

Vermont Transportation Funding Options
Section 10 (a)
Act 40 (2015)

Final Report
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Vermont Agency of Transportation

For:
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Senate Committee on Transportation

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EXECUTIVE SUMMARY

Section 10 of ACT 40 passed by the 2015 Vermont Legislature and signed by Governor Shumlin, directs the Agency of Transportation (AOT) to “identify and evaluate funding sources, other than motor vehicle fuel taxes, that will be sufficient to maintain the State’s transportation system, accounting for State and federal policies that have and will continue to reduce motor vehicle fuel consumption”.

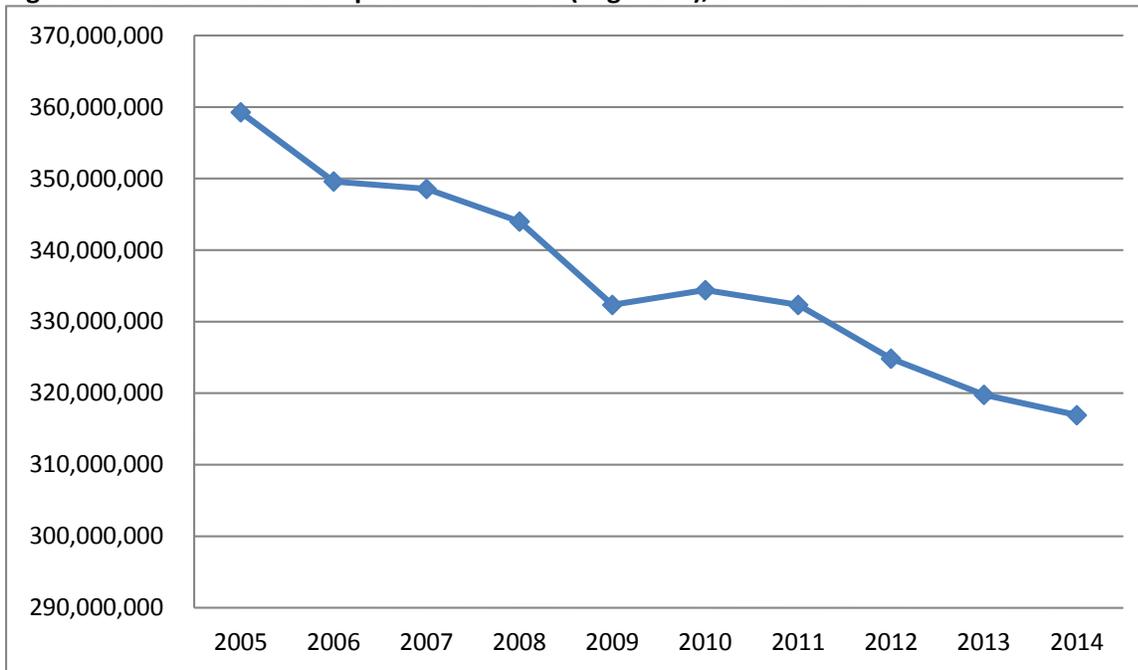
In conducting the analysis, AOT reviewed:

- 1) Current state and federal transportation funding sources, policies, and trends which will continue to reduce motor vehicle fuel consumption;
- 2) Funding options contained in the report on transportation funding required by Acts and Resolves No. 153, Sec. 40 (2012); and
- 3) Actions of other states and provinces which have reduced or eliminated motor vehicle fuel taxes, and replaced them with other funding sources.

Declining Motor Vehicle Fuel Taxes

Gasoline consumption in Vermont has declined consistently since State Fiscal Year (SFY) 2005. (Figure ES1). A general reduction in vehicle miles traveled (VMT), state investments in smart growth programs, transit, rail, park-and-rides, and carshare programs, the growth of hybrid and electric vehicles, and federal fuel economy standards have all contributed to reducing gasoline consumption.

Figure ES1: Gasoline Consumption in Vermont (in gallons), SFY 2005-2014



As federal fuel efficiency standards are phased in over the next decade, and Vermont continues to implement state energy, greenhouse gas emissions, smart growth, and health policies, motor vehicle fuel consumption will likely continue to decline. This will compound a \$240 million transportation funding gap identified in the Section 40 Legislation Funding Study (No. 153, 2012). In the long-run, motor vehicle fuel taxes will likely need to be replaced by more stable revenue sources that are unaffected by fuel consumption.

What Other States Have Done to Address Declining Motor Vehicle Fuel Consumption

Several states have passed and implemented funding initiatives to deal with reduced motor vehicle fuel consumption. While some states raised their per pennies on the gallon gas tax, others have switched over to a retail assessment, and Georgia and Michigan have pegged their gas tax to inflation. Most states which raised gas taxes also raised various motor vehicle fees. A number of states focused on raising transportation fees, issuing bonds, or transferring general funds into their transportation accounts. Virginia is unique in that it increased its general sales tax and dedicated a portion to transportation.

Primarily Motor Vehicle Fuel-Based Funding Sources

- Michigan increased gasoline and diesel taxes to 26.3 cents-per-gallon, with indexing to inflation starting in 2022. Along with increases to vehicle registration fees, alternative fuel and electric vehicle fees, and General Fund transfers, new transportation revenues are anticipated to raise \$1.2 billion per year once fully phased in.
- Washington State increased the gas tax by 11.9 cents-per-gallon. Along with increases in motor vehicle fees, new transportation revenues are anticipated to raise \$16.1 billion over 16 years.
- Nebraska increased the gas tax to 6 cents-per-gallon. This is anticipated to raise \$76.2 million annually once fully implemented.
- Georgia changed the state gas tax formula to a flat tax of 26 cents-per-gallon, indexed to both the Corporate Average Fuel Economy and the Consumer Price Index. Along with increases in other fees, new transportation revenues are anticipated to generate \$900 million annually.
- Idaho increased the gas tax by 7 cents-per-gallon. Along with increases in vehicle registration fees and a new fee on electric and hybrid vehicles, new transportation revenues are anticipated to raise \$95 million annually.
- Utah increased the state gas tax by 5 cents-per-gallon, and introduced a 12% tax on the statewide average wholesale price of motor fuel to replace the flat gas tax in the future (once the price reaches \$2.45/ gallon), and permit counties to seek voter approval for a 1/4 cent sales and use tax increase for local transportation projects. New transportation revenues are anticipated to generate up \$101,625,500 in the first two years.
- South Dakota increased the gas tax by 6 cents-per-gallon. Along with a 1% increase to the motor vehicle excise tax, and 20% increase in license plate fees, new transportation revenues are anticipated to generate over \$80 million annually.
- Iowa increased the gas tax by 10 cents-per-gallon. New transportation revenues are anticipated to generate \$200 million per year.
- Virginia eliminated its 17.5 cents per gallon tax and replace it with a new wholesale tax of 5.1% on gasoline and 6% on diesel, and also increased the state's general sale tax from 5.0% to 5.3% in 2013, with the difference set aside for transportation.
- Kentucky and North Carolina adjusted the pennies on the gallon gas tax to a retail assessment.

Primarily Other Transportation Funding Sources

- Delaware increased motor vehicle fees and oversized vehicle permit fees. New transportation revenues are anticipated to generate \$55 million annually.
- North Carolina increased transportation revenues by \$440 million by eliminating Highway Fund transfers to the General Fund, raising motor vehicle fees, increasing the state Highway Use Tax on out-of-state motor vehicle purchases, and permitting municipalities to increase their vehicle sales tax.
- Connecticut approved \$2.8 billion in transportation bonds to fund the first five years of the “Let’s Go CT” program.
- Georgia approved a \$75 million bond for state transit funding.
- Massachusetts approved a \$200 million road bond.
- North Dakota allocated \$450 million from the general fund to state highway funding, with an additional \$352 million to be distributed to counties for road and bridge projects.
- Mississippi approved \$200 million in bond financing for the state’s transportation infrastructure.
- New Mexico approved an infrastructure construction bill which included \$70 million for highways.

Potential Revenues Sources to Address Declining Motor Vehicle Fuel Consumption Decline

Evaluation criteria were developed to assess different funding options. These criteria fall within the general categories of revenue stream opportunities (revenue potential, sustainability, flexibility), Implementation/Administration (ease/cost of implementation, administration, and enforcement), Economic Efficiency (efficient use and promotion) and Equity Considerations (user, income and geographic).

The summary below identifies options available to raise transportation revenues, and the amount to be generated based on a single unit increase in existing fees/taxes, or their introduction. Revenue estimates are order of magnitude and do not account for price elasticity or other complex economic feedback effects.

Table ES1: Summary of Revenue Generation Potential

Revenue Option	Existing	Revenue Potential
Vehicle Inspection Fees	\$5 per inspection	\$723,269 for every \$1 increase
Vehicle Rental Tax	9% (6% for transportation)	\$318,737 for every 1% increase
DMV Fees	\$80.1 million	\$800,110 for each 1% increase
Heavy Vehicle Registration Fees	\$1,441-\$4,375	\$5,072 for every \$1 increase
Truck Gross Vehicle Weight Registration Fees	Varies with weight	\$3.5 million annually
Light-Duty Diesel-Gasoline Registration Fee Parity	\$70 (gas), \$27 (diesel)	\$378,701 for parity
Vanity Plate fees	\$45	\$12,414 for every \$1 increase
Safety Violation Fees	variable	\$39,496 for every 1% increase
Purchase & Use Tax	6% (2% to Education Fund, 4% to T-Fund)	\$16.2 million for 1% increase (from 6% to 7%, assuming all of the increase is dedicated to the transportation fund)
Reduction in P&U Allocation to Ed. Fund	\$32.4 million	\$324,000 for every 1% reduction
Reduction in Allocation to Dept. of Public Safety	\$22.7 million	\$227,000 for every 1% reduction
Vehicle Lease Fee	None	\$38,050 for every \$1 charged
Ad Valorem Fees	None	\$66.9 million above current registration fees
Auto Parts Allocation to T-Fund	None	\$4.85 million if allocated
Auto insurance Allocation to T-Fund	None	\$2.5 million for every 1% allocated
Bicycle Registration Fees	None	\$24,800 for each \$1 charged
Electric Vehicle Fees	None	\$1,046 for each \$1 charged
VMT Fees	None	\$63.5 million for every 1 cent above revenue neutral figure
General Fund Allocation to T-Fund	None	\$13.7 million for every 1% allocated
Personal Income Tax Allocation to T-Fund	None	\$7 million for every 1% allocated
Corporate Tax Allocation to T-Fund	None	\$1.2 million for every 1% allocated
Sales Tax Allocation to T-Fund	None	\$2.3 million for every 1% allocated

1.0 INTRODUCTION

Section 10 of ACT 40 passed by the 2015 Vermont Legislature and signed by Governor Shumlin, directs the Agency of Transportation (AOT) to “identify and evaluate funding sources, other than motor vehicle fuel taxes, that will be sufficient to maintain the State’s transportation system, accounting for State and federal policies that have and will continue to reduce motor vehicle fuel consumption”.¹

In conducting the analysis, the AOT is directed to review:

- 1) Current state and federal transportation funding sources, policies, and trends which will continue to reduce motor vehicle fuel consumption;
- 2) Funding options contained in the report on transportation funding required by Acts and Resolves No. 153, Sec. 40 (2012); and
- 3) Actions of other states and provinces which have reduced or eliminated motor vehicle fuel taxes, and replaced them with other funding sources.

