

## Background & Emphasis Areas:

In 2005 VTrans embarked on a journey to become a recognized leader among all the transportation agencies in the country. To this end, VTrans has embraced four factors that will be critical to its success.

VTrans is aggressively embracing *asset management and project prioritization* in our decision making and have incorporated performance measures and benchmarks in the proposed 2007 budget. The budget includes many projects that were selected by using a transparent and simple prioritization system. This system will evolve over time and remain an integral part of an overall asset management program.

VTrans is renewing its adherence to meeting and honoring our project commitments, internal and external, so that we are respected for *reliable project schedules and costs*. To accomplish this, we recognize the need for and are committed to providing our project teams with the tools necessary to monitor and track ever-evolving project estimates and critical project milestone dates. There are always external factors which influence schedules and costs, but when these changes occur it will be VTrans' responsibility to integrate them and communicate the changes proactively so that revised schedules and budget are not surprises but rather an anticipated and accepted evolution of a project.

Regarding communication, VTrans will heighten the *focus on communication and collaboration* within and across our internal divisions as well as with our external stakeholders, most notably communities and legislators. Management and staff will be asked to increase communications proactively by anticipating needs and fostering more direct and personal contact. VTrans will embrace a framework for staff to provide solutions to problems so that ideas come from all directions and staff levels.

In total, VTrans is *promoting a culture of responsibility* that strives to embrace asset management, improve communications and deliver programs and services in a timely manner. A well-defined and articulated system of performance expectations will continue to improve as we continually learn and find ways to improve our customer service.

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The ideal transportation system uses all types of transport and integrates them in a seamless manner for the user. It allows passengers and freight to move from one place to another in a manner that is quick, efficient, reliable, cost-effective, and easy to use. It allows options, so that if one method of travel is congested or unavailable another method is available. This type of integrated, seamless transportation system is the goal for Vermont.

Despite increasing demands on the transportation budget, allocations for town support remains strong - around \$50 million per year plus state projects that directly benefit towns. Examples are the Agency's pedestrian/bicycle program and state highway work within town centers.

Vermont is a fortunate beneficiary of the recent federal transportation bill, SAFETEA-LU. This will enable Vermont to start to address the transportation backlog; however, many interests compete for a share of available transportation funds and there remains a disparity between needs and available revenue. The question becomes: what is the best balance among the competing interests?

In an ideal environment, everything could be accomplished; however, by necessity we must choose among competing needs based on proven asset management principles. Tough choices are necessary. Several challenges for FY 2007 are:

- Finding state funds to match increased federal money. The state's share of federally funded projects is usually 20% or 10%.
- Base costs are increasing due to the rising cost of construction, fuel, salt, payroll, etc.

- Addressing unmet needs due to deteriorating infrastructure for pavement, bridges, rail, etc.
- Transportation fund performance has come in below the *Consensus JFO and Administration Forecasts*.

Over the next several years, the agency will put more emphasis on the Interstate system. Most of the system is nearing its 40 – 50 year age where major maintenance or rehabilitation is required.

### **Prioritization:**

To help evaluate between competing interests and make tough choices, the Agency developed prioritization methods and formulae for bridges, pavement, roadway, intersections, pedestrian & bike, park & rides and aviation projects.

Prioritization formulas scored the relative importance of each project using many factors- including local/regional priorities – and used the results to select projects for the FY'07 program. The prioritization process will enable the agency to explain in quantifiable terms why a particular project advanced, was delayed, or not chosen. Additionally, the agency will provide an explanation to RPC and local stakeholders if our priorities substantially differ.

Most importantly, we can quantify which projects make the best use of taxpayer dollars when preserving and enhancing the transportation network.

