Clean Cities Vermont White Paper #1: Petroleum Consumption in Vermont

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French Hill on Interstate 89. Photo Courtesy of Michael Sipe.

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Purpose of Paper: The purpose of this paper is to **s**timulate discussion about activities to reduce petroleum consumption in Vermont's transportation sector. As a foundation for those discussions this paper presents a snapshot of petroleum use in Vermont and existing "Clean Cities" activities.

This paper is part of an ongoing conversation and work effort coordinated by The Snelling Center for Government under a contract with the Vermont Department of Public Service to support "Clean Cities" activities in Vermont.

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Clean Cities Mission

"The mission of the Clean Cities program is to 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***" (www.eere.energy.gov/cleancities/)

Overview

The transportation sector is the largest user of petroleum in Vermont, consuming about 60 percent of all petroleum sold in the state. The next largest user is space heating at 25 percent, followed by commercial and industrial users at a combined 15 percent (2002 EIA Data collected by VSJF).

In FY 2005, vehicles in Vermont consumed about 361 million gallons of gasoline, 62 million gallons of diesel and 275,000 gallons of bio-diesel (DMV and VSJF). At an average cost of $2.31 for gas and $2.58 for diesel (DPS Fuel Price Report), Vermonters and travelers in the state spent more than $1 billion to fuel vehicles in Vermont in 2005. Since the gasoline and diesel used in Vermont is imported, those dollars were shipped out of Vermont and out of the U.S. (a small percent of these funds supports the retailers and distributors who supply the system and through taxes funds transportation infrastructure). To put this in context, Vermonters spent about $650 million to purchase electricity in 2004 (DPS 2005 Electric Plan).

Petroleum Consumption in Vermont

Sales of gasoline and diesel (gallons) in Vermont increased about 3 percent between 2001 and 2005 but less than 1 percent between 2003 and 2005. Figures from the first six months of 2006 indicate that sales of gasoline has fallen sharply, off about 6.5 percent from sales for the first six months of 2005. Vehicles purchased by Vermonters may also have gotten more efficient although nationally vehicles on average are less efficient than they were twenty years ago (www.nrdc.org/air/transportation/cafe/cafe.pdf). Or Vermonters and visitors may be driving less.

Information on petroleum consumption in the transportation sector is collected by the Vermont Department of Motor Vehicles based on data reported by fuel distributors. These reports are used to levy the fuel tax, (26 cents per gallon for diesel and 20 cents per gallon for gasoline). Data is available on a monthly basis per distributor. Gasoline sales include any gasoline sale in Vermont, while diesel purchasers for non-road applications exempt from the tax are not included. (DMV Commercial Vehicle Department and DMV Auditor Doug Bessette).

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Table 1. Gasoline Sales in Vermont (July – June 30, State Fiscal Years)

Year	2001	2002	2003	2004	2005	2006 Jan-June
Gas Sales	351,417,977	346,158,806	357,444,135	355,274,881	361,189,502	166,949,889
Diesel Sales	65,657,560	66,743,280	68,410,214	68,338,091	67,945,004	34,991,373
Bio-Diesel	NA	NA	9,000	55,000	276,000	

Source: Joint Fiscal Office and VSJF. Bio-Diesel Association numbers are calendar years.

Nationally the price of gasoline is impacting gasoline sales according to a July 2006 survey by the Pew Research Center (www.pewresearch.org/social/pack.php?PackID=17). In the survey, 55 percent of drivers said they were driving less because of the gas prices. Residents of rural states reported the highest impacts, where 62 percent reported cutting back on their driving. And 58 percent of those polled said they are seriously considering a more efficient car. The Pew Center also reported that American's romance with their cars is starting to fade. In 1991 79 percent of Americans reported that the like to drive. The 2006 survey found that number had dropped to 69 percent. Traffic congestion and other drivers topped the list of reasons. (www.pewresearch.org/social/pack.php?PackID=16)

Gasoline Prices in Vermont

The price of gasoline has risen sharply in the last two years (first passing the $2.00 mark in June 2004) but was stable during the 1990s and the first three years of this decade. Retail gasoline prices in Vermont are tracked monthly by the Vermont Department of Public Service based on a survey of about 20 selected gas stations (DPS Fuel Price Report). Multiplying the average annual price times the number of gallons sold in Vermont indicates dollars expended on petroleum leaving the Vermont economy. The following chart multiplies the average annual cost of gasoline by the number of gallons sold each year. Diesel sales would add an additional 18-20 percent on average each year to the total. (DPS Fuel Price Report and JFO).