This report is divided into the following sections:

- Section 2 presents current transportation funding sources and examines state and federal policies which result in reduce motor vehicle fuel consumption.
- Section 3 details efforts by other states to deal with reduced motor vehicle fuel consumption.
- Section 4 presents funding and revenue options for consideration.

¹ ACT 40 <http://legislature.vermont.gov/assets/Documents/2016/Docs/ACTS/ACT040/ACT040%20As%20Enacted.pdf>

2.0 STATE AND FEDERAL FUNDING TRENDS, AND POLICIES IMPACTING FUEL CONSUMPTION

The operation and maintenance of Vermont's transportation system is funded using a combination of the following major funding sources:

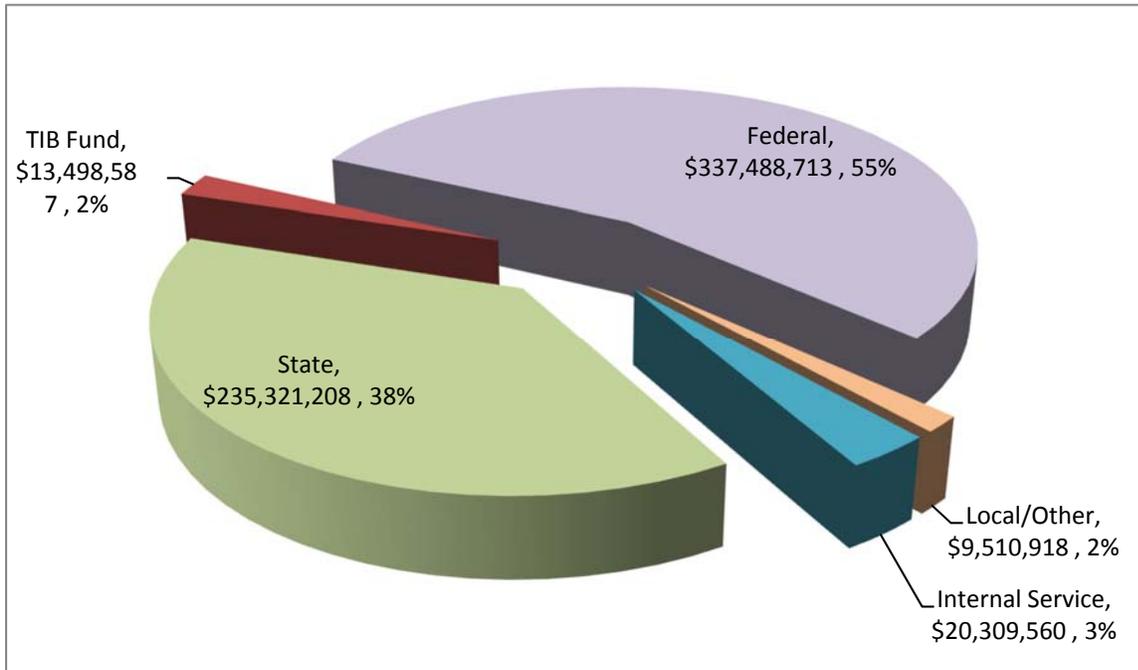
- Federal transportation funds
- State fuel taxes (gasoline and diesel taxes, and assessments)
- DMV registration and other fees
- Vehicle purchase and use taxes

For State Fiscal Year (SFY) 2016, approximately 55% of the state's \$616.1 million transportation budget is derived from federal funding sources, including the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Federal Aviation Administration (FAA), Federal Railroad Administration (FRA), and the National Highway Traffic Safety Administration (NHTSA) (Figure 1). In addition, Vermont receives federal discretionary funding, as well disaster funding through the FHWA Emergency Repair program, and from the Federal Emergency Management Administration (FEMA).

The State Transportation Fund (T- Fund) accounts for the second largest funding source at 38%. The T-Fund includes revenue from gas and diesel taxes, purchase and use taxes (P&U), and Department of Motor Vehicle (DMV) fees.

Vermont also levies a Transportation Infrastructure Bond (TIB) assessment on gas and diesel fuel which is dedicated to paying the debt service on TIB bonds issued; and to the extent the assessment revenue is not needed to pay debt service, it may be expended on certain transportation infrastructure.

Figure 1: Sources of Transportation Funds in Vermont, SFY 16

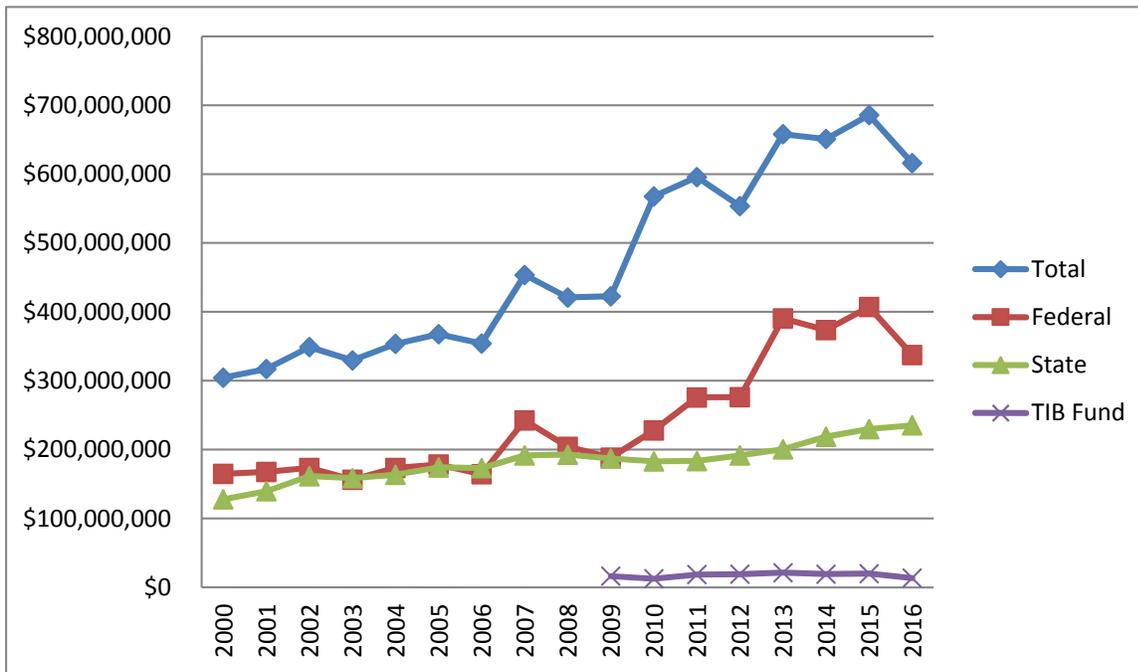


Source: VTrans Budget & Fiscal Management Section

2.1 Federal Funding Trends

Vermont relies heavily on federal funding to maintain and operate its transportation system, and these funds have increased at a faster rate than state funds since 2009 (Figure 2). For SFY 2016, Vermont estimates expending \$337,488,713 in federal funds. The amount of federal funds has declined compared to prior years due to the completion of several FHWA Emergency Relief and FEMA disaster projects related to Tropical Storm Irene, as well as American Recovery and Reinvestment Act (ARRA) and Transportation Investments Generating Economic Recovery (TIGER) projects. Since 2010, for example, Vermont obtained \$238,536,880 in ARRA funding, over \$100 million in federal transit and rail discretionary grants, and \$85 million in FHWA ER and FEMA funds.

Figure 2: Transportation Funding Trends in Vermont, 2000-2016

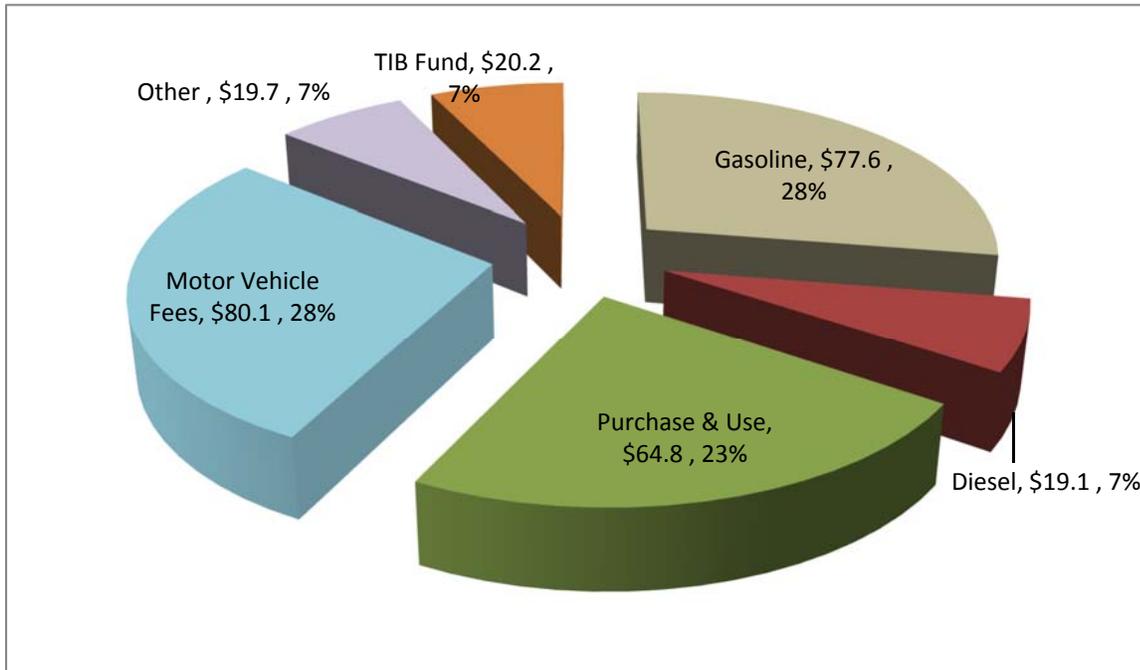


Source: VTrans Budget & Fiscal Management Section

2.2 State Funding Trends

State revenues account for the second largest share of transportation revenues. The current SFY 16 budget includes approximately \$235 million in state funds, in addition to \$13.5 million in TIB funds. State revenues encompass a diverse set of gasoline and diesel taxes, purchase & use taxes, and motor vehicle fees (Figure 3).