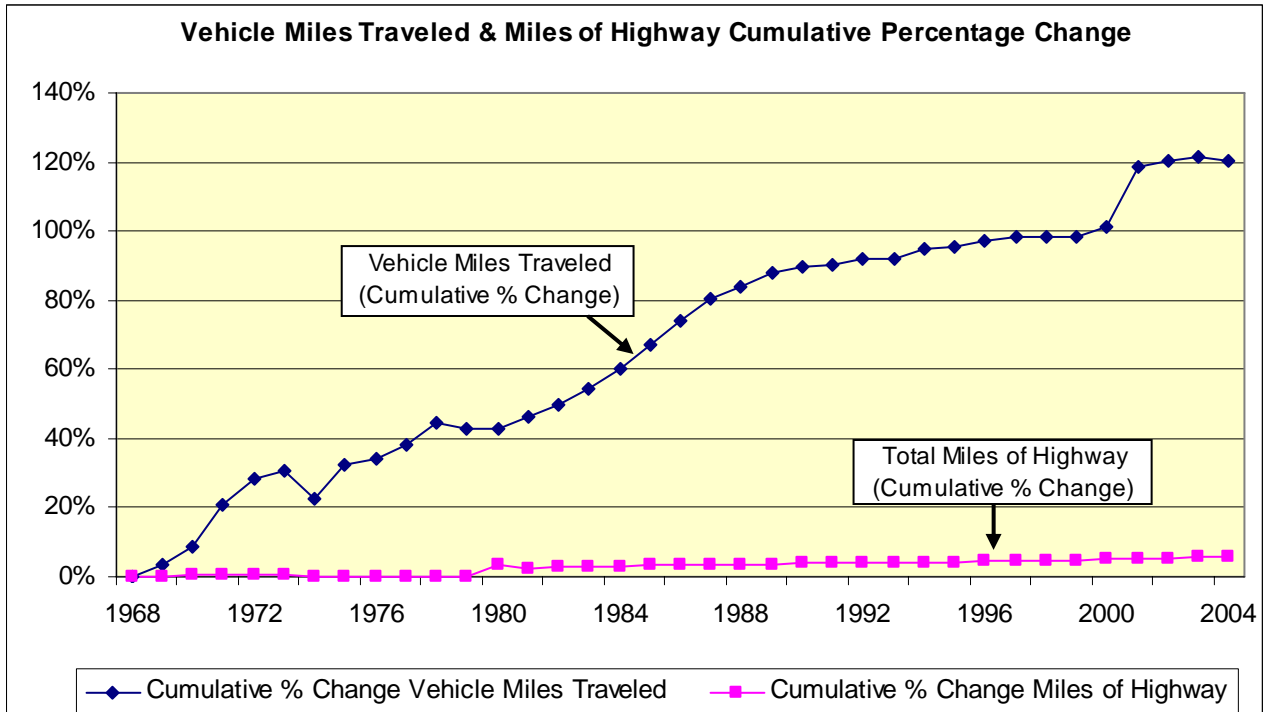
### **Federal Funding and the FY 2007 Program:**

After many delays, Congress passed SAFETEA-LU (the federal transportation bill) in August 2005. Vermont is second in the nation (Alaska is first) in the amount of federal funding we will receive in proportion to the federal payments we make. SAFETEA-LU increases Vermont's FHWA funding by over \$60 million per year through 2009.

This extra funding will allow Vermont to begin to address unmet needs; however, most of the funds are earmarked for specific projects. Though most of these projects match the state's transportation priorities, the Agency is carefully evaluating how to use these additional funds so that the most beneficial projects are accomplished.

## Emphasis Areas:

Most travel in Vermont takes place on our roads and bridges, so maintenance and effective operation of the highway system is a high priority and continues to receive the most emphasis.



Source: VTrans Policy & Planning Division

Note: The sudden jump in VMT in 2000 is due to a more accurate method of calculating travel on local roads.

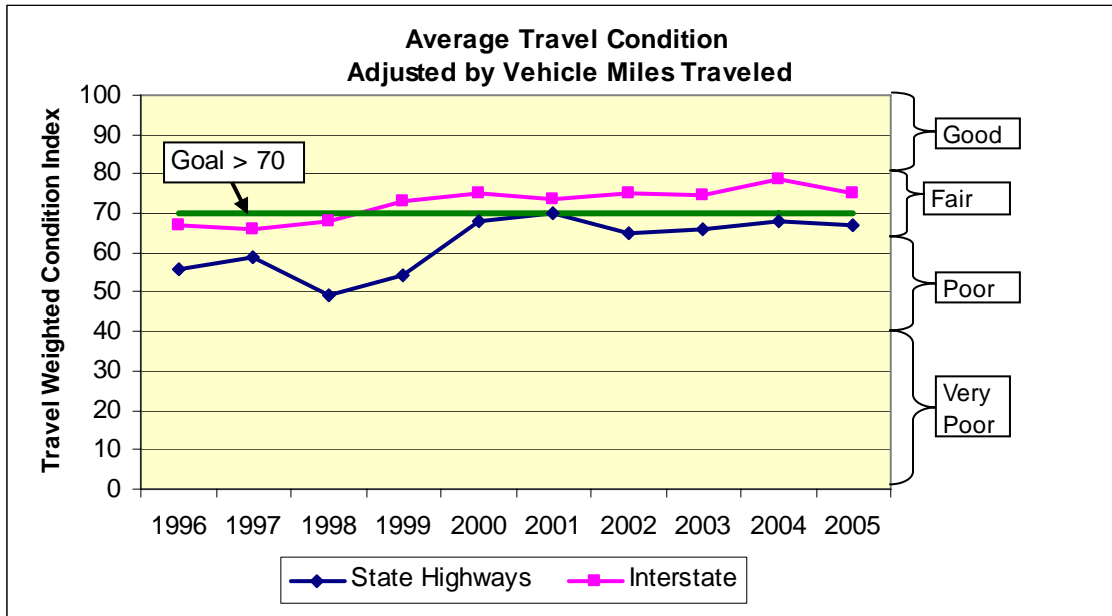
The chart illustrates importance of highways in the Vermont transportation system. Use of the highway network has increased steadily over the years. One common measure is “vehicle miles traveled” (VMT) and it has been increasing across the nation for decades at about twice the rate of population increase (it actually tracks quite well with the Gross National Product). Not only are there more of us, but we all drive more than we used to—and Vermont is no exception to the national trend. The chart shows that the vehicle miles traveled has more than doubled since 1968, but the miles of road has remained roughly the same.