Table 2. Average Annual Expenditures In Vermont For The Purchase Of Gasoline

Year	2001	2002	2003	2004	2005
Average Annual Cost per gallon	$1.47	$1.36	$1.59	$1.88	$2.31
Total Cost in millions (Gallon sales times avg. cost per gallon).	$517 million	$471 million	$568 million	$688 million	$834 million

Source: DPS Fuel Price Report and Joint Fiscal Office.

Vehicle Miles Traveled (VMT)

The VMT data suggests that Vermonters and visitors are driving less than five years ago. Total VMT in Vermont has dropped 1.4 percent between 2001 and 2005 and 4 percent from this decade's peak of almost 8 billion miles in 2003. Vermont's population, the number of registered vehicles and the number of drivers licenses all grew during this same time period. Are Vermonters driving less? Are visitors driving less in Vermont? Or are the calculation formulas incomplete at this time?

VTrans tracks annual VMT in Vermont based on information collected from permanent and semi-permanent road sensors and traffic counters. One-third of the data is based on actual counts and the other two-thirds is based on estimates using census population data and miles of roads. Since 2001, this formula has been applied to VMT and the data is available on a per county basis and by road functional class (www.aot.state.vt.us/planning/HighResearch/highwayresearch.htm).

The calculation formula was changed in 2001 and the data reporting has also undergone some changes in this decade. Of the state's 14,400 miles of public roads about 10,500 miles are local community funded roads (functional classes 8,9 rural and 19 urban) and 3,800 miles are FHWA and State Aid roads (functional classes 1,2,6,7 rural and 11,12,14,16,17 urban). VMT on the almost 10,500 miles of local roads in 2004 was almost the same (13 percent of the state's total) as VMT on the 320 miles of interstate (12 percent of 2004 total). The information is available on a per county basis.

Table 3. Average Annual Vehicle Miles Traveled in Vermont (in millions of miles)

Year	**2001**	**2002**	**2003**	**2004**	**2005**
VMT	7,713.4	7,850.9	7,938.2	7,717.2	7,611.2
Vermont Population	613,000	616,000	619,000	621,000	623,000

Source: VTrans Highway Research Division of Policy & Planning

The CCMPO also provides detailed information on Chittenden County road traffic information in GIS format (http://www.ccmpo.info/data/index.php?count=ATR).

Detailed census travel information including journey to work data about how people commute, how long they drive, how many cars per household and more is developed by The Center for Rural Studies at UVM. The CRS data is based on the decentennial census and while the numbers and trends show sharp increases in SOV use, they are potentially contradicted by the more recent information above (http://maps.vcgi.org/indicators/).

Because of Vermont's rural nature and lack of transportation options, Vermonters drive more on average than the residents of most states, about 17,000 miles a year according to Vermont's Division of Air Pollution (www.anr.state.vt.us/air/MobileSources/docs/vermont.htm). The federal government uses an average of 15,000 miles per driver (www.fueleconomy.gov/). U.S. Census data for New England in 2001 summarized average VMT in the region at 12,300. The same report found New Englanders driving the most efficient vehicles of any region in the country, at 21 miles per gallon (Table A3. U.S. Per Vehicle Average Miles Traveled, 2001 via JFO).

