Vermont Agency of Transportation

Performance Measures

March 21, 2005

VTrans has been systematically developing performance measures since 2001. Program managers and Agency leadership have had training on performance measures, seen presentations by other state transportation agencies, attended national peer-group meetings, and participated in the process. A performance measures working group coordinates the development of appropriate measures for each Agency division. The Policy and Planning Division has the overall responsibility for the performance measures effort.

Early work identified hundreds of potential performance measures that could be used to evaluate progress and efficiency in the various parts of the Agency. Using large numbers of measures quickly proved to be unworkable, and subsequent efforts have focused on developing a smaller number of more effective measures.

Starting in state fiscal year 2006, VTrans is using performance measures in preparing the transportation program submitted to the legislature. That document contains selected measures, chosen to help tell a coherent story.

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In 2002, the General Assembly instructed the Agency to begin using an *asset management* approach to transportation investment. This requires VTrans to maximize public benefit by evaluating the best way to maintain and invest in the State's existing transportation system. Performance measures are essential to doing this. As a result, the strategic performance measures are organized according to type of transportation "asset", rather than by Agency departments or programs, and are presented in the following areas:

- Highway
- Aviation
- Public Transportation
- Rail
- Bike/ped
- Maintenance
- Buildings
- Central Garage
- Department of Motor Vehicles

This *Performance Measures* document reports on the strategic measures established by VTrans to indicate how well the state's transportation assets are being managed and maintained. Over time, more performance measures will be added as needed, and others removed when they are no longer applicable. Each performance measure either has a goal, or VTrans is collecting history to develop a goal.

Where possible, VTrans rated the asset condition from "Excellent" to "Very Poor" and explains the meaning of the condition in understandable terms. The asset condition, its importance, and its maintenance requirements influence the budget.

1. Highway Performance Measures

Pavement:

VTrans collects pavement condition information from a specially equipped van that travels the state highways annually. Data on roughness, rutting, and cracking is fed into the Agency's Pavement Management System which calculates a pavement condition index. The index is a measure of the overall pavement quality. It quantifies what motorists feel and other distresses that decision makers need to manage the highway system.

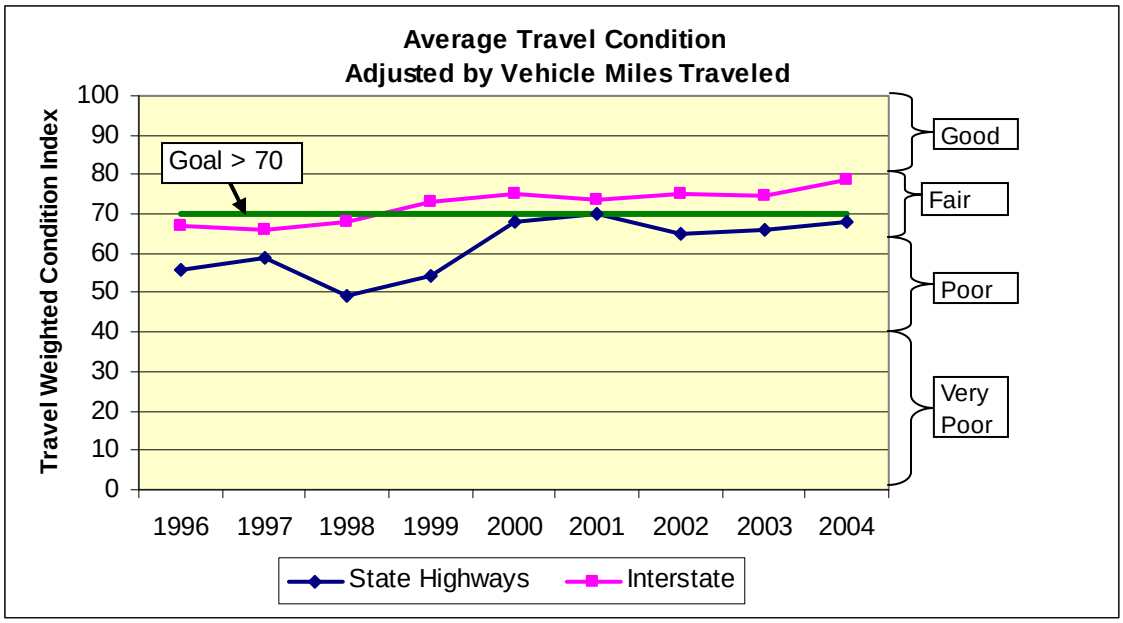
When making paving investment decisions, VTrans places higher priority on highways with greater vehicle miles traveled; however, we also recognize that pavements must be maintained at a certain minimum level in order to provide mobility regardless of traffic volume. The two strategic performance measures described below reflect how well the Agency best serves the traveling public and provides mobility to all.