For fiscal year 2007, among all the competing needs, the Agency is emphasizing paving, bridges and roadway projects. The agency is proposing increases over the FY’06 budget by:

Paving	38% to \$55.3 million
Bridge	37% to \$70.7 million
Roadway	43% to \$76.7 million

Since most projects take a number of years to fully implement from concept to completion, funding flexibility is limited by the need to continue work on projects started in previous years. The Agency must also fund the existing maintenance and operations efforts, including staff, buildings, and equipment.

# 1. Pavement



Source: VTrans Program Development Division

VTrans surveys pavement conditions annually and rates them on a scale of 0 to 100 based on rutting, cracking, and roughness. Segments are then weighted by their respective traffic volumes and then are averaged to determine the overall average for Interstates and State Highways combined with Class 1 Town Highways. The current combined condition index goal is 70. A condition index under 60 is noticeable in terms of roughness, rutting and cracking. If pavement problems are not addressed at the correct time, pavement deterioration will accelerate and will lead to more costly repairs in the future.

Pavement				
	Good	Fair	Poor	Very Poor
3200 two lane miles maintained by the State including Interstate, State and US routes, and Class 1 Town Highways.	Like new pavement with few defects perceived by drivers. (Pavement Cond. Index 81-100) <b>19% of Vermont Pavement is good.</b>	Slight rutting, and/or cracking, and/or roughness become noticeable to drivers. (Pavement Cond. Index 65-80) <b>47% of Vermont pavement is fair.</b>	Multiple cracks are apparent, and/or rutting may pull at the wheel, and/or roughness causes drivers to make minor corrections. (Pavement Cond. Index 40-64) <b>24% of Vermont pavement is poor.</b>	Significant cracks may cause potholes, and/or rutting pulls at the vehicle, and/or roughness is uncomfortable to occupants. Drivers may need to correct to avoid road defects. (Pavement Cond. Index 0 - 39) <b>10% of Vermont pavement is very poor.</b>

Source: VTrans Pavement Management Section

The above chart shows pavement condition as perceived by the traveler. VTrans aims to have no more than 20% of the pavement in very poor condition and to provide a minimum level of mobility on all roads regardless