Figure 3: State Transportation Fund Revenues Sources (in \$ million), SFY 2016



Source: VTrans Budget & Fiscal Management Section

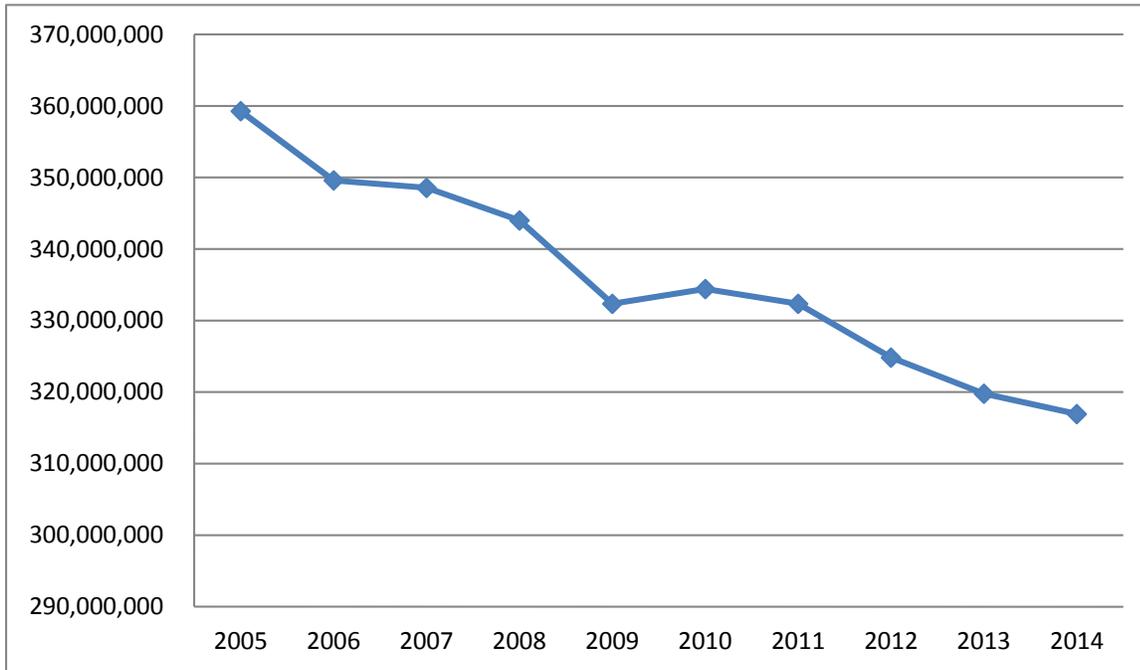
1. Gasoline Taxes

Vermont’s gas tax is 13.1 cents-per-gallon, which includes a 1 cent-per-gallon petroleum cleanup fee. In addition, there is a 2% TIB Assessment levied to the retail price of gasoline, and a T-Fund Assessment of 4%. Prior to SFY 2013, the gas tax was 20 cents-per-gallon - 19¢ was allocated to the transportation fund and 1¢ to the petroleum clean-up fund, with a 2% TIB Assessment levied on the retail price of gasoline.

Gasoline consumption has declined since 2005, with some 40 million gallons less consumed today than in SFY 2005 (Figure 4). A general reduction in vehicle miles traveled (VMT), state investments in transit, rail, park-and-rides, and carshare programs, the growth of hybrid and electric vehicles, and federal fuel economy standards have all contributed to reducing gasoline consumption.

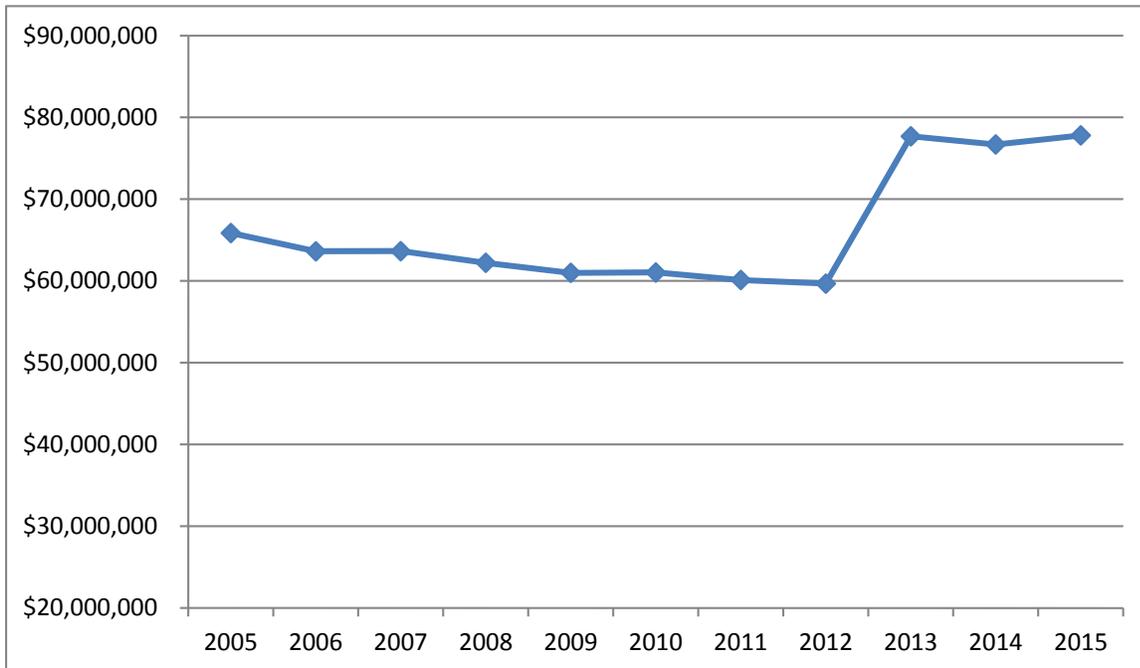
Through 2012, gasoline tax revenues mirrored the decline in gasoline consumption. The SFY 2013 change to the gas tax stabilized gas tax revenues. However, in the long-run, these pressure are anticipated to continue, including inflationary pressures on revenues (Figure 5, 6).

Figure 4: Gasoline Consumption in Vermont (in gallons), SFY 2005-2014



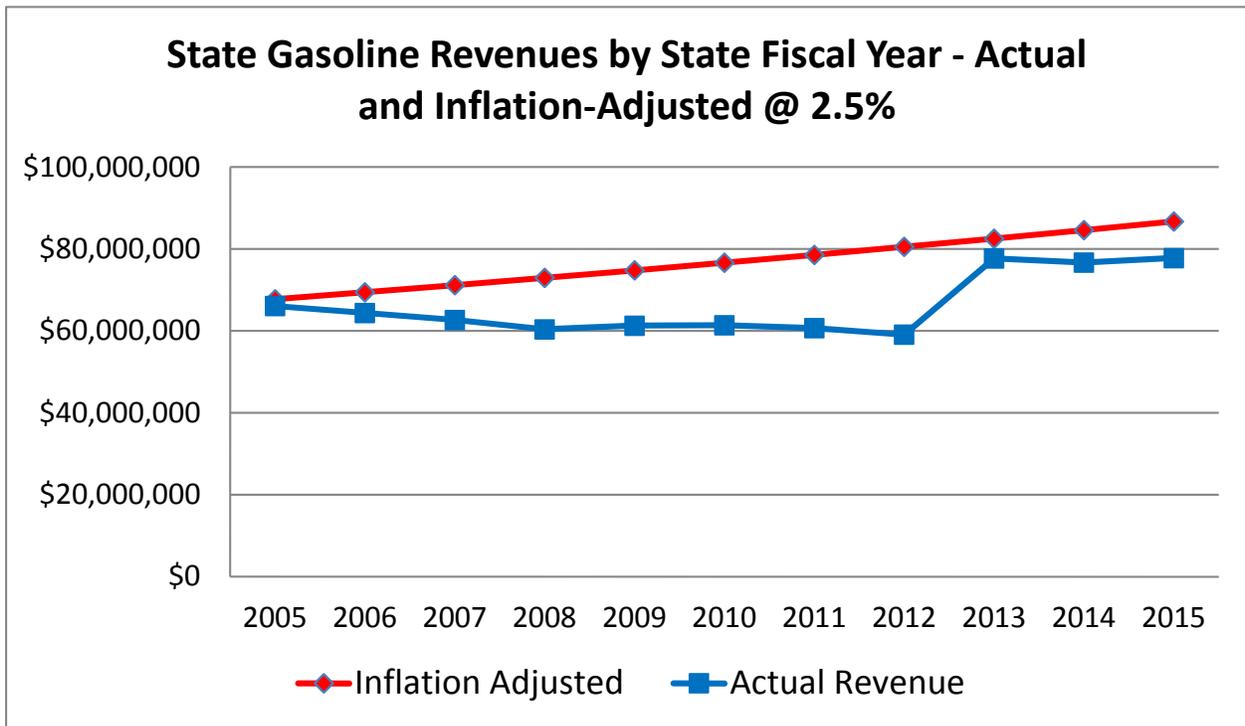
Source: Vermont Joint Fiscal Office – Gasoline & Diesel Revenues Report <http://www.leg.state.vt.us/jfo/transportation.aspx>

Figure 5: Gasoline Revenue in Vermont, SFY 2005-2015



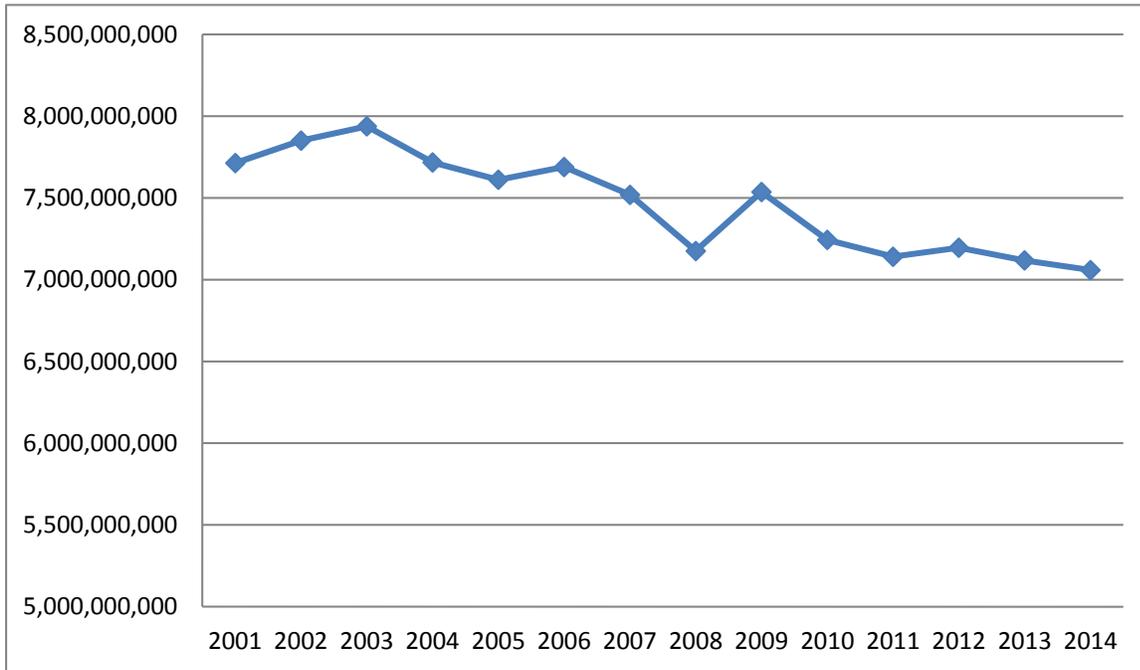
Source: Vermont Joint Fiscal Office – Gasoline & Diesel Revenues Report <http://www.leg.state.vt.us/jfo/transportation.aspx>

Figure 6: Inflation Impacts on Gasoline Tax



Throughout the 1990s and early 2000s, VMT in Vermont increased an average of 2% annually, peaking in 2003 at 7.9 billion (Figure 7). Since then, VMT declined by 879 million miles, or 11%, posting its largest decline since 1925.

