:

Prices of gasoline, diesel, electricity

Avoided electricity costs

Gasoline GHG emissions per gallon

Electricity GHG emissions per kWh

Societal cost of GHG emissions per ton

Health costs of vehicle emissions

Health costs of electricity generation

Annual vehicle miles traveled

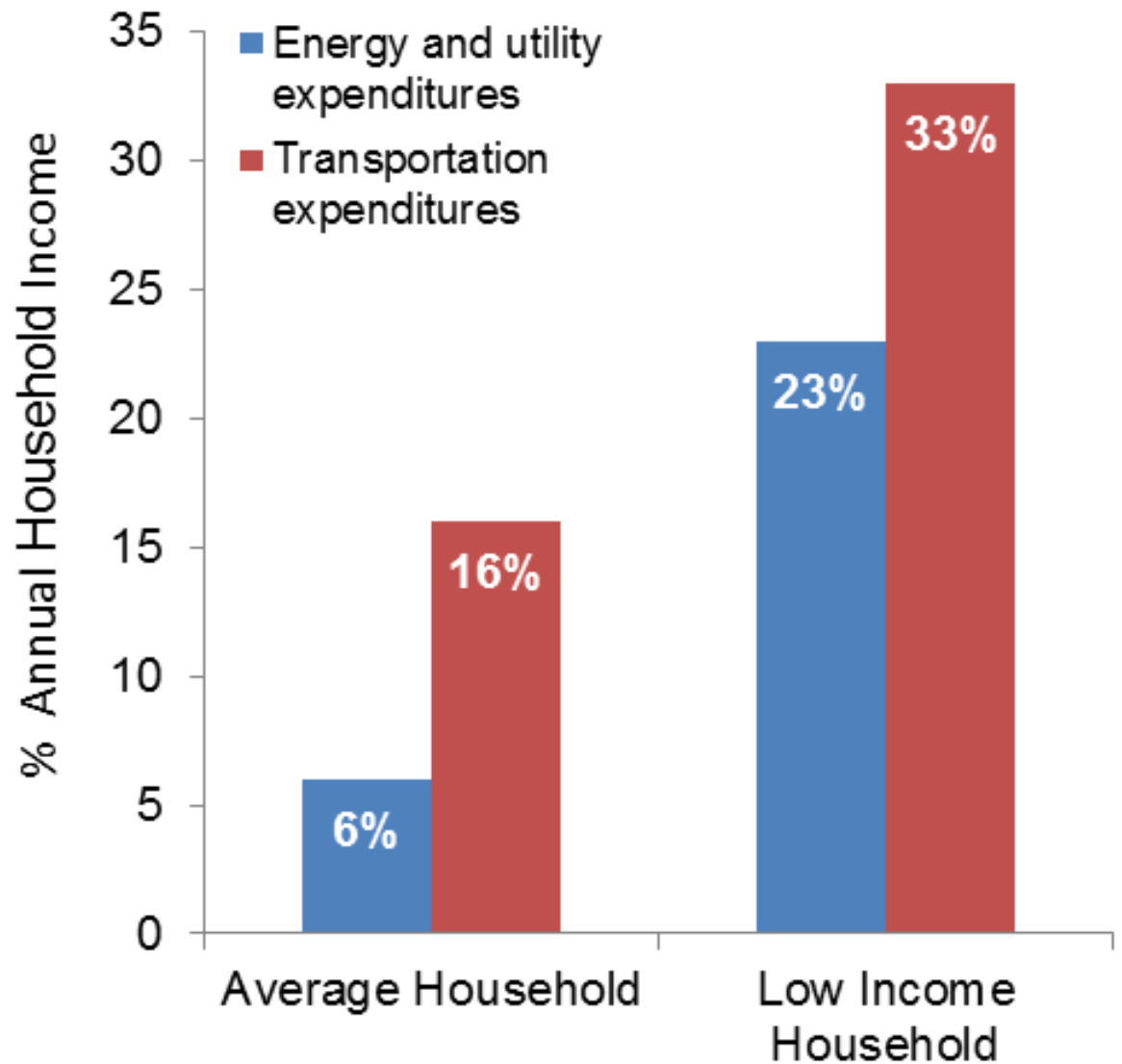
Cost of Level 1 EVSE

Cost of Level 2 EVSE

Cost of 'smart' commercial Level 2 EVSE

Cost of DC Fast Charging station

Assistance for Low Income Households



Transportation Efficiency Measures

- All Electric Vehicle
- Commercial/
Public Level 2
Electric Vehicle
Supply Equipment
- Residential Level 2
Electric Vehicle
Supply Equipment



TRMs can be used to assess the energy and non-energy benefits of:

- bicycling
- walking
- conventional vehicles, and
- natural gas vehicles.

TRMs provide energy and transportation planners a comprehensive means of measuring efficiency





Seeking partners:

- SEO
- PUC
- Utilities
- Transportation Planning entities

Develop
customized
measures

Thank You

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