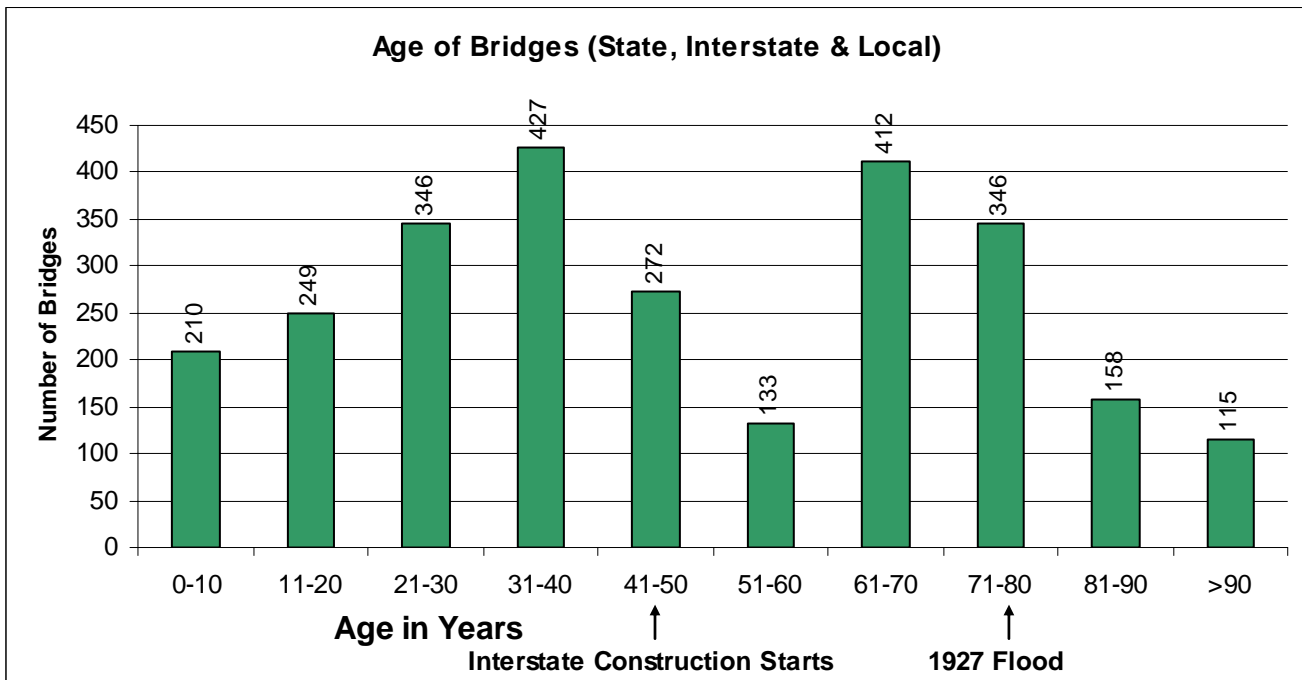
of the traffic volume. To accomplish this, the agency applies the appropriate treatment to prevent pavement deteriorating to a dangerous level.

As in previous budgets, the Agency is once again emphasizing the paving program in FY'07 by increasing the paving program dollars by 38% to \$55.3 million. That will pave 120 lane miles – an increase of 10 miles over the FY'06 projected program. To assure that the paving industry can handle the increased workload, the Agency is focusing on awarding paving contracts during the winter so that projects can start as soon as hot-mix plants open in the spring. Unfortunately, paving costs have increased due to petroleum prices that directly affect the hot-mix and the cost of applying it.

The specific projects are listed in the *FY 2007 Transportation Program*. These projects were prioritized based on regional priorities, highway type, cost per vehicle mile served, and an Agency calculated highway sufficiency rating. Of course, projects that are already underway will be completed regardless of their priority scoring.

**2. Bridges and Large Culverts:**

**Bridges** - Bridges are key links in the roadway system: if a bridge fails or is closed it puts the adjacent sections of roadway out of commission for through traffic. Vermont has 2680 highway bridges over 20 feet in length, many of which are approaching their designed lifespan of approximately 80 years as shown in the chart below. VTrans is responsible for 1077 of these, 40% of the total. State-owned bridges tend to be the largest ones, and the state is responsible for 71% of the total bridge deck area, a more useful measure. In addition to funding for state bridges, a significant amount of state funding is distributed to municipalities for bridge maintenance and replacement.

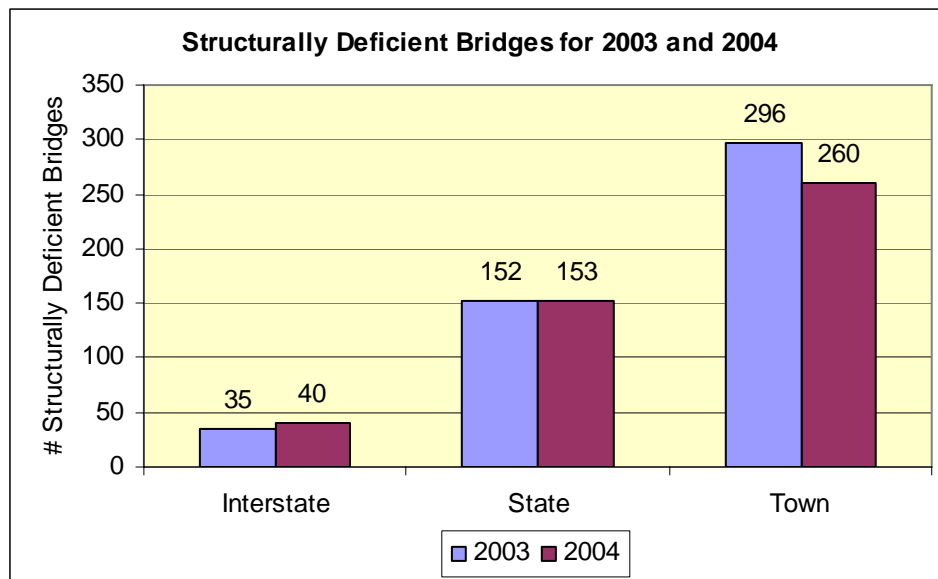


Source: VTrans 2003 Bridge Inventory (2004 Federal Submittal)

