Agenda
9-11 a.m.  South Building, UVM

1. Welcome and Introductions

2. Walter Poleman, GreenHouse Director

3. Overview of the Clean Cities Program

4. Kelly Launder, Department of Public Service: Clean Cities and the Department of Energy

5. UTC Clean Cities Activities

6. Overview of the University Transportation Center

7. Discussion of Clean Cities work-plan for ‘07-‘08
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Vermont Clean Cities History

• Vermont Designated 2001 (first state)
• Snelling Center review (2005 & 2006)
• UTC designated host January 2007
• Some thank you’s
DOE Clean Cities Activities

Clean Cities national program lists five areas:

- Alternative Fuels and Vehicles
- Fuel Blends
- Anti-Idling
- Hybrid Electric Vehicles
- Fuel Economy
Clean Cities Mission

“…advance the economic, environmental and energy security of the U.S. by supporting local decisions to adopt practices that contribute to reduced petroleum consumption in the transportation sector”
Automobile Dominance

2000 Journey to Work Mode Split - Vermont

- Drove alone: 75.5%
- Worked at home: 5.7%
- Walked: 5.7%
- Public Trans: 0.7%
- Carpooleed: 12.0%
- Other: 0.4%

Drove alone: 75.5%
Walked: 5.7%
Worked at home: 5.7%
Public Trans: 0.7%
Carpooled: 12.0%
Other: 0.4%

Slide courtesy of Resource Systems Group (RSG)
Vermont Fuel Sales for Transportation

Gallons of Diesel Sold Annually (2001-2006)

Year
Gallons
2001 2002 2003 2004 2005 2006


Year
Gallons
2001 2002 2003 2004 2005 2006

Gallons of Biodiesel Sold Annually (2001-2006)

Year
Gallons
2001 2002 2003 2004 2005 2006

VT Total gasoline all sales 1990-2005

Million Gallons

Source: VT Joint Fiscal Office

Source: VBA

Source: VT Joint Fiscal Office

Source: DOE - EIA
Average Annual Expenditures in Vermont for the Purchase of Gasoline (2001-2006)

Source: Derived by Clean Cities team from last slide and gasoline retail price
Vehicle Contributions to GHG Emissions

- Residential Heating: 24%
- Electricity: 1%
- Industrial Heating: 10%
- Transportation: 55%
- Commercial Heating: 10%

Vehicle Contributions to GHG Emissions

U.S. Transportation Sector
28 Percent GHG
62 percent light duty vehicles

Sharpest increase 1990-2003
62 percent increase trucks
23 percent light duty vehicles
Vermont Towns with Highest Automobile GHG Emissions

Source: VPIRG
## Vehicle Registrations in Vermont

<table>
<thead>
<tr>
<th>Fuel</th>
<th>DMV 31-Dec-05</th>
<th>DMV 31-Dec-06</th>
<th>DMV Inc 05-06</th>
<th>%Incr 05-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hybrids</td>
<td>1510</td>
<td>2358</td>
<td>848</td>
<td>56%</td>
</tr>
<tr>
<td>Electric</td>
<td>118</td>
<td>110</td>
<td>-8</td>
<td>-7%</td>
</tr>
<tr>
<td>Propane</td>
<td>127</td>
<td>110</td>
<td>-17</td>
<td>-13%</td>
</tr>
<tr>
<td>Diesel</td>
<td>27504</td>
<td>29161</td>
<td>1657</td>
<td>6%</td>
</tr>
<tr>
<td>Gas</td>
<td>543,009</td>
<td>542126</td>
<td>-883</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>572268</td>
<td>573865</td>
<td>1597</td>
<td></td>
</tr>
</tbody>
</table>

Heritage Toyota ’06 Prius

Tabulated by Clean Cities from DMV data
Vermont HEV 2006 Registrations

- Hybrids: 2% of 2006 Vermont vehicles leased or purchased
- 53% Toyota Prius

<table>
<thead>
<tr>
<th>Make</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ford Escape</td>
<td>41</td>
</tr>
<tr>
<td>Honda Accord</td>
<td>13</td>
</tr>
<tr>
<td>Honda Civic</td>
<td>114</td>
</tr>
<tr>
<td>Honda Insight</td>
<td>13</td>
</tr>
<tr>
<td>Lexus</td>
<td>18</td>
</tr>
<tr>
<td>Mercury Mariner</td>
<td>6</td>
</tr>
<tr>
<td>Saturn</td>
<td>1</td>
</tr>
<tr>
<td>Toyota Camry</td>
<td>69</td>
</tr>
<tr>
<td>Toyota Pruis</td>
<td>525</td>
</tr>
<tr>
<td>Toyota Highlander</td>
<td>185</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>985</strong></td>
</tr>
</tbody>
</table>