- **Average travel conditions.**

  Pavement conditions are surveyed annually and rated on a scale of 0 to 100 based on rutting, cracking, and roughness. Highway 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. More importantly, if pavement problems are not addressed at the correct time, pavement deterioration will accelerate and will lead to more costly repairs in the future.

  Interstate highways are held to a higher standard because of greater speeds, traffic volume and safety. VTrans is in the process of developing separate goals for the Interstate.

  In Figure 1 the average travel condition on state highways correlates with the wide variations in pavement funding over the last ten years. The improved conditions since 1999 shows that VTrans' recent emphasis on higher traveled roads is paying dividends to Vermont travelers. Pavement condition is highly sensitive to doing the right treatment at the right time.

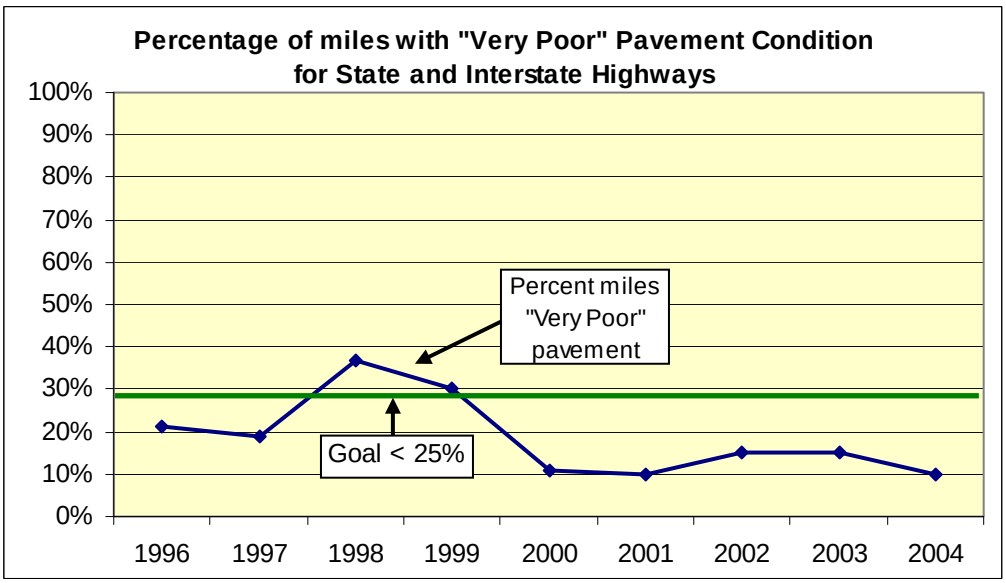


Source: VTrans Pavement Management Section

Figure 1: Average travel condition. "Adjusted by Vehicle Miles Travelled" means that the more heavily traveled roads "count" more when calculating the average condition.

- **Percentage of miles of pavements rated in "very poor" condition.**

  This measures VTrans' ability to provide at least a minimum level of accessibility to all highway users without appreciable discomfort, costs, and risks. "Very poor" is defined as a pavement index of 40 or less that is characterized by severe pavement deterioration and compromised safety and mobility. Although Figure 2 below shows that VTrans has reduced the amount of "very poor" pavement since 1998, we must continue to apply the right pavement treatment at the right time to avoid losing ground.



Source: VTrans Pavement Management Section

Figure 2: Percentage of miles with very poor pavement condition for state and interstate highways

Definitions of "good" through "very poor" pavement conditions are as follows:

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) **27% of Vermont Pavement is good.**	Slight rutting, and/or cracking, and/or roughness become noticeable to drivers. (Pavement Cond. Index 65-80) **38% of Vermont pavement is fair.**	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) **25% of Vermont pavement is poor.**	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) **10% of Vermont pavement is very poor.**

Source: VTrans Pavement Management Section

Bridge System:

VTrans is responsible for 2668 "long" bridges (>20 feet) which are inspected at least every other year and reported to the FHWA for the National Bridge Inventory. Timely preventative maintenance can add years to the life of a bridge.

- **Percent change in structurally deficient bridges longer than 20 feet**

  A structurally deficient bridge occurs when one of the three major components (deck, superstructure, and substructure) receives a poor condition evaluation rating, or the waterway capacity is inadequate. Poor condition is characterized by deterioration, spalling, scour, and advanced section loss. Most structurally deficient bridges are safe to use, but if left uncorrected, further deterioration may cause the bridge to be posted for reduced weight or closed. Nationwide, 13.8% of bridges are structurally deficient. Vermont is above that average at 18.1%.