Preventive maintenance can be a very effective strategy for bridges and large culverts if problems are identified soon enough. Timely intervention can result in significant long-term savings in replacement costs and the associated disruption to traffic.

Additionally, the state owns 1116 (however, in total, there are 1298 state-owned short structures) large culverts greater than six feet in diameter/width (the measurement is taken along the roadway and is not, unless perpendicular to the roadway, the diameter). In 2002, an Agency culvert committee identified 37 large culverts that need either major repairs or a complete replacement. These large culverts exist on all Interstate and State highways. As with bridges, culvert problems may cause restriction to one lane or closure of the highway. Large culvert repairs can be expensive and disruptive to traffic as evidenced by a recent interstate system culvert replacement in Rockingham that cost \$1.1 million. Early interventions with protective linings or invert repairs are very cost effective and avoid any disruption to the traveling public. The Agency has started replacement and repair culvert programs and will continue to increase it.

A key measure used by the Agency to measure the asset condition is to identify structurally deficient bridges as shown in the graph below:



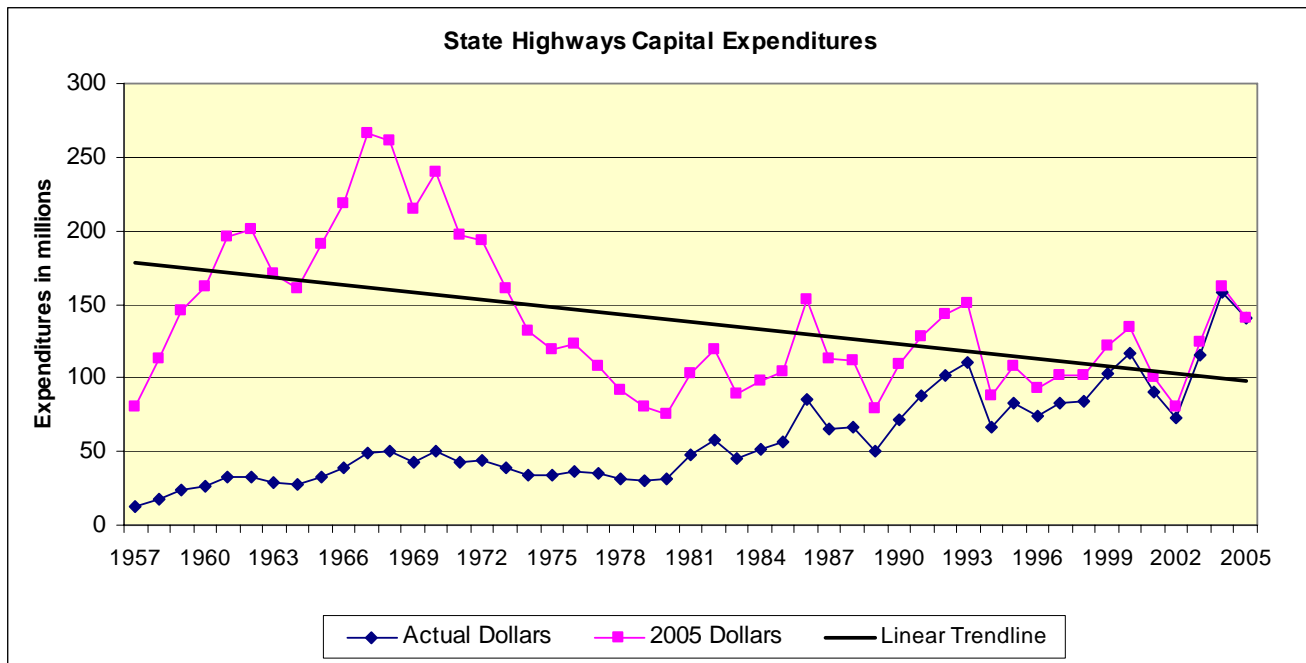
Source: VTrans Structures Section

A structurally deficient bridge occurs when one of the three major components, (deck, superstructure, and substructure) receives a poor condition evaluation rating. Poor condition is characterized by advanced section loss, deterioration, spalling or scour. Most structurally deficient bridges are safe to use, but if left uncorrected, further deterioration may cause the bridge to be posted (reduced capacity) or closed. Nationwide, 13.8% of bridges are structurally deficient. Vermont is above that average at 16.9%.