Vehicle Emissions Data

The transportation sector is the leading Vermont contributor of Green House Gas (GHG) emissions. About 20 lbs of CO2 is produced for every gallon of gasoline consumed. Vehicles in Vermont are also the largest source of toxic and carcinogenic air pollutants. Each year, motor vehicles emit about 1,000 tons of toxic and carcinogenic compounds like benzene, formaldehyde, and 1,3-Butadiene. Motor vehicles are the largest source (about 65%) of ozone-forming pollutants in Vermont. Vermont vehicles emit over 117,000 tons of carbon monoxide, 10,000 tons of hydrocarbons, and 14,000 tons of nitrogen oxides. The average vehicle emits more than 7 tons of air pollution each year, including 935 pounds of carbon monoxide, 13,600 pounds of carbon dioxide, 114 pounds of hydrocarbons, and 68 pounds of nitrogen oxides emitted every year (www.anr.state.vt.us/air/MobileSources/docs/vermont.htm).

The Agency of Natural Resources Air Division estimated that vehicles driving in Vermont released 2.9 million metric tons of CO2 into the earth's atmosphere in 2000 (Scientific Statement, Air Pollution Low Emission Vehicle Regulations, 2005). Vermont's Air Pollution Division and the DMV collect detailed information on vehicle emissions by vehicle emissions category. Since Vermont has adopted the California Low Emission Vehicle regulations, the state has emissions standards stricter than the default federal standard. GHG standards presently being applied would require vehicles in model year 2016 to emit approximately 30 percent fewer GHG emissions than without the regulations (Scientific Statement, Air Pollution Low Emission Vehicle Regulations, 2005).

Vehicle Registration Data

Overall vehicle registrations have increased in Vermont to a total of about 614,000 at the end of 2005 (not including trailers, dealer plates or handicapped placards) an increase of about 10 percent during the five year period. Unfortunately, no state agency in Vermont is able to provide easily accessible detailed information on vehicle registrations. For example information about the types of vehicles sold in Vermont by make and model is not readily available.

Overall registrations, number of licenses and related general facts can be seen at the statistics page at DMV (www.dmv.state.vt.us/documents/Statistics) [1] There are almost as many vehicles registered as people who live in Vermont. Registrations include state vehicles, agricultural vehicles, motorcycles, trucks and autos. Autos and trucks together were 73 percent of total vehicles. Drivers licenses also are growing faster than the overall population.

Table 4. Vehicle Registrations And Drivers Licenses In Vermont

Year	2001	2002	2003	2004	2005
Registrations	574,504	585,861	598,535	606,807	614,552
Licenses	515,352	529,457	545,143	558,821	561,338
Vermont Population	613,000	616,000	619,000	621,000	623,000

Source: Department of Motor Vehicles, Center for Rural Studies. Registrations from DMV web site not including trailers, handicapped placards or dealers. All other categories are included.

[1] DMV might also consider making gasoline sales data available on their web page. Detailed registration data not available from DMV can be purchased today from the R.L. Polk consulting firm. Polk can provide demographic information for Vermont of who is purchasing which vehicles by age and income.

Overall registrations of new retail light vehicles is expected to decline in 2006 from 41,500 in 2005 to slightly under 40,000 in 2006, according to information in Vermont Auto Outlook a newsletter prepared for the Vermont Auto Dealers' Association. Toyota is Vermont's top automaker with an 18 percent share of the market in the second quarter of 2006, an increase of 2.6 percent over the first quarter. Following Toyota are Chevrolet, Ford, Honda and Subaru. Nationally, Toyota passed Ford Motor Company to become the nations number two auto company in the second quarter of 2006.

While most vehicles in Vermont run on gasoline, about 8 percent of vehicles run on diesel. Although there has been a sharp increase in the number of hybrid-electrics, they are less than 1 percent of the total fleet. Some percent of the diesel vehicles are now using bio-diesel as can be seen by the rapidly growing number of gallons sold in Vermont (Scott Sawyer at Vermont Sustainable Jobs Fund (VSJF).