Figure 7: Vehicle Miles Traveled in Vermont 2001-2014



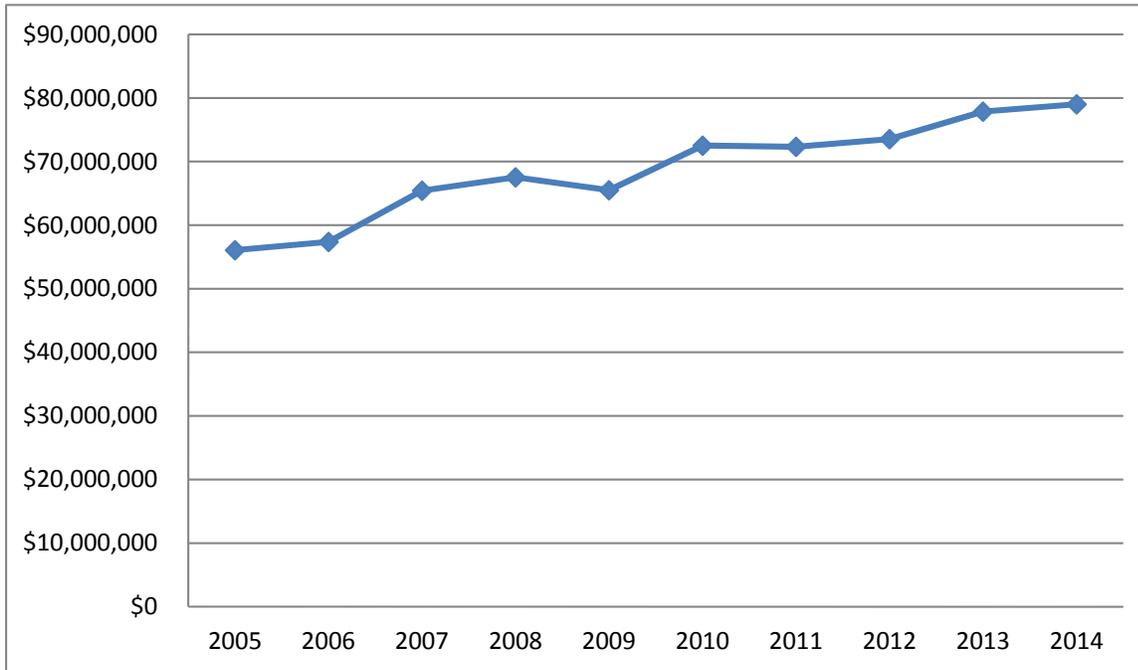
Source: VTrans Highway Research Section – Vehicle Miles Traveled, 2000-2014

<http://vtransplanning.vermont.gov/research/highway/publications>

2. DMV Motor Vehicle Fees

DMV motor vehicle fees account for the second highest share of state transportation revenues at \$80.1 million, or 28% of total T-Fund revenues. DMV fees consist of a variety of fees for vehicle registrations, licenses, permits and endorsements. In contrast to gasoline taxes, these fees have held steady and increased in the past decade, assisted by periodic fee adjustments to ensure they kept pace with inflation (Figure 8).

Figure 8: Department of Motor Vehicle Fees, 2005-2014

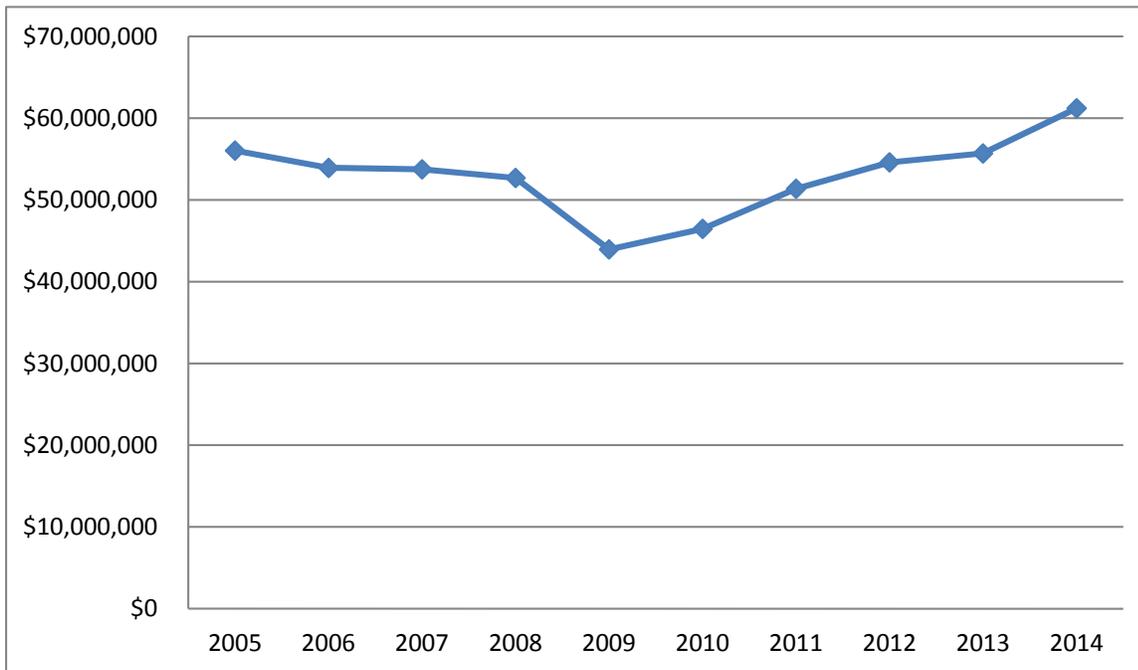


Source: Vermont Joint Fiscal Office – Transportation Fund Revenue Report <http://www.leg.state.vt.us/jfo/transportation.aspx>

3. Purchase & Use Taxes

P&U taxes totaled \$64.8 million, or 23% of total T-Fund revenues. P&U taxes are assessed at 6% of the cost of a vehicle; 4% is allocated to the T-Fund and 2% to the Education Fund. Revenues have generally increased since 2005, aided by increasing vehicles sales (Figure 9).

Figure 9: Vermont Purchase & Use Revenues 2005-2014



Source: Vermont Joint Fiscal Office – Transportation Fund Revenue Report <http://www.leg.state.vt.us/jfo/transportation.aspx>

2.3 State and Federal Initiatives Impacting Gasoline Consumption

State Level

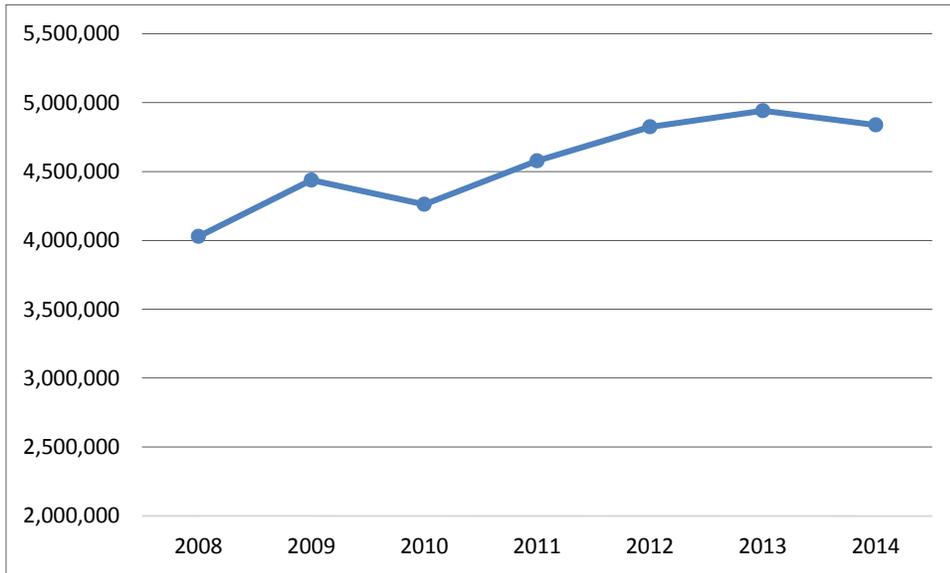
State Greenhouse Gas and Energy Goals, and Transportation Investments

Vermont has set ambitious greenhouse gas emissions and energy goals, resulting in policies that contribute, and will continue to contribute, to declining motor vehicle fuel consumption. In 2006, Vermont established aggressive greenhouse gas reduction goals, set forth in 10 V.S.A. § 578(a), that include a 50% reduction of greenhouse gas emissions from 1990 levels by 2028 and, if practicable using reasonable efforts, a 75% reduction by 2050. In 2011, Vermont’s Comprehensive Energy Plan established the goal of obtaining 90% of total energy from renewable sources by 2050.

AOT is contributing to progress towards these goals by expanding the scope of bicycle and pedestrian programs, increasing the number of park and ride spaces, increasing public transit routes and demand-response services, and upgrading rail facilities to improve existing Amtrak services and introduce new passenger services to Burlington and Montreal.

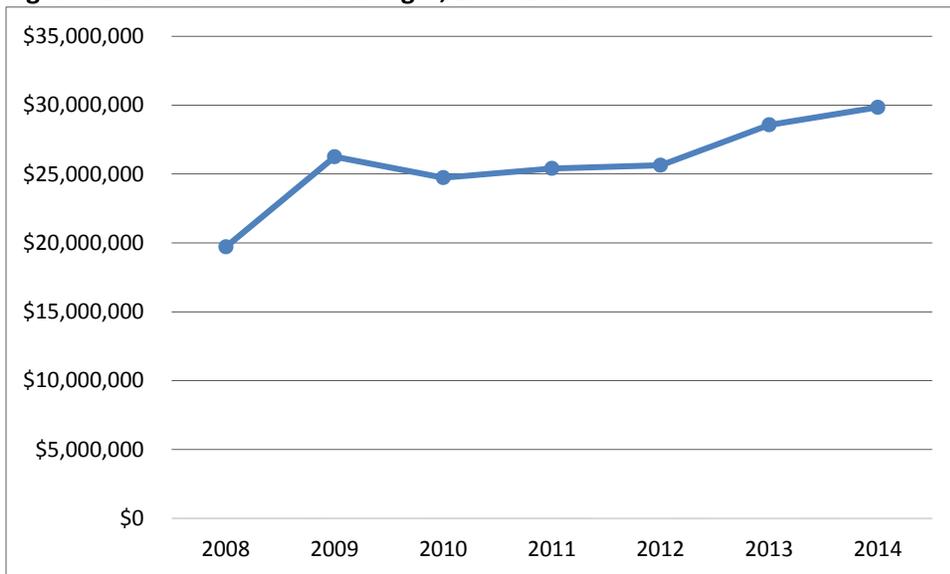
Transit ridership, in particular, has increased substantially, reflecting significantly higher spending levels since 2008. Annual transit trips increased from approximately 4 million trips in 2008 to just under 5 million trips in 2014 (Figure 10, 11).