Many of the federal earmark projects in the recent federal transportation bill were for town bridges. Because of the earmarks, the Agency’s proposed \$70.7 million program will focus on town and state bridges. The above chart shows significant improvement with town bridges; however, interstate bridges continue to deteriorate. The agency is scaling up the interstate bridge program to catch up on delayed projects.

The agency runs the Pontis bridge management system to model bridge deterioration and predict the most cost effective treatment.

### 3. Roadway



Source: VTrans Policy and Planning Division

As shown in the above chart, the Agency's highway capital expenditures have fluctuated widely over the years but has generally declined from the Interstate construction era. Lately it has been driven by large, highly visible projects such as the Missisquoi Bay Bridge, Shelburne Road, Chittenden County Circumferential Highway (Williston Environmental Impact Statement), Bennington Bypass, Pittsford-Brandon US-7 Upgrade, Kennedy Drive and Winooski Downtown.

Many Roadway projects are in the pipeline – more than the Agency can accomplish in the timeframe expected by the legislature and citizens. All of these projects have been prioritized and scored by the agency and by RPCs. Factors that influence Roadway priorities are highway structural condition, highway class, safety, regional/local priorities, cost, and vehicles served. The score will influence which projects move forward although some projects are underway and will proceed to completion.

The Roadway, Traffic and Safety program is responsible for taking the lead for the state's *Strategic Highway Safety Plan* that takes a holistic view of safety by encompassing the 4E's: Engineering, Education, Enforcement and Emergency Services. This ultimate goal of this effort is to work collaboratively with other areas of state government and organizations to substantially reduce the number of fatalities and major crashes on all of Vermont's roads. Highway safety is heavily emphasized in the new federal transportation bill and is a very important consideration in all VTrans projects.

This FY '07 budget includes construction funding to begin work on several of the large projects mentioned above, including the north segment of the Bennington Bypass, two segments of the Pittsford-Brandon project, Hartford US 5 reconstruction as well as reconstruction of I-89 in St. Albans. The Traffic and Safety program includes a number of smaller safety projects that are developed with the intent of implementing safety improvements as quickly as possible. These projects are developed under the *Highway Safety Improvement Plan* that evaluates all high crash locations statewide and generates projects based on their cost/benefit ratio. The Agency anticipates much growth in this area in the coming years.

Road signs greatly enhance the safety of the highway network. They also provide travelers with needed information. There are approximately 6000 signs on the 320 miles of interstate highway. Of these, most are larger versions of standard signs, but a substantial number (500+) are large guide signs, which are costly to replace. In some areas, the existing guide signs are the original installations from the construction of the interstate. There are approximately 75,000 signs on the rest of the state highway network.

Signage along Interstate 91 is emphasized within this program in FY '07. Several large sign replacement projects have been identified for construction from Hartford to St. Johnsbury - nearly 60 miles of new interstate and interchange signing. In addition, there are several projects that have been identified to replace signs along sections of highways that are in the most need.

#### **4. Park and Ride**

***Park and Ride*** - Park and ride facilities are a very cost-effective way of adding capacity to the highway system, and of providing opportunities for transit access. Currently there are 29 park and ride facilities in Vermont. Four more lots will be constructed in FY'07, and many more potential sites have been identified by the regional planning commissions for future consideration. Additionally, the park & ride program upgrades existing facilities every year to satisfy the increasing demand.

The Agency's *Municipal Demonstration Park-and-Ride Grant Program* has proven to be very successful by funding an additional 100 spaces at town owned and maintained facilities. The FY'07 budget requests \$200,000 to continue this successful program.

#### **5. Pedestrian and Bicycle Facilities**

***Pedestrian and Bicycle Facilities*** - Pedestrian and bike facilities (shared use paths, rail trails, bicycle lanes, sidewalks and crosswalks) can play an integral role in supplementing the road system and offering an alternative mode of transportation. VTrans is updating standard engineering specifications, investigating ways to determine usage, and incorporating bike/pedestrian into other VTrans projects. As population density increases in suburban areas, more residents are utilizing bicycle/pedestrian facilities to travel to work, or to conduct every day business. In rural settings these facilities have developed into an important sector of the economy, providing increased opportunities for bicycle based tourism. In addition, designated pathways and lanes improve safety and decrease the number of interactions between vehicles, pedestrians and cyclists. VTrans, via the Bicycle and Pedestrian Program, has funded the construction of a total of 68 miles of bicycle and pedestrian facilities since 1993.