Table 5. Registrations Of Vehicles Fueled By Fuels Other Than Gasoline In Vermont

Year	Auto	Trucks	Agriculture	ATV	Munic	State	Total
Gas	417964	135666	1939	15645	2755	1112	600212
Diesel	3139	21400	1633	25	3825	536	30561
Hybrids	1885	0	0	0	5	44	1934
Electric	96	3			9	5	118
Other	6	7	0	46	821	434	1314
Propane	1	119	1	0	2	0	123

Source: Judy Eastman, Vermont Department of Motor Vehicles. June 20, 2006 (From Scott Sawyer at the VSJF). Overall registrations different than numbers above, may include different types of vehicles from the overall registration list (see footnote).

According to research by Scott Sawyer at the VSJF, hybrid vehicles sales nationally have increased from 9,350 in 2000 to 205,749 in 2005 (an increase of over 2000 percent, but are still less than 2 percent of registered vehicles). The top three selling hybrid vehicles in the U.S. are the Toyota Prius, Honda Civic, and Toyota Highlander.

Subsidies for car choices: Federal tax subsidies are available for hybrid-electric vehicles. Some employers in Vermont (NRG, for example) also provide an added incentive for hybrid buyers. Tax incentive information is available at www.eere.energy.gov/afdc/laws/incen_laws.html. Hybrids lead the list of the most efficient vehicles. The ten most efficient vehicles sold in 2006 are at www.edmunds.com/reviews/list/top10/108467/article.html

Vehicle Safety Data

Another side of the transportation equation is calculating the large number of people killed or maimed by automobiles every year. Already in 2006, the number of people killed on Vermont's highways is 50 percent above the pace in 2005 (Governor's Commission on Highway Safety).

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Table 6. Number Of Accidents And Fatalities In Vermont

Year	2001	2002	2003	2004	2005	Jan-June
Fatality	83	72	63	98	73	52
Injury	1655	2689	3086			
Total Crashes	11,386	17,503	17,285			

Source: Governor's Commission on Highway Safety. Note: Total crashes also include those not reported by police, about 20 percent of the total, which presumably do not involve an injury or fatality. The Governor's Commission is presently preparing the 2004 report.

Transportation Related Obesity Epidemic

While not a frequently used indicator in Clean Cities' programs, America's obesity epidemic has been tied to transportation use patterns. In Vermont, 55 percent of Vermont adults are overweight or obese, 26 percent of high school students and 30 percent of low-income children between 2 and 5 years of age are overweight or at risk of becoming overweight (www.cdc.gov/nccdphp/dnpa/obesity/state_programs/vermont.htm).

Every additional hour spent daily in a car presents a 6 percent increase in the likelihood of being obese. Every additional kilometer walked means a 4.8 percent drop in the likelihood of being obese (*Burlington Free Press*, May 29, 2006). The number of children getting to school under their own power has dropped from 66 percent 30 years ago to about 13 percent in 2000 (Local Motion). Average time spent commuting to work in Vermont increased between 1990 and 2000, from 18.02 minutes to 21.64 (http://maps.vcgi.org/indicators/). While there is no direct research to support the contention, anecdotal evidence suggests that larger people may be buying larger and less efficient cars for comfort and fit.

The Vermont Department of Health released a plan in April 2006 promoting community efforts to increase physical activity (biking and walking) through changes to the built environment (Fit and Health Vermonters, Preventing Obesity in Vermont, April 2006). The DOH recommends improving sidewalks and street crossing safety, encouraging mixed use development and housing located in downtowns. DOH contracted with CRS to conduct a survey of community assets that promote physical activity like bike paths, sidewalks and playgrounds. CRS found that less than 50 percent of Vermont communities have sidewalks, 8 percent have speed bumps to slow traffic and less than 40 percent have cross-walks. The survey results were based on responses from 93 percent of Vermont's 246 municipalities (CRS Report: Inventory of Public Resources Related to Health for Cities and Towns in Vermont, April, 2006).

The Vermont Forum on Sprawl (and many others) have developed programs to limit land use patterns that require excessive reliance on the automobile (http://www.vtsprawl.org).

Alternatives to the Automobile

There are a number of transportation related alternatives to the automobile including public transportation, car-pools, biking and walking. Overall, VTrans allocates about 15 percent of the total transportation budget to "alternate modes" (FY 2006 budget was about $359 million). This category includes spending on rail, aviation, public transit, multi-modal centers, bike/pedestrian facilities, enhancements, park and ride facilities and a pro-rata share of administrative costs.