Figure 10: Vermont Transit Ridership 2008-2014



Source: AOT Public Transit Program

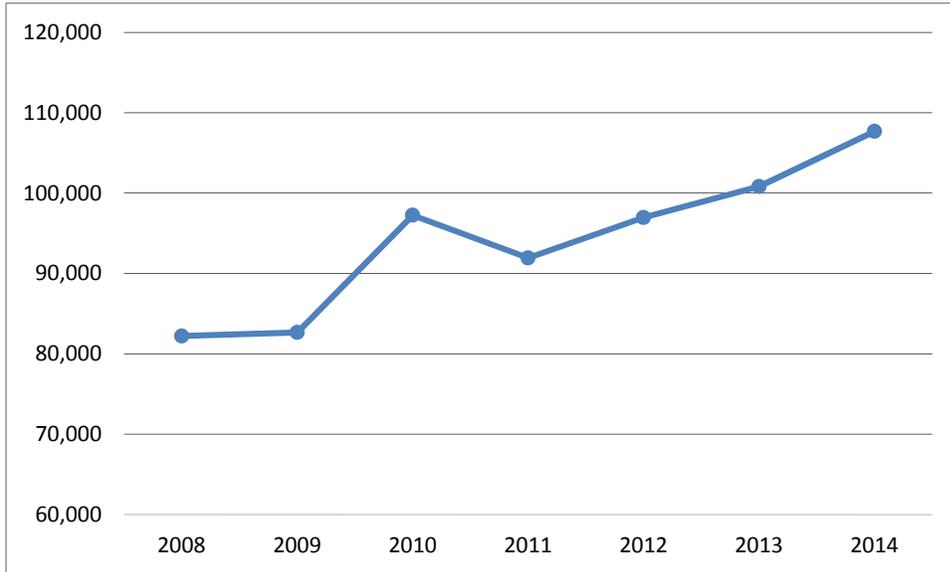
Figure 11: AOT Public Transit Budget, 2008-2014



Source: VTrans Budget & Fiscal Management Section

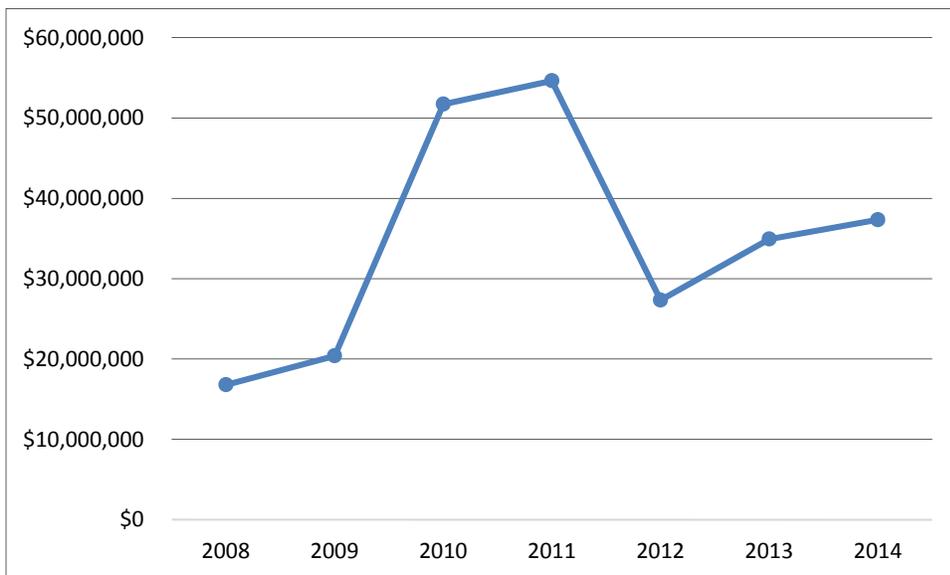
Passenger rail has similarly expanded rapidly, following significant investments in rail infrastructure. Since 2008, Vermont-based rail trips increase 30% (Figure 12). This follows close to \$100 million in track upgrade investments by private railroads, the state, and the federal government (Figure 13).

Figure 12: Vermont Rail Ridership 2008-2014



Source: Amtrak Ridership Report

Figure 13: VTrans Rail Budget 2008-2014



Source: VTrans Budget & Fiscal Management Section

Zero Emission Vehicle Memorandum of Understanding

On October 24, 2013, Governor Peter Shumlin signed a Zero Emission Vehicle (ZEV) Memorandum of Understanding (MOU) with the governors of California, Connecticut, Maryland, Massachusetts, New York, Oregon, and Rhode Island to coordinate actions to ensure the successful implementation of state ZEV programs.

As part of the MOU, the signatory states committed to having 3.3 million ZEVs by 2025, and develop the infrastructure to support these vehicles. ZEVs include pure battery electric vehicles, plug-in hybrid electric vehicles, and hydrogen fuel cell electric vehicles.

AOT has contributed to meeting Vermont's ZEV goals by supporting public electric vehicle charging stations and signage, and including adding ZEV vehicles to its fleet.

There are currently 1,046 ZEVs in Vermont, and their numbers have been steadily increasing over the years.

Land Use Policies and Smart Growth

Vermont has been actively focused on efforts to revitalize downtowns and town centers, and encourage smart growth and livable communities. The Vermont Department of Housing & Community Development has been at the forefront of this effort, providing technical support to communities as well as introducing a series of funding programs, such as the Vermont Community Development Program, Municipal Planning Grants, Downtown Transportation Fund, and Downtown and Village Tax Credit programs.

AOT participated in many of these revitalization efforts, most recently in Barre and St. Albans where significant rehabilitation of roadways was conducted in concert with local infrastructure upgrades, façade rehabilitation, and other projects.

Other States: Cap and Trade and Carbon Taxes

Several states are considering cap and trade programs and carbon taxes as a way of meeting greenhouse gas emissions and energy goals. Currently, California, Quebec, Ontario, and British Columbia participate in cap and trade programs or have a carbon tax in place.

If either is adopted in Vermont, it will continue to erode gasoline consumption as these programs and taxes are intended to result in decreased fossil fuels consumption.

Cap & Trade

Cap and trade markets incentivize the fossil fuel industry to reduce emissions and shift to cleaner forms of energy such as biofuels. A cap and trade market sets a specific "cap" for certain activities such as the production of greenhouse gas emissions from the electricity or petroleum sectors with

the cap decreasing over time. Obligated entities then buy or sell “allowances” at auction. The auction produces revenues for the participating jurisdictions and incentivizes the industry to reduce emissions and use cleaner forms of energy.

California and the Canadian provinces of Quebec and Ontario participate in the Western Climate Initiative (WCI) cap and trade market. Under this initiative a certain number of “allowances”, each representing 1 metric ton of carbon dioxide that together are equal to the cap are distributed to the obligated entities, such as fuel refineries or wholesalers whose emissions are greater than 25,000 metric tons of CO₂ or the equivalent. The obligated entities are required to obtain a set number of allowances each year to cover their emissions under the cap. The allowances are bought and sold at quarterly auctions, thus generating market revenues. Entities with excess emissions must buy more allowances, while entities who have reduced emissions below the cap can sell excess allowances.

Vermont participates in the Regional Green House Gas Initiative (RGGI), a cap and trade market for electricity generation in the northeast. Unlike WCI, the petroleum sector is not included in RGGI.

Carbon Tax

A carbon tax or carbon pricing is an assessment on carbon pollution that is applied to fossil fuels sold and collected at the fuel distributor level. The focus is on changing consumer behavior to switch to cleaner fuel sources. When the cost of buying fossil fuels increases via a carbon tax, purchase and use of those fuels decreases because consumers will seek more efficient and less carbon intensive transportation options such as moving closer to work, taking the bus, buying a more efficient vehicle or switching to electric vehicles.

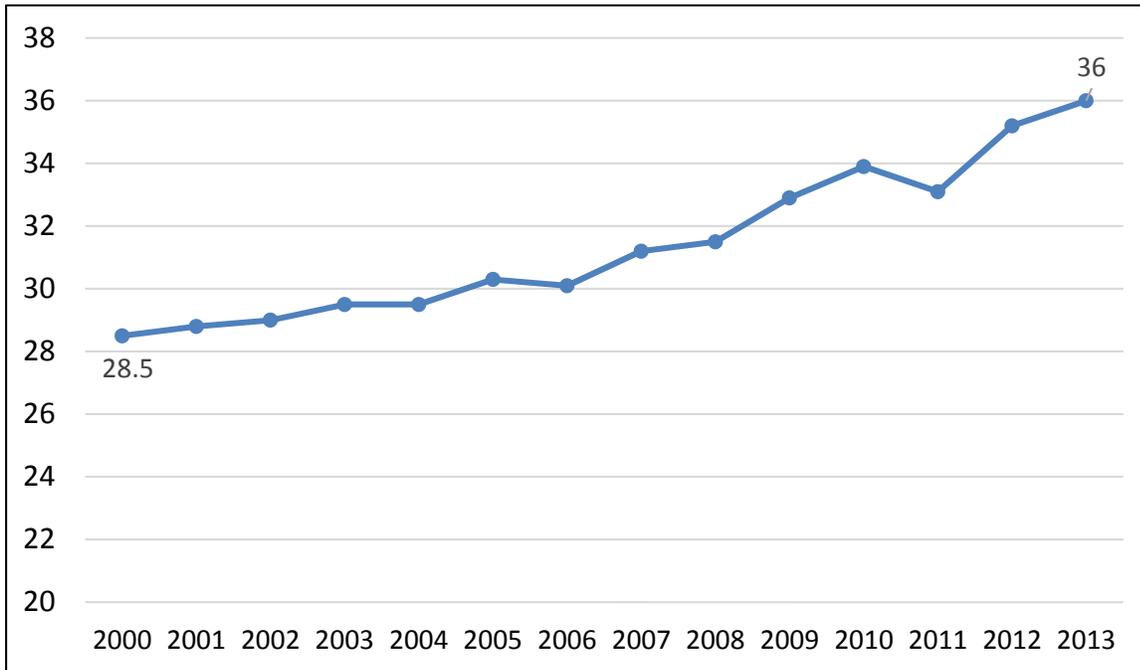
Federal Level Initiatives

Fuel Standards

Federal fuel standards have had the largest impact on motor vehicle fuel consumption, and will continue to do so in the future.

Corporate Average Fuel Economy (CAFÉ) standards are fuel economy requirements first enacted in 1975 in response to the 1973 Oil Crisis. Over the years, CAFÉ standards resulted in improved fuel economy. Figure 14 details fuel economy gains since 2000. Average fuel efficiency of passenger vehicles increased from 28.5 MPG in 2000 to 36 MPG in 2013 (Figure 14).

Figure 14: Average Fuel Economy for Light-Duty Passenger Vehicles – MPG by Model Year



Source: Bureau of Transportation Statistics

http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/html/table_04_23.html

The trend towards improved fuel economy is anticipated to continue as current CAFÉ standards require that average fleet fuel economy increase to 54.5 MPG by 2025 (Table 1).

Table 1: Corporate Average Fuel Economy (CAFE) Standards

Year	CAFE Standards	Annual Improvement in Fuel Efficiency of New Vehicles
2012	25 mpg	Not Applicable
2016	35.5 mpg	9.2% 2012 to 2016
2025	54.5 mpg	4.9% 2017 to 2025

Support for Electric Vehicles

Since 2009, the federal government has incentivized purchases of electric vehicles. Buyers of plug-in hybrids and electric cars benefit from a federal tax credit of \$2,500 to \$7,500, depending on the size of the battery in the car. On the low end of the spectrum, cars with 4 kWh battery packs qualify for a \$2,500 tax credit. The credit tops out at \$7,500 for cars with a 16 kWh battery pack, for vehicles such as the Chevy Volt.

Between 2008 and September 2015, over 373,000 plug-in electric vehicles have been sold in the United States, and there are currently 27 plug-in models available.² The tax credit is one reason, among others, that plug-in electric vehicles will continue increase in market share in the future.

In addition to tax credits, the U.S Department of Transportation (DOT) allows State DOTs to use federal transportation funds to develop electric vehicle charging stations.

² <http://www.hybridcars.com/one-million-global-plug-in-sales-milestone-reached/>

3.0 FUNDING INITIATIVES IN OTHER STATES

Several states have passed and implemented funding initiatives to deal with reduced motor vehicle fuel consumption. While some states raised their per pennies on the gallon gas tax, others have switched over to a retail assessment, and Georgia and Michigan have pegged their gas tax to inflation. Most states which raised gas taxes also raised various motor vehicle fees. A number of states focused on raising transportation fees, issuing bonds, or transferring general funds into their transportation accounts. Virginia is unique in that it increased its general sales tax and dedicated a portion to transportation.