The federal transportation bill funds a *Safe Routes to School program*. Much of this will be for pedestrian facilities.

#### **1. Maintenance**

***Highway Operations*** – VTrans is placing greater emphasis on operational improvements that increase the capacity and efficiency of the existing transportation network. Intelligent transportation systems (ITS) are becoming increasingly important, providing better information so travelers can make better decisions about where, when, and how they travel. Cooperative efforts are underway with neighboring state transportation departments, the Vermont Department of Tourism and Marketing, and the Vermont State Police in developing ITS systems including a regional Condition Acquisition and Reporting System (CARS), interactive voice

response for the 511 phone information system, dynamic message signs, low power FM radio, weather forecasting system (Foretell), and roadway weather information systems (RWIS). By the end of calendar year 2005 two RWIS systems were installed on I- 89. More are planned.

Vermont has invested a great deal of money in the transportation system. Ongoing preventive maintenance and system preservation work are necessary to assure that we make the most of this investment:

- For bridges, maintenance includes annual washing to remove salt, repairs to joints to head off larger problems due to the intrusion of water and salt, systematic repainting of structural steel before corrosion sets in, and application of a grease coating where and when appropriate.
- To preserve and extend the life of pavements, cracks must be filled before they get too large. Flushing of underdrain systems and cleaning of ditches and culverts is essential to preserve the roadbed. Thousands of small culverts (under six feet in diameter) pass under the state and interstate highway systems, and these must be systematically repaired and replaced.
- Systematic replacement programs for traffic signs, signal equipment, and highway lighting ensure that components do not fail and cause expensive and disruptive unscheduled maintenance.
- Highway centerlines are renewed annually on all state highways, and other paving markings are done as needed. Clear pavement lines and markings enhances the safety of the entire system.
- It is necessary to plan for the systematic replacement of guardrail as it reaches the end of its useful lifespan.

VTrans owns 407 buildings at the 61 maintenance garage locations around the state, and a fleet of 643 maintenance vehicles and equipment. These buildings, vehicles and equipment require upkeep and maintenance to maximize the assets' useful lives.

## **7. Other Transportation Modes**

**Public Transit** - In order to have a seamless integrated transportation network in Vermont, it is important to address the needs of those who cannot or prefer not to drive an automobile. This includes persons who are physically or developmentally challenged, too young to drive, or too old to drive safely. The primary transportation resource for these travelers is the public transit system. While it is difficult to provide the level of service that would be desirable in the more rural parts of the state, VTrans is committed to funding local transit service providers to supply optimal service levels.

The other major group of transit users is commuters. Once certain levels of demand are reached, public transit can provide environmental and roadway operations benefits in major commuting corridors. The recent success of the Link Express bus service between Burlington and Montpelier is a case in point.

**Aviation** - For aviation, convenient air service is an integral component of the system for moving people and goods and has been determined to be among those criteria reviewed by businesses evaluating Vermont sites.

Fortunately, our aviation assets (essential infrastructure including runways) are in relatively stable, good condition. Our focus needs to be on a continuing a modest level of investment to maintain that condition, and upgrading assets in the future where and when it makes sense for an economic development purpose. The Aviation Section works with stakeholders to prioritize projects at the ten state-owned airports.

Safety and FAA compliance are especially important when prioritizing how to spend aviation dollars. In FY'07 the Agency is proposing a budget of \$11.8 million (\$2.6 million state and \$9.2 million federal) to support aviation in Vermont.

**Rail** – Vermont is unusual in that about half of the active rail lines are state-owned whereas most rail lines in the USA are privately owned. For rail the primary focus is on maintaining and improving our rail infrastructure and encouraging increased use of rail for moving freight efficiently in lieu of trucks. The rail infrastructure must eventually meet the national standard of handling at least 286,000 pound rail cars for Vermont to compete and be accessible on a nationwide scale. This will be essential to support future economic growth and to decrease truck traffic on Vermont highways.

The biggest infrastructure challenge is to upgrade our rail bridges so that they are capable of supporting the higher car weights. Major work needs to be done on a significant number of bridges, and, in conjunction with the Rail Council, the agency is prioritizing rail corridors and bridges in those corridors in order of need.