VTrans, like other transportation agencies around the country, faces increasing budget shortfalls because revenue growth has not matched the increased costs of maintaining and building the transportation system. For example, while gas tax revenues have almost leveled off, the costs of materials have doubled. Agency investments have not kept pace with deteriorating infrastructure costs. Furthermore, transportation infrastructure investments are "lumpy" and several large lumps loom as systems built after the flood in the 1920s and during the interstate boom in the 1950s age (JFO Report: Analysis of Transportation Fund Revenue, January, 2005). For another source on this see the 2002 VTrans Vermont System Highway Policy Plan report at http://www.aot.state.vt.us/planning/Documents/HSPPexecutivesummary.pdf

Table 7. Vermont Transportation Appropriations By Budget Category As A Percent Of Total Spending

Category	Eight Year Average 1997-2004	FY 2005 budget $345 million (July 1, 2004 to June 30, 2005).
Paving & Maintenance	30.6 %	25.3 %
Roadway	17.7 %	20.4 %
Bridges	8.5 %	10.2 %
Alternate Modes	15.1 %	14.7 %
Town Programs	16.8 %	16.6 %
Finance, Planning, DMV	11.4 %	12.8 %

Source: Joint Fiscal Office.

Public transit: Funded at about $15 million in FY 2006, public transit received about 4 percent of the state's 360 million dollar budget (Vermont Public Transit Administration). The state's largest transit agency, CCTA provided 2,041,748 rides in fiscal year 2006, a 6 percent increase over the previous year. Some of CCTA's most successful transit routes are new services for "choice" commuters (those who own cars but choose transit). For example, a new service between Montpelier and Burlington carried almost 32,000 riders in FY 2006, a 33 percent increase over the year before (CCTA).

Bike/Pedestrian

The Chittenden County MPO funded a Safe Routes to Schools pilot program in three schools to encourage kids walking to school. The program had success in increasing the number of children walking or biking to school. Based on its success, CCMPO is now funding these programs in seven Chittenden County towns. State-wide only five percent of Vermont towns have walk to school programs (CRS Report: Inventory of Public Resources Related to Health for Cities and Towns in Vermont, April, 2006).

Other Ideas: Park and Ride Lots, Car-Pooling & Van Pools, Sanctioned hitchhiking, TDM activities, Passenger rail, Work from home programs and many more.

Alternative Fuel Vehicles

Promoting alternative fuel vehicles has traditionally been a core activity area of the Clean Cities program. The Clean Cities web site hosts information about AFVs and AFV re-fueling stations in every state.

Bio-diesel: Bio-diesel use for both the transportation and space heating sectors seems to be growing rapidly. Gallons of bio-diesel sold in the state have increased from 9,000 in 2003 to 276,000 in 2005. While there were almost 31,000 diesel vehicles registered in Vermont in June 2006, it is unknown how many of those run on bio-diesel. Several fleet managers have converted their fleets to bio-diesel including the City of Keene, NH and Green Mountain Power. There are several excellent web pages and resources for those interested in bio-diesel, including a site maintained by the VSJF for the bio-diesel project (http://www.vtbiodieselproject.org/) and the Vermont Bio-Fuels Association (http://www.vermontbiofuels.org/).

Electric: EVermont is the state's leading advanced technology vehicle research and development organization. EVermont has tested and developed electric cars, trucks and buses for the Defense Department, FTA and DOE (www.evermont.org). EVermont is presently building three battery-electric vehicles (BEVs) and converting one grid-connected BEV. Electric vehicles are much cleaner than gasoline or diesel powered vehicles (depending on how the electricity is produced) and there continues to be strong national interest in the development of BEVs and plug-in hybrid electric vehicles (PHEVs) (Legislative Report on Hybrid Electric Vehicles, Joint Fiscal Office, January 2005).