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- New Mexico approved an infrastructure construction bill which included \$70 million for highways.

4.0 REVENUE OPTIONS

This section identifies and evaluates transportation revenue options other than motor vehicle fuel taxes. The list of potential funding mechanisms was generated from research, discussions with the Joint Fiscal Office, consultation with stakeholders through a series of meetings, and staff from various state agencies.

4.1 Evaluation Criteria

Each funding option is evaluated against the criteria listed below, which fall within the general categories of Revenue Stream, Implementation/Administration, Economic Efficiency and Equity considerations.

Revenue Stream Considerations

- Revenue Potential - the extent to which the option generates significant revenue. Revenue estimates are order of magnitude and do not account for price elasticity or other complex economic feedback effects. For example, a simple calculation indicates that a ten-dollar increase in vanity plates would generate \$275,000 in revenue. However, increasing the cost of may result in less sales which would reduce the actual revenue generated to less than \$275,000 million.
- Sustainability - the extent to which the option self-adjusts or can be adjusted easily from year to year in order to provide a stable, reliable source of revenue.
- Flexibility - the extent to which the mechanism is appropriate for a wide range of investments (and different transportation modes) and can be redirected to meet changing needs.

Implementation and Administration Considerations

- Appropriateness for State Use - the appropriateness of statewide implementation, including consideration of the impact on local governments (i.e. introducing certain fees).
- Ease/Cost of Implementation, Administration and Enforcement - the ease and cost to implement, administer, and enforce relative to the revenue-raising potential.

Economic Efficiency and Impact Considerations

- Promotion of Efficient Use and Investment - the extent to which the mechanism provides incentives for efficient use of the system by influencing travel choices and behavior.
- Consistency with State Goals and Policies – the extent to which the mechanism is consistent with State Goals and Policies.

Equity Considerations

- User and Beneficiary Equity - the extent to which the mechanism can be structured to charge those who directly use or otherwise benefit from the funded investment.
- Equity Across Income Groups - the extent to which the mechanism limits costs for those who face the most difficulty in paying.
- Geographic Equity - the extent to which the cost allocation and impact of the mechanism can be structured to match the geographic distribution of the benefit.

4.2 Revenue Options

This section provides a brief description of each funding option considered and summarizes the evaluation.

REVENUE BASED ON EXISTING FEES

Vehicle Inspection Fees

The State charges a \$5 flat fee for inspection stickers to licensed inspection stations. In SFY 15, vehicle inspection fees generated \$2,927,155 in revenues. This funding source has the potential to generate moderate revenues. Every \$1 increase in sticker fees will yield approximately \$723,269 in additional funding.

This funding source is flexible and can be used with few restrictions. The collection mechanism is already in place as this fee currently exists. However, sticker fees will require periodic adjustments to keep pace with inflation.

Sticker fees place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities, but they do not reflect system usage.

Table 2: Vehicle Inspection Fee Evaluation

Revenue Stream Considerations	
Revenue Potential	Moderate revenue generation potential. Every \$1 dollar increase in the price of inspection stickers will generate an additional \$723,269 in revenue.
Sustainability	Will require periodic adjustment to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Fee is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect.
Consistency with State Goals & Policies	No effect.
Equity Considerations	
User & Beneficiary Equity	Direct link to system users, but does not reflect system usage
Income Equity	Limited costs relative to other fees/taxes.
Geographic Equity	Burden consistent for all geographies

Vehicle Rental Tax

A 9% tax is assessed on vehicle rentals, with 6% allocated to the T-Fund and 3% allocated to the Education Fund. In SFY 2015, this revenue source generated \$4,302,954, of which approximately \$2,868,636 was allocated to the T-Fund. Potential revenue from this source is low as it would generate approximately \$478,106 for every 1% increase in the tax (assuming the entire increase is allocated to the T-Fund).

The collection mechanism is already in place as this fee currently exists and keeps pace with inflation due to prices set by vehicle rental companies. However, vehicle rentals are sensitive to economic trends and can fluctuate.

Vehicle rental taxes place transportation funding responsibility on system users who directly benefit from transportation facilities. They also reflect system usage to some extent as taxes are collected based on the number of days a vehicle is rented.

Table 3: Vehicle Rental Tax Evaluation

Revenue Stream Considerations	
Revenue Potential	Low revenue generation potential. Every 1% increase in the tax rate will generate an additional \$478,106 in revenue (assuming the entire increase was allocated to the T-Fund).
Sustainability	Self-adjusting to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Fee is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect.
Consistency with State Goals & Policies	No effect.
Equity Considerations	
User & Beneficiary Equity	Direct link to system users.
Income Equity	Unlikely to affect lower income populations.
Geographic Equity	Burden consistent for all geographies

Department of Motor Vehicle Fees

DMV fees generated \$80,110,030 in revenue in SFY 2015. The potential revenue yield from increased DMV fees is high. A 1% across the board increase in fees results in approximately \$800,110 in revenue.

DMV fees have been well established as a stable and predictable transportation funding source. These fees have been periodically adjusted and keep pace with inflation, thereby enjoying steady growth. The collection mechanism is already in place but will require continued periodic adjustments to keep pace with inflation.

Registration fees place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities, but do not reflect system usage, and do not account for out-of state users of transportation facilities.

Table 4: DMV Fees Evaluation

Revenue Stream Considerations	
Revenue Potential	High revenue generation potential. Every 1% increase in DMV fees will generate an additional \$800,110 in revenue.
Sustainability	Will require periodic action to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Fee is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect.
Consistency with State Goals & Policies	No effect.
Equity Considerations	
User & Beneficiary Equity	Direct link to system users, but does not reflect system usage
Income Equity	May burden lower income populations depending on the increase.
Geographic Equity	Burden consistent for all geographies

Heavy Vehicle Registration Fees

Heavy vehicle (those 55,000lbs or higher) registration fees are a component of DMV fees. Heavy vehicles have higher impacts on roadways and bridges, and therefore pay more in fees. There are currently 5,072 heavy vehicles registered in Vermont. Registration fees for heavy vehicles range between \$1,441 to \$4,375 depending on loaded weight and fuel type. On average, every \$1 increase in heavy vehicle registration fees would generate approximately \$5,072 in revenue.

The collection mechanism is already in place as this fee currently exists. However, heavy vehicle registration fees will require periodic adjustments to keep pace with inflation.

These fees place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities. Although based on weight, they do not reflect system usage. They may, however, impact the trucking industry if registration fees are set substantially higher than neighboring jurisdictions.

Table 5: Heavy Vehicle Registration Fee Evaluation

Revenue Stream Considerations	
Revenue Potential	Low revenue generation potential. Every \$1 dollar increase in heavy vehicle registration will generate an additional \$5,072 in revenue.
Sustainability	Will require periodic action to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Fee is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect.
Consistency with State Goals & Policies	No effect.
Equity Considerations	
User & Beneficiary Equity	Direct link to system users, but does not reflect system usage
Income Equity	Unlikely to affect lower income populations.
Geographic Equity	Burden consistent for all geographies

Truck Gross Vehicle Weight Registration Fees

Truck registration fees are based on self-reported vehicle weight rather than gross vehicle weight. As such, many vehicle owners chose to register their trucks at the 6,099 lbs. \$70 gasoline, \$27 diesel rate, even though the gross vehicle weight is higher than 6,099 lbs. Registration fees for trucks up to 10,000 reach \$199 annually according to DMV's fee schedule -

<http://dmv.vermont.gov/fees/registration>

Staff at the Agency of Natural Resources conducted an analysis of this discrepancy and found that an additional \$3.5 million in revenue can be generated by shifting to a gross vehicle weight registration fee.

The collection mechanism is already in place as fees are currently collected, but will require periodic adjustment to keep pace with inflation.

These fees place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities, but do not reflect system usage. They may, however, disproportionately impact light-duty truck owners.

Table 6: Truck Gross Vehicle Weight Registration Fees Evaluation

Revenue Stream Considerations	
Revenue Potential	High revenue generation potential. Will generate \$3.5 million annually in revenue.
Sustainability	Will require periodic action to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Directly tied to transportation infrastructure.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No Effect
Consistency with State Goals & Policies	No Effect
Equity Considerations	
User & Beneficiary Equity	Consistent with the user-fee principle.
Income Equity	May have disproportionate impact on light-duty truck owners.
Geographic Equity	Burden consistent for all geographies.

Light-Duty Diesel-Gasoline Vehicle Registration Fee Parity

Vehicle registration fees are a component of DMV fees. For light-duty vehicles, gasoline-powered vehicles pay an annual registration fee of \$70, while comparable diesel-powered vehicles pay \$27 in annual registration fees. Raising diesel registration fees to \$70 annually to achieve parity will generate approximately \$378,701 in annual revenues.

The collection mechanism is already in place as fees are currently collected, but will require periodic adjustment to keep pace with inflation.

Registration fee parity places transportation funding responsibility on vehicle owners who directly benefit from transportation facilities, but does not reflect system usage. Increasing this fee will place a higher burden on those who own light-duty diesel vehicles.

Table 7: Light-Duty Diesel-Gasoline Vehicle Registration Fee Parity Evaluation

Revenue Stream Considerations	
Revenue Potential	Low revenue generation potential. Parity will generate an additional \$378,701 in revenue.
Sustainability	Will require periodic action to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Fee is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect
Consistency with State Goals & Policies	No effect
Equity Considerations	
User & Beneficiary Equity	Direct link to system users, but does not reflect system usage
Income Equity	Will have a higher impact on residents with light-duty diesel vehicles.
Geographic Equity	Burden consistent for all geographies

Vanity Plate Fees

Vanity plates are a component of DMV fees. The 27,587 vanity plates registered in SFY 2015 generated \$1,241,415 in revenue. The revenue potential for vanity plates is low, as each additional \$1 increase will generate \$12,414 in additional revenue.

The collection mechanism is already in place as fees are currently collected, but will require periodic adjustment to keep pace with inflation.

Vanity plate fees place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities, but do not reflect system usage.

Table 8: Vanity Plates Evaluation

Revenue Stream Considerations	
Revenue Potential	Low revenue generation potential. Every \$1 increase will generate an additional \$12,414 in revenue.
Sustainability	Will require periodic action to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Fee is currently in place.

Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect
Consistency with State Goals & Policies	No effect
Equity Considerations	
User & Beneficiary Equity	Direct link to system users, but does not reflect system usage.
Income Equity	No effect anticipated.
Geographic Equity	Burden consistent for all geographies

Safety Violation Fees

Safety violation fees generated \$3,949,670 in revenue for the T-Fund in SFY 2015. The revenue potential for safety violation fees is low as every 1% increase would generate \$39,496 in additional revenue.

The collection mechanism is already in place as taxes are currently collected but will require periodic adjustment to keep pace with inflation.

Safety violation fees place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities. They may have a higher impact on those who face the most difficulty in paying.

Table 9: Safety Violation Fees Evaluation

Revenue Stream Considerations	
Revenue Potential	Low revenue generation potential. Every 1% increase in safety violation fees will generate an additional \$39,496 in revenue.
Sustainability	Will require periodic adjustment to keep pace with inflation
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Fee is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect
Consistency with State Goals & Policies	No effect
Equity Considerations	
User & Beneficiary Equity	Consistent with the user-fee principle.
Income Equity	May have higher burden lower income populations.
Geographic Equity	Burden consistent for all geographies

Purchase & Use Taxes

P&U taxes generated \$64,849,986 in SFY 2015 (the T-fund is allocated two-thirds of P&U revenues, while one-third is allocated to the Education Fund).