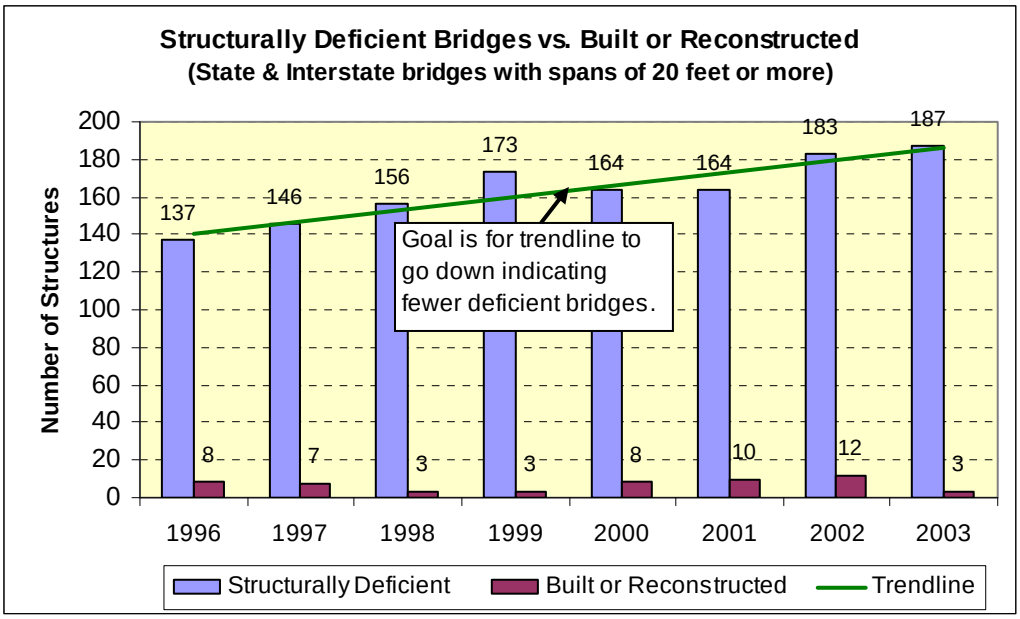
  The table below shows the number of structurally deficient bridges and the percent change in that number. The Agency needs to reduce the number of deficient bridges through timely maintenance, rehabilitation and reconstruction.

Number of Statewide Structurally Deficient Bridges (as inspected by VTrans)

	2002 Values		2003 Values		% Change
Interstate	35 of 313	11.2%	35 of 313	11.2%	**+0.0%**
State/Non-Interstate	148 of 759	19.5%	152 of 759	20.0%	**+2.6%**
Local/Private*	306 of 1592	19.2%	296 of 1596	18.5%	**-3.6%**
Total	489 of 2664	18.4%	483 of 2668	18.1%	**-1.6%**
National Average		14.2%		13.8%	

**(Local value includes 5 privately owned and maintained bridges)*
Source: 2003 Values Based on VTrans 2003 Bridge Inventory (2004 Federal Submittal)
Source: 2002 Values Based on VTrans 2002 Bridge Inventory (2003 Federal Submittal)

Figure 3 measures VTrans' ability to meet the goal of reducing the number of state-owned structurally deficient bridges every year. It shows that the Agency is losing ground. (Town bridges are not included in the figures.)



Source: VTrans Structures Section

Figure 3: Structurally Deficient Bridges vs. Built or Reconstructed

The Agency has established standard definitions to gauge the overall bridge condition in the State. This recognizes that there will always be a number of deficient bridges, but timely maintenance is needed to minimize that number. The definitions of "excellent" through "very poor" are shown in the table below. Note that the Interstate system is held to a higher standard than other systems.

Bridge (Interstate)					
	Excellent	**Good**	**Fair**	**Poor**	**Very Poor**
313 Interstate Bridges	Fewer than 2% of bridges are structurally deficient (<7 Interstate bridges)	2% to <4% of bridges are structurally deficient (7 to 12 Interstate bridges)	4% to <7% of bridges are structurally deficient (13 to 22 Interstate bridges)	7% to <12% of bridges are structurally deficient (23to 38 Interstate bridges) **35 Interstate bridges are structurally deficient today.**	12% or more of bridges are structurally deficient (39 or more Interstate bridges)
Bridge (State)					
759 State Bridges	Fewer than 7% of bridges are structurally deficient (<54 bridges)	7% to <11% of bridges are structurally deficient (54 to 83 bridges)	11% to <16% of bridges are structurally deficient (84 to 121 bridges)	16% to <20% of bridges are structurally deficient (122 to 151 bridges)	20% or more of bridges are structurally deficient (152 or more bridges) **152 state bridges are structurally deficient today.**
Bridge (Town)					
1596 Town Bridges	Fewer than 7% of bridges are structurally deficient (<111 bridges)	7% to <11% of bridges are structurally deficient (112 to 175 bridges)	11% to <16% of bridges are structurally deficient (176 to 255 bridges)	16% to <20% of bridges are structurally deficient (256 to 319 bridges) **296 town bridges are structurally deficient today.**	20% or more of bridges are structurally deficient (320 or more bridges)