Hydrogen Fuels: EVermont also manages a hydrogen fueling station with the Burlington Department of Works and the Burlington Electric Department and coordinates with DPW one hydrogen-fueled car. The station has capacity for six additional hydrogen-fueled vehicles.

Natural Gas: Because of the limited supply of natural gas in Vermont, there are only a few natural gas vehicles in the state. The City of Burlington's Department of Public Works is constructing a natural gas re-fueling station that will be used by six natural gas buses from UVM.

Propane: There are about 120 propane fueled vehicles in Vermont.

Hybrid-Electric Vehicles (HEVs):

The national Clean Cities program lists supporting HEVs as one their core programs because of how efficient many HEVs are, although they are fueled with gasoline. The top three most efficient vehicles on the road today are hybrid-electric cars. Compared to the best selling Ford 150 (2WD) a Toyota Prius owner will spend $1827 less on gas in 2006 (www.fueleconomy.gov/).

There are presently about 2,000 HEVs registered in Vermont. The Vermont Legislature has explored increasing incentives for HEVs and other AFVs in 2005 (Legislative Report on Hybrid Electric Vehicles, Joint Fiscal Office, January 2005).

Table 8. Registrations of Hybrid-Electric Vehicles in Vermont (July, 2006)

Vehicle	July 2006
Toyota Prius	1270
Honda Civic	412
Toyota Highlander	171
Ford Escape	117
Honda Insight	78
Honda Accord	44
Lexus RX4	30
Toyota Camry	24
Mercury Marquis	3
Total	2149

Source: Judy Eastman, Vermont Department of Motor Vehicles, personal communication August 3, 2006. (Toyota 2WD and 4WD and Ford Escape 2WD and 4WD categories were combined).

Plug-in hybrid electric vehicles can be plugged into the electric grid – such as a normal 120 volt household outlet - to boost mileage. This allows the vehicles to operate electricity which is as clean as the sources of power. Vermont, for example, has an 85 percent carbon free electric power resource mix (Green Mountain Power). PHEVs can achieve a fuel economy of up to 100 miles per gallon. There is tremendous national interest and support in PHEVs (www.calcars.org). For example:

- New York State in July announced a $10 million investment to convert 600 state HEVs to plug in hybrids.
- Toyota Motor Company, which passed Ford Motor Co to become America's No 2 Automobile company last quarter, plans to bring a PHEV to the market

Fuel Economy

One of the program activity areas listed on the Clean Cities web site is promoting fuel economy. Raising public awareness of the economic benefits to buying more efficient vehicles is the cornerstone of this approach. Clean Cities provides vehicle efficiency indicators.

Table 9. Top Ten Most Efficient Vehicles in 2006

Vehicle	City MPG	Highway MPG	Type
Honda Insight	60	66	Hybrid
Toyota Prius	60	52	Hybrid
Honda Civic Hybrid	49	51	Hybrid
Volkswagen Golf TDI	37	44	
Volkswagen New Beetle TDI	37	44	
Volkswagen Jetta TDI	36	41	
Toyota Corolla	32	41	
Scion xA	32	37	
Hyundai Accent	32	35	
Kia Rio	32	35	
Honda Civic	30	40	
Pontiac Vibe	30	36	
Toyota Matrix	30	36	

Source: Edmunds.com (http://www.edmunds.com/reviews/list/top10/108467/article.html). This does not include Model Year 2007 Vehicles with high mileages such as the Honda Fit (33/38) and the Toyota Yaris (34/40).

Idle Reduction

Efforts to reduce vehicle idling is also a cornerstone activity listed in the national Clean Cities program. In Vermont, the Alliance for Climate Action and a number of other groups have coordinated idle reduction and no idling zones in Chittenden County.

There is an active idle reduction organization spearheaded by Wayne Michaud that can be found at www.idle-freevt.com.