Another obstacle to moving freight by rail efficiently is clearances. In 2006, the agency will increase clearance in the Bellows Falls tunnel to allow “modified double stack” rail cars. New England Central Railroad estimates an additional 5000 rail cars annually will use this route.

The SAFETEA-LU transportation bill includes about \$50 million for rail in Vermont over several years. For FY'07, the agency is proposing a \$22 million budget that includes over \$13 million in federal funds.

## **6. Department of Motor Vehicles (DMV)**

The Department of Motor Vehicles is responsible for issuing driver's licenses, permits, motor vehicle registrations, boat, snowmobile and trailer registrations, driver licenses suspensions, reinstatements, enforcing commercial trucking regulations, collecting motor fuel taxes for the State of Vermont and providing highway safety training, motorcycle safety training and informational programs.

With over 750,000 active motor vehicle, snowmobile and motorboat registrations and 500,000 licensed drivers DMV has more direct contact with Vermont's citizens than any other division in the Agency. At the core of the Department's mission is providing quality customer service. Specifically DMV has targeted efforts towards meeting customers' two primary interests: 1.) How long they have to wait for their service and 2.) Having access to DMV services closer to where they live.

The Department reduced wait times at all three of its primary customer contact areas of counter operations, mail processing and telephone information. Examples of specific accomplishments are:

**Telephone Information:** DMV improvements have reduced customer telephone-inquiry wait time to one minute even though the number of calls increased 30% to 1200/day. The changes are:

- A new routing system was installed that matches calls to the person with the right skill set.
- Customers receive clearer and more informative messages.
- Three new lines were added

**Counter Operations:** DMV's most visible function – counter operations – has shown dramatic reductions in customer wait-time over the past two years. For example, at its busiest office in Montpelier 98% of all customers were waited on within 45 minutes; in fact 83 % waited 30 minutes or less.

The results for all of DMV's offices for FY05 are shown in the chart below:

Wait Time Intervals

Annual

	0-15	16-30	31-45	46-60	60+	
BENNINGTON	53%	16%	22%	6%	3%	100%
BURLINGTON	51%	22%	11%	7%	9%	100%
MONTPLIER	52%	31%	15%	1%	1%	100%
NEWPORT	55%	23%	16%	5%	1%	100%
RUTLAND	64%	22%	12%	2%	0%	100%
SPRINGFILED	63%	25%	10%	1%	0%	100%
	56.22%	23.28%	14.32%	3.65%	2.53%	100.00%

Mail Processing: This unit handles registration and license mail that arrives every day. For the second consecutive year the Department’s mail processing unit was able to process mail on the same day it was received 99% of the time – all without a single hour of overtime.

DMV customers expect services close to where they live. In FY’05 and FY’06, DMV continued to improve its offerings in this area.

Key accomplishments were:

1. Implementation of self-service kiosks at all DMV offices was completed in October 2005. These kiosks give customers the option to process their registration renewals at each branch and mobile van location, as well as at the Montpelier office and through the mail.
2. The successful *DMV Express* program handles internet and phone menu based services. New capabilities of the DMV Express system are:
  - a. Requesting duplicate registrations
  - b. Renewing motorboat and snowmobile registrations
  - c. Changing your address on file with DMV
3. In June 2005, DMV expanded the highly successful automated driver license testing system to the Rutland DMV office. This system helps DMV administer exams, especially exams in foreign languages.
4. The department expanded services at the Champlain Valley Fair. In addition to photo licenses, services now include duplicate licenses, duplicate registrations, and first time licensing for new residents.
5. Service hours at the Montpelier General Services counter were expanded to include Wednesday morning.

DMV’s emphasis in FY’07 will be the computer systems modernization project. DMV’s current mainframe computer system was developed in the mid 1970’s. The system is now difficult to maintain and cannot easily support new internet based technology. The primary goals of this project are:

1. Improved service to customers through reduced mail processing time, increased availability of on-line information and improved accuracy due to system automation and edits.
2. Improved operational efficiency through an estimated 50% reduction in processing steps through multiple work areas. This reduction will reduce the time it takes to process registrations, licenses, suspensions, plates, etc.
3. Faster accounting of revenue collected.
4. Dramatically improve the availability of driver and vehicle information to the law enforcement community. Immediate updates of registration and license information will significantly enhance the officers’ ability to carry out their duties.

5. Avoid entering the same information in multiple places, thereby saving labor and reducing opportunities for errors.

Presently a contractor has been selected for this project and work is planning to commence early in 2006.