Source: R.L. Polk Consulting
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UTC Clean Cities Activities

- E-newsletter
- Web page
- Grant Proposal Coordination
- Yearly Roundtable
- Represent VT regionally and nationally
- Database of VT AFV
- Yearly “special task”
• News clearinghouse

• Sections:
  – CC Announcements
  – Petro-stats
  – News & Info
    • Fuels
    • Alternative Modes
    • No idling
  – On the Horizon
    • Policy Watch
    • Funding Opportunities
  – Events

Clean Cities Vermont eNewsletter 3.14.2007
Your clearinghouse for news, programs, and funding related to reducing the consumption of petroleum for transportation in Vermont.

Clean Cities is a national program, coordinated by local coalitions in states and large cities, committed to advancing “the economic, environmental and energy security of the U.S.” through cutting back on “petroleum consumption in the transportation sector”. [More at the Clean Cities website].

Weekly Petro-Stats
Gas at the pump, VT [compiled from fuelgaugereport.com]  Crude oil futures [compiled from nymex.com]
This week (Mar 7-13)  $2.550/gallon  $60.070/barrel
Last week (Feb 28-Mar 6)  $2.444/gallon  $60.605/barrel

NEWS & INFO BY SECTOR
• Announcement: Clean Cities Vermont Stakeholders Meeting
• Fuels
  • PHEV Benefits
  • Hydrogen and Biofuels Research Grant for UVM
  • Biodiesel On-Farm Production in Shaftsbury
  • Biodiesel and Basketball
• Alternative Modes
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• Founded in Fall 2006
• Funded through SAFETEA LU Transportation Law
• One of 10 National Transportation Centers
• Theme: Sustainable Systems and Advanced Technologies for Northern Communities
• Multi-disciplinary research
• Diverse partners: Academic and research institutions, Vermont state agencies, community, public and private partners, US DOT, other transportation centers
University/USDOT invests in a center…

• Distribution of funding is not core goal
• Goals
  – Grow research capacity and education programs
  – Academic synergy collaboration – visible hub
  – Seminars, large proposal development, facilitate interaction
  – *Transportation Research Capacity* = computer systems and programs, staff, support, equipment, labs, expertise, unique data = support faculty research
UTC Planned Programs

• Signature Research Projects (3 years, up to $2M)
• Small Faculty Research Grants (1 year, $20-50k)
• Graduate Certificate Program
• Graduate Fellowships
• Workforce Development
• Seminars, Conferences, Workshops
UVM UTC Organizational Chart

- Provost and Vice Presidents
  - Faculty Director Lisa Aultman-Hall
  - Deans
  - Advisory Committee
  - Faculty
    - Graduate Students
  - Financial and Office Support
  - Research Technician and Engineer
  - Research Analysts
  - Program Coordinator
Signature Project 1: Modeling Transportation and Development Patterns

Modeling Transportation and Development Patterns

- What will the transportation system and landscape look like in 20 years? What is the environmental impact of different fleets of vehicles?
- Compare micro and macro land-use and transportation system models.
- Develop improved policy-relevant metrics that can be estimated based on transportation model outputs (carbon footprints, local freight access, road salt impact, storm water, network robustness).
Signature Project 2: Emissions and Performance of Alternative Vehicles in Northern Climates

Emissions and Performance of Alternative Vehicles in Northern Climates

• Monitor the performance and emissions of personal vehicles and transit buses powered by alternative fuels. The project will include real-time sensor development for data collection.

• Evaluate the issues affecting market penetration for personal vehicles that use alternative energy.
Signature Project 3: Sustainable Transportation for Tourism

Sustainable Transportation for Tourism:

- Marketing sustainable tourism
- Travel patterns of tourists
- Energy costs and climate change issues related to tourism
Signature Project 4: Non-motorized Transportation, Livability and Isolation in Northern Communities

• Document climate impacts on bicycle and pedestrian travel patterns
• Measure liveability/isolation as a function of built environment
• Focus on rural towns and senior citizens
Why does Clean Cities fit at UVM UTC?

- Theme overlap
- Leverage UTC and University resources
- Outreach / education missions
- Both want to focus on communities but network nationally
- Interdisciplinary goals
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