Peak Oil & Economic Security

There is growing evidence that the world may have hit a peak, or is close to hitting a peak in the extraction of oil from existing oil fields (the United States peaked about 1970). With fast growing energy-based ecomomies in China and India, demand for oil is increasing as reserves dwindle. The U.S. currently imports more than 50 percent of the oil we use. Various communities in Vermont have started peak oil campaigns to look at and plan for a future without petroleum coordinated by the Vermont Peak Oil Network (http://vtpeakoil.net/). The organization has started an on-line discussion group at http://www.groups.yahoo.com/group/vtpeakoil/

Vermont's Aging Population

Vermont presently has the second oldest on average population in the US (after Maine). Almost all of the increase in the state's population over the next twenty-five years is expected to be Vermonters older than 65. The number of Vermonters over 65 will double by 2030 (Art Woolf: A Brief Overview of Vermont's Changing Demographics and Their Economic and Fiscal Impacts, December, 2005). The Association of Retired Persons (AARP) is presently coordinating a livable community initiative in Burlington which is looking at mobility issues as an important quality of life indicator for Vermont's aging population.

Other Related Activities in Vermont

The Alliance for Climate Action coordinates ten percent challenge campaigns around the state that incorporate transportation fuels into their work to reduce GHG emissions (http://www.10percentchallenge.org/). For example, the organization participates with six other organizations in Way To Go Week which encourages Vermonters to get our of their cars for a week. (Other partners include Local Motion, CCTA, CATMA, MPO and Lake Champlain Committee). The organization also has a climate calculator on their web site which enables users to calculate their own GHG emissions.

State agency planning initiatives: Three state agencies have launched planning processes that will be touching on transportation issues and impacts in Vermont.

Table 10. State Planning Initiatives Related To Transportation

Planning Initiative	Lead Agency	Expected Completion Date	Last Plan Completed	Contact
Vermont Comprehensive Energy Plan	DPS	Fall 2007	July, 1998	Riley Allen
Vermont Long Range Transportation Plan	VTrans	May 2008	Jan., 2002	Scott Bascom
Climate Change Action Plan	ANR	Sept. 2007		Harold Garabedian

Source: Snelling Center

The Vermont Council on Rural Development: The Vermont Council on Rural Development has formed a special council on energy issues and is planning a summit on "Local Power: Energy and Economic Development in Rural Vermont" for August 22 (http://www.vtrural.org/).

The Burlington International Airport is looking at measures to reduce its transportation and air quality footprint.

Vermont colleges: Several colleges and universities in Vermont have also taken steps to reduce their transportation impacts and increase pedestrian circulation on their campuses (Zoey Burrows, Vermont Campus Report, May 2006). On the energy reduction side an active organization at college campuses has been the Vermont Campus Energy Group (contact Greg Strong at greg@spring-hill.biz)

Looking Ahead

The Efficiency Vermont Model

Efficiency Vermont is a statewide utility that uses rate-payer funds to invest in energy-saving technologies and techniques. The organization has received national recognition for its success in reducing Vermont electric bills. Efficiency Vermont saves energy at less than half the price of the marginal cost of power. For example in 2005, Efficiency Vermont saved electricity at half the cost of buying that electricity on the wholesale market. Efficiency Vermont invested $3.13 cents per kWh to reduce energy use while the marginal cost of power purchased by Vermont utilities during 2005 was $6.61 cents (Efficiency Vermont 2005 Preliminary Annual Report Summary).

Perhaps a similar model is the use of the cigarette tax by Vermont policy makers to fund programs to help smokers quit smoking. Raising the tax has also reduced the number of new smokers starting to smoke (Tobacco Free Kids). There is clear evidence that higher gas taxes decrease driving (As the Price of Gas Goes Up, the Nations Odometer Slows Down, PewResearchCenter Report August 8, 2006).

How this model could be applied to transportation is unclear. If cars were more efficient, Vermonters could save millions of dollars on lower gas bills. If Vermonters had more transit options and park-and-ride lots perhaps they would be an opportunity to drive less. Since Vermonters (and visitors) spend more than $1 billion on gas and diesel, small vehicle efficiency gains could keep millions of dollars at home in the Vermont economy. Instead of those dollars leaving Vermont, they could be invested in technologies and policies that would reduce Vermonters gas bills.