The revenue potential for P&U taxes is very high as every 1% increase would generate \$16,212,497 in additional revenue, assuming that all of the increase is allocated to transportation.

The collection mechanism is already in place as fees are currently collected but will require periodic adjustment to keep pace with inflation.

P&U taxes place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities, but do not reflect system usage. One disadvantage of P&U tax increases is the potential negative impact on vehicle sales.

Table 10: Purchase & Use Tax Evaluation

Revenue Stream Considerations	
Revenue Potential	Very high revenue generation potential. Every 1% increase in P& U taxes will generate an additional \$16.2 million in revenue.
Sustainability	Self-adjusts to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Fee is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect
Consistency with State Goals & Policies	May discourage the purchase of newer vehicles.
Equity Considerations	
User & Beneficiary Equity	One-time user fee that does not vary with use.
Income Equity	Could have higher burden on lower income populations.
Geographic Equity	Burden consistent for all geographies

Reduction in P&U Allocation to Education Fund

One-third of P&U revenues are allocated to the Education Fund, totaling approximately \$32.4 million in SFY 2015. Each 1% reduction in P&U funds to the Education Fund (from the total allocation) will yield approximately \$324,000 for transportation. While a 1% reduction is low, the revenue potential is very high for the total amount available (\$32.4 million). The collection mechanism is already in place as taxes are currently collected. Although this option has the

potential to result in a significant amount of funding for the T-Fund, the loss to the Education Fund would have to be offset with other revenue sources.

P&U taxes place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities, but do not reflect system usage.

Table 11: Reduction in P&U Education Fund Allocation Evaluation

Revenue Stream Considerations	
Revenue Potential	High revenue generation potential. Every 1% re-allocated to transportation will generate an additional \$324,000 in revenue. Total potential is \$32.4 million.
Sustainability	Not Applicable
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Fee is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	Not Applicable
Consistency with State Goals & Policies	Inconsistent with education funding policy
Equity Considerations	
User & Beneficiary Equity	Not Applicable
Income Equity	May affect service delivery to low income populations.
Geographic Equity	Burden consistent for all geographies

Reduction in Transportation Fund Allocation to the Department of Public Safety

Approximately \$22.7 million in T-Funds were allocated to the Department of Public Safety (DPS) in SFY 2015. Each 1% reduction in the DPS allocation will generate approximately \$227,000 for transportation Fund (from the total allocation). While a 1% reduction is low, the revenue potential is very high for the total amount available (\$22.7 million).

Although this option has the potential to result in a significant amount of funding for the T-fund, the loss to the Public Safety budget would have to be offset with other revenue sources.

Table 12: Reduction in Transportation Fund Allocation to DPS Evaluation

Revenue Stream Considerations	
Revenue Potential	High revenue generation potential. Every 1% re-allocated to transportation will generate an additional \$227,000 in revenue. Total potential is \$22.7 million.
Sustainability	Not Applicable
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Fee is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	Not Applicable
Consistency with State Goals & Policies	Inconsistent with public safety funding policy
Equity Considerations	
User & Beneficiary Equity	Not Applicable
Income Equity	May affect service delivery to low income populations.
Geographic Equity	Burden consistent for all geographies

NEW REVENUE SOURCES – USER FEE BASED

Vehicle Lease Fee

A vehicle lease fee could be imposed on all leased vehicles to generate transportation revenues. Based on DMV records, there were 38,050 leased vehicles in SFY 2015. Revenue potential from this source is moderate as each \$1 fee on leased vehicles would generate approximately \$38,050 annually.

The mechanism to collect vehicle lease fee revenue does not currently exist, and would have to be established. The fee would also need to be adjusted periodically to keep pace with inflation.

Vehicle lease fees place transportation funding responsibility on vehicle owners who directly benefit from transportation improvements, but do not reflect system usage.

Table 13: Vehicle Lease Fee Evaluation

Revenue Stream Considerations	
Revenue Potential	Moderate revenue generation potential. Every \$1 tax on a leased vehicle dollar will generate \$38,050 in revenue.
Sustainability	Will require periodic action to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Directly tied to transportation use.
Ease/Cost of Implementation & Administration	New collection mechanism would need to be developed.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect.
Consistency with State Goals & Policies	No effect.
Equity Considerations	
User & Beneficiary Equity	Consistent with the user-fee principle.
Income Equity	Burden on lower income populations unlikely.
Geographic Equity	Burden consistent for all geographies

Ad Valorem Fees

Ad valorem fees (or vehicle property fees) are typically imposed annually during vehicle registration, and based on the value of a vehicle. Some states use variations of this fee, including to supplement base vehicle license fees, or as a revenue-generating mechanism for municipal governments.

New Hampshire imposes ad-valorem fees in a two-stage process. The registration fees calculated by the value of a vehicle are paid to the municipality where the applicant resides, and the state fees are calculated by the weight of the vehicle. In SFY 2015, town and state registration fees in New Hampshire totaled \$303,575,500 based on 1,493,363 registered vehicles – \$231,279,318 for municipalities, and \$72,296,182 for the state. This equates to an average of approximately \$203 per vehicle. Assuming a relatively similar vehicle mix, Vermont’s 723,269 registered vehicles could generate approximately \$147,028,364 annually. This represents a \$66,918,334 increase over currently collected DMV fees. The revenue potential for this fee is very high.

The mechanism to collect ad valorem fees does not currently exist, and would have to be established.

Ad Valorem fees place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities, but do not reflect system usage. Implementing this type of fee may discourage vehicle sales, particularly newer models where ad valorem fees would be highest.

Table 14: Ad Valorem Fee Evaluation

Revenue Stream Considerations	
Revenue Potential	Very high revenue generation potential; Approximately \$66.9 million above currently collected vehicle registration fees
Sustainability	Self-adjusting to keep pace with inflation
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Applicable statewide.
Ease/Cost of Implementation & Administration	New collection mechanism would need to be developed.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect.
Consistency with State Goals & Policies	No effect
Equity Considerations	
User & Beneficiary Equity	Not Applicable
Income Equity	Significant burden on low income populations unlikely.
Geographic Equity	Burden consistent for all geographies

Auto Parts Tax Allocation to the Transportation Fund

According to the U.S. Census bureau survey of National Retail Sales, sales of auto parts, accessories and tires (APAT, NAICS Code 4413) comprise on average 2.11% of the value of total retail sales. Assuming Vermont retail sales are comparable to the national average, \$4.85 million of the \$229.9 million in sales tax collected by Vermont in SFY14 was attributable to APAT sales. APAT does not include data from retailers such as Sears or Walmart, and is therefore a conservative estimate. The Legislature could allocate APAT tax revenue to the transportation fund. Revenue potential from this new source would be high as it would generate \$4.85 million in revenue annually.

Sales tax revenue is currently collected by the Department of Taxes, and is self-adjusting for inflation.

Auto parts place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities. This diversion reflects system use to some extent system because auto parts wear down and must be replaced based on use.

Table 15: Auto Parts Allocation to the Transportation Fund

Revenue Stream Considerations	
Revenue Potential	High revenue generation potential. Will generate \$4.85 million in revenue.
Sustainability	Self-adjusting to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Directly tied to transportation infrastructure.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect.
Consistency with State Goals & Policies	Inconsistent with funding policy for non-transportation priorities.
Equity Considerations	
User & Beneficiary Equity	Consistent with the user-fee principle.
Income Equity	May affect service delivery to low income populations.
Geographic Equity	Burden consistent for all geographies

Auto Insurance Taxes Allocated to the T-Fund

According to the National Association of Insurance Commissioners Statistical Report, Vermonters paid \$251.4 million in liability and collision insurance premiums in 2012. A 1% tax added to insurance premiums would generate approximately \$2.5 million annually, making it a moderate revenue source.

The collection mechanism is already in place as taxes are currently collected, and the tax is self-adjusting to keep pace with inflation.

Auto-insurance taxes place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities, and reflect system usage to some extent as insurance prices are typically based on VMT and driver behavior.

Table 16: Auto-Insurance Allocation to the Transportation Fund Tax Evaluation

Revenue Stream Considerations	
Revenue Potential	Moderate revenue generation potential. Every 1% tax will generate an additional \$2.5 million in revenue.
Sustainability	Self-adjusting to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	

Appropriateness for State Use	Directly tied to transportation infrastructure.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	No effect
Consistency with State Goals & Policies	No effect
Equity Considerations	
User & Beneficiary Equity	Consistent with the user-fee principle.
Income Equity	No significant effect anticipated.
Geographic Equity	Burden consistent for all geographies

Bicycle Registration Fees

According to the National Bicycle Dealers Association, 12,400,000 20" and above wheel size bicycles were sold nationwide in 2014. Assuming that bicycle sales in Vermont were consistent with the state's share of the nation's population, an estimated 24,800 bicycles were sold. Each \$1 registration fee imposed on bicycles would generate \$24,800, making it a low revenue source.

The collection mechanism is not currently in place and would need to be developed. This fee would need to be periodically adjusted to keep pace with inflation.

Bicycle registration fees place transportation funding responsibility on system users who directly benefit from transportation facilities, but do not reflect system usage. Depending on the fee structure, they could have a negative impact on those who face the most difficulty in paying.

There are other potential negative consequences associated with a bicycle registration fees. They may result in reduced bicycle sales, particularly for recreational bicyclists. This would, in turn, have negative effects on various state health, land use, energy, and transportation policies.

Table 17: Bicycle Registration Fees Evaluation

Revenue Stream Considerations	
Revenue Potential	Low revenue generation potential. Every \$1 fee will generate an additional \$24,800 in revenue.
Sustainability	Will require periodic action to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Directly tied to transportation infrastructure.
Ease/Cost of Implementation & Administration	New collection mechanism would need to be developed.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	May result in reduced bicycle usage

Consistency with State Goals & Policies	Inconsistent with state health, land use, energy, and transportation policies.
Equity Considerations	
User & Beneficiary Equity	Consistent with the user-fee principle.
Income Equity	Could have negative impact on low income populations.
Geographic Equity	Burden consistent for all geographies

Electric Vehicle Fees

There are 1,046 electric vehicles registered in Vermont. Each \$1 registration fee imposed on electric vehicles would generate \$1,046, making it a low revenue source. However, the potential is higher if the number of electric vehicles increases substantially in the future.

The collection mechanism does not currently exist and would need to be developed. This fee would need to be periodically adjusted to keep pace with inflation.

Electric vehicle fees place transportation funding responsibility on vehicle owners who directly benefit from transportation facilities, but do not reflect system usage.

There are potential negative consequences associated with electric vehicle fees. They may result in lower vehicle sales and would conflict with state and federal policies in place to promote their use.

Table 18: Electric Vehicle Fees Evaluation

Revenue Stream Considerations	
Revenue Potential	Low revenue generation potential at present. Every \$1 fee will generate an additional \$1,048 in revenue.
Sustainability	Will require periodic action to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Directly tied to transportation infrastructure.
Ease/Cost of Implementation & Administration	New collection mechanism would need to be developed.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	May result in reduced electric vehicle purchases.
Consistency with State Goals & Policies	Inconsistent with state health, energy, and transportation policies.
Equity Considerations	
User & Beneficiary Equity	Consistent with the user-fee principle.

Income Equity	No significant effect anticipated.
Geographic Equity	Burden consistent for all geographies.

Vehicle Miles Traveled Fee

VMT fees (also referred to as mileage-based user fees), have emerged as an alternative to motor fuel taxes. User fees have been the foundation for highway programs for over half a century. To support transportation construction, operations, and maintenance, all states and the federal government currently collect taxes on the consumption of motor fuel, which is strongly correlated with the use of the transportation system. However, average fuel economy for automobiles, other light-duty vehicles, and trucks is projected to increase substantially in coming years, thereby reducing state and federal transportation revenues. In addition, vehicles powered by alternative fuels, hybrid vehicles, and electric vehicles will pay little or no motor fuel tax. Given that reality, the current transportation funding structure will not be sustainable in the long run.

Motor fuel use per mile of travel may decline as much as 50% over the next 25 years, as greater fuel efficiency is achieved due to increased fuel efficiency standards and mandates³. Federal fuel economy standards adopted in August 2012 mandate an average fuel economy of 54.5 miles per gallon for the 2025 model year⁴.

Implementing a VMT fee system will be technologically, administratively, and politically complex. VMT user fees are far from accepted or well understood by the general public, legislators, and transportation professionals. There are no general purpose mileage-based user fees in any U.S. jurisdiction, and state policymakers would have to consider many factors in shifting to a VMT fee system. These include:

- How to enroll vehicles
- How to collect the VMT revenues
- How to collect revenue from non-residents travelling in Vermont and share revenue across state lines for Vermonters travelling in other parts of the country
- How to develop the functional and technical requirements of the system; and
- How to develop authorizing legislation

Costs associated with administering a VMT fee system are uncertain for a number of reasons. The implementation is likely to occur well in the future, and involve many unknowns about available

³ Page 13, http://i95coalition.org/i95/Portals/0/Public_Files/pm/reports/I-95CC%20ConOps%20for%20Administration%20of%20MBUF%20in%20a%20Multistate%20Environment%202012_04.pdf

⁴ <http://www.epa.gov/fueleconomy/regulations.htm>

future technologies and what they will cost. The NCHRP report on “Costs of Alternative Revenue-Generation Systems”⁵ estimated that, if implemented now, average administrative and collection costs for motor fuel taxes to be just under 1% of total fuel tax revenues, compared to a lowest percentage of 4.1% for mileage-based user fees.

Were Vermont to shift from a fuel tax to a VMT fee (on its own) in the long run, revenues equivalencies would be needed. AOT staff calculated that the shift would translate to approximately 1.52 cents for every vehicle mile traveled. This calculation was arrived at by determining annual VMT (7,059,200,000) minus the portion of VMT that is non-resident (10% according to data contained in the Vermont Travel Demand Model). The resident VMT of 6,353,280,000 was then divided by the total revenue from state gasoline and diesel taxes, and TIB assessments (\$96,773,725) in SFY 2015, which translates into 1.52 cents per mile traveled.

If all state transportation revenues (\$261.4 million) were to be converted to a vehicle mile traveled fee, then using the same calculation, the VMT fee would be 4.1 cents per mile traveled.

Shifting from a tax on gasoline and diesel consumption to VMT would not by itself generate more revenue. For additional revenue to be generated, the VMT fee will need to be increased. For every \$0.01 increase above the revenue neutral benchmark, a VMT fee would generate approximately \$63,532,800 million.

Table 19: VMT Fee Evaluation

Revenue Stream Considerations	
Revenue Potential	Very high revenue generation potential if adjusted above the revenue neutral equivalent of current funding sources. \$0.01 per mile generates \$63.5 million per year.
Sustainability	Stable but could decline if VMT decreases.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	May requires multi-state implementation and related agreements
Ease/Cost of Implementation & Administration	Highly difficult to implement and administer.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	Variation in per mile fees by time of day, or by area, may be used to influence travel choices
Consistency with State Goals & Policies	May result in lower driving rates; Would exempt out-of-state drivers from contributing if Vermont implements this on its own.
Equity Considerations	
User & Beneficiary Equity	Direct link to system users but excludes out-of-state drivers from paying if Vermont implements this on its own.

⁵ http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_689.pdf

Income Equity	Moderate impact to lower income population groups.
Geographic Equity	May impose higher burden on rural residents who drive more.

NEW REVENUE SOURCES – BROAD BASED

General Fund Revenues Allocation to T-Fund

General Fund revenues totaled \$1,378,753,727 in SFY 2015. The State could allocate a portion of general fund revenues to the T-Fund. The revenue potential is very high as every 1% allocated would generate \$13,787,538 in additional revenue.

The collection mechanism is already in place as revenues are currently collected and are self-adjusting to keep pace with inflation.

General funds are broad-based revenues that are not directly tied to transportation facilities, and do not reflect system usage. One disadvantage of general funds allocation to transportation is the potential negative impact on other state funding priorities.

Table 20: Allocating General Funds to the Transportation Fund Evaluation

Revenue Stream Considerations	
Revenue Potential	Very high revenue generation potential. Every 1% allocated will generate an additional \$13.8 million in revenue.
Sustainability	Self adjusts to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Revenue collection is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	Broadens the funding of transportation to all taxpayers.
Consistency with State Goals & Policies	Inconsistent with other state funding priorities
Equity Considerations	
User & Beneficiary Equity	Inconsistent with the user-fee principle
Income Equity	May affect service delivery to low income populations.
Geographic Equity	Burden consistent for all geographies

Sales Tax Allocation to T-Fund

The existing 6% sales tax generated \$229,900,000 in revenues in SFY 2015. The State could allocate a portion of sales tax revenues to the T-Fund. The revenue potential is moderate as every 1% allocated would generate \$2,299,000 in additional revenue.

The collection mechanism is already in place as revenues are currently collected and are self-adjusting to keep pace with inflation.

Sales taxes are broad-based revenues that are not directly tied to transportation facilities, and do not reflect system usage. One disadvantage of sales tax allocation to transportation is the potential negative impact on other state funding priorities.

Table 21: Allocated Sales Tax Evaluation

Revenue Stream Considerations	
Revenue Potential	Moderate revenue generation potential. Every 1% allocated will generate an additional \$2,299,000 million in revenue.
Sustainability	Self adjusts to keep pace with inflation.
Flexibility	Revenue generated can be used without restrictions.
Implementation & Administration	
Appropriateness for State Use	Revenue collection is currently in place.
Ease/Cost of Implementation & Administration	Currently administered.
Economic Efficiency & Impact	
Promotion of Efficient Use & Investment	Broadens the funding of transportation to all purchasers of goods and services.
Consistency with State Goals & Policies	Inconsistent with other state funding priorities.
Equity Considerations	
User & Beneficiary Equity	Inconsistent with the user-fee principle.
Income Equity	May affect service delivery to low income populations.
Geographic Equity	Burden consistent for all geographies

4.3 Funding Options Requiring Further Evaluation

The following transportation funding options will require additional evaluation due to their complexity and/or insufficient data to conduct analyses. Some are not feasible due to technical and legal considerations.

- **Indexing All Non-Motor Vehicle Fuel Taxes / Fees to Inflation:** Will require developing elasticity analysis to determine impacts on revenues.

- **Pegging Registration Fees to MPG:** Will require developing a fee schedule linked to MPG.
- **State Fees on Municipal Parking Meters:** Will require inventory of all municipal parking spaces and revenues.
- **Parking Space Fees:** Will require developing inventories of surfaces used for parking.
- **Development Impact Fees:** Will require developing methodology to determine revenue potential.
- **Transportation Facilities Lease Revenue:** Will require developing fee schedules for various types of transportation infrastructure, facilities, and properties.
- **Privatizing Transportation Facilities:** Will require market studies to develop value of facilities for sale.
- **Tolling:** The minimum amount of daily traffic for tolls to be feasible is generally regarded as 30,000 vehicles per day. Cost factors include the cost of constructing toll facilities, and ongoing operations and maintenance. Using the 30,000 threshold, only a small portion of I-89 in Chittenden County would qualify, rendering the concept unworkable in the vast majority of the state.
- **Freight Waybill Tax (or bill of lading tax):** The State does not keep records of freight movements and would therefore be difficult to administer. It also unclear whether enough freight is shipped in Vermont to raise sufficient revenues.
- **Weight & Distance Tax:** Freight-related taxes imposed based on either the weight of freight moved (a ton-freight tax) or as a function of both weight and distance (a ton-mile tax). Vermont does not keep records of the commodity data needed to impose such as tax, and would therefore be difficult to administer. It also unclear whether enough freight is shipped in Vermont to raise sufficient revenues.
- **Purchase & Use Taxes for “In-Transit” Registration:** This option would charge the 6% P&U tax on vehicles purchased in Vermont but registered in another state. This tax would likely violate the commerce clause contained in *Barringer v. Griffes*, 1 F.3d 1331 (2d Cir. 1993).

4.4 Revenue Options Summary

Table 22 summarizes the revenue potential of each option.

Table 22: Summary of Revenue Generation Potential

Revenue Option	Existing	Revenue Potential
Vehicle Inspection Fees	\$5 per inspection	\$723,269 for every \$1 increase
Vehicle Rental Tax	9% (6% for transportation)	\$478,106 for every 1% increase
DMV Fees	\$80.1 million	\$800,110 for each 1% increase
Heavy Vehicle Registration Fees	\$1,441-\$4,375	\$5,072 for every \$1 increase
Truck Gross Vehicle Weight Registration Fees	Varies with weight	\$3.5 million annually
Light-Duty Diesel-Gasoline Registration Fee Parity	\$70 (gas), \$27 (diesel)	\$378,701 for parity
Vanity Plate fees	\$45	\$12,414 for every \$1 increase
Safety Violation Fees	variable	\$39,496 for every 1% increase
Purchase & Use Tax	6% (2% to Education Fund, 4% to T-Fund)	\$16.2 million for 1% increase (from 6% to 7%, assuming all of the increase is dedicated to the transportation fund)
Reduction in P&U Allocation to Ed. Fund	\$32.4 million	\$324,000 for every 1% reduction
Reduction in Allocation to Dept of Public Safety	\$22.7 million	\$227,000 for every 1% reduction
Vehicle Lease Fee	None	\$38,050 for every \$1 charged
Ad Valorem Fees	None	\$66.9 million above current registration fees
Auto Parts Allocation to T-Fund	None	\$4.85 million if allocated
Auto insurance Allocation to T-Fund	None	\$2.5 million for every 1% allocated
Bicycle Registration Fees	None	\$24,800 for each \$1 charged
Electric Vehicle Fees	None	\$1,046 for each \$1 charged
VMT Fees	None	\$63.5 million for every 1 cent above revenue neutral figure
General Fund Allocation to T-Fund	None	\$13.7 million for every 1% allocated
Personal Income Tax Allocation to T-Fund	None	\$7 million for every 1% allocated
Corporate Tax Allocation to T-Fund	None	\$1.2 million for every 1% allocated
Sales Tax Allocation to T-Fund	None	\$2.3 million for every 1% allocated

5.0 REPORT SUMMARY

This report describes transportation funding in Vermont and presents funding alternatives to motor vehicle fuel taxes.

As federal fuel efficiency standards are phased in over the next decade, and Vermont continues to implement state energy, greenhouse gas emissions, smart growth, and health policies, motor vehicle fuel consumption will likely continue to decline. This will compound a \$240 million transportation funding gap identified in the Section 40 Legislation Funding Study (No. 153, 2012). In the long-run, motor vehicle fuel taxes will likely need to be replaced by more stable revenue sources that are unaffected by fuel consumption.