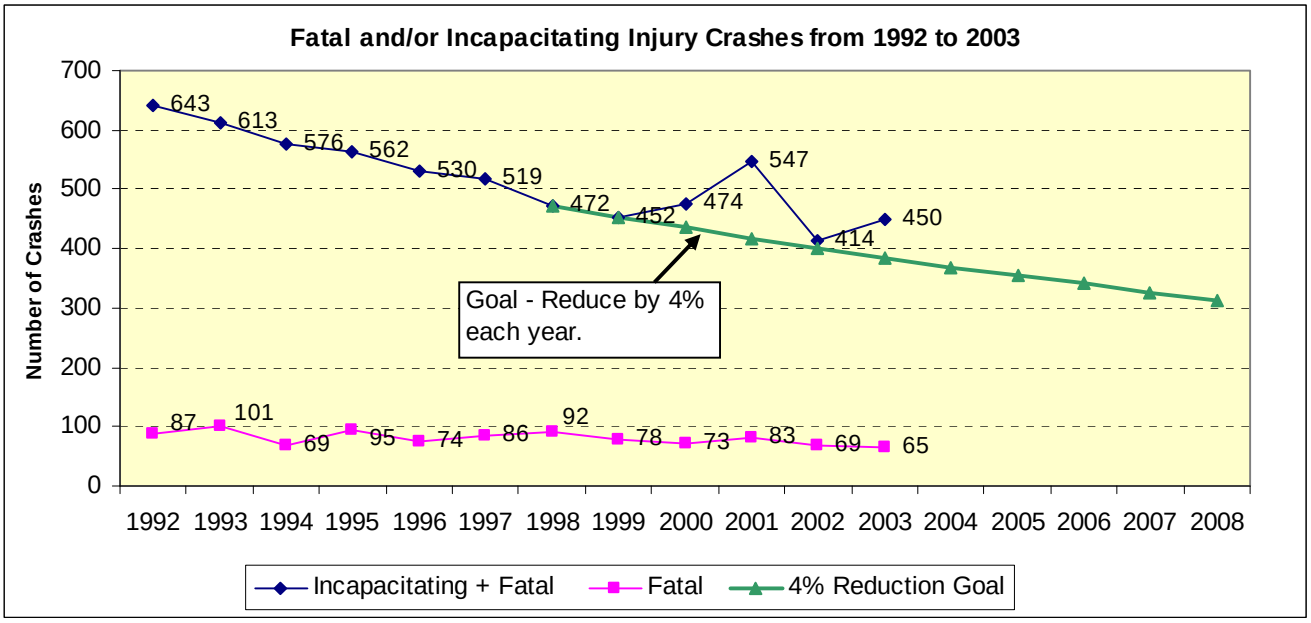
Source: VTrans Structures Section

Crash and Safety Program:

Highway safety is an integral part of the Agency's activities. The Agency collects statistics on thousands of crashes, and solicits input from other sources including law enforcement, town officials, and District staff. That information is part of the Highway Safety Improvement Program that seeks to maximize safety improvements with limited dollars. Highway safety considerations are an important factor in engineering decisions, maintenance activities, permitting, and traffic operations. The Traffic Operations Unit has developed two strategic measures that indicate how well VTrans is accomplishing this important function.

- **Reduce fatal plus incapacitating crashes by 4% per year through 2008**

  Crashes involving a fatality and/or incapacitating injury account for the greatest impact in terms of human suffering and economic loss. The measure tells us that between 1992 and 2003 there has been general decline of severe crashes causing injuries. Fatal crashes, however, have tracked relatively steady. Vermont's 2002 fatality rate was 1.03 fatalities per hundred million vehicle miles traveled. The national average is 1.51 fatalities. (Note that Figure 4 reports on the number of crashes rather than the number of people affected.)



Source: VTrans Traffic Operations Section

Figure 4: Fatal and/or incapacitating crashes from 1992 to 2003

- **Percent of high-priority safety needs addressed**

  One reason for the decline in crashes is the Highway Safety Improvement Program (HSIP) that identifies, prioritizes and addresses highway safety problems for approximately fifty locations annually. Where practical, safety improvements are identified for either VTrans or towns to implement. Solutions range from inexpensive signs and pavement markings to expensive capital projects such as roadway realignment.

  In addition to the VTrans efforts, the Governor's Highway Safety Program focuses on education, seat belt usage, enforcement, younger drivers and alcohol abuse.

  VTrans identifies safety issues on both state and town roads. The table below shows that VTrans is striving towards the 100% goal on state roads. On town roads, however, VTrans only acts as an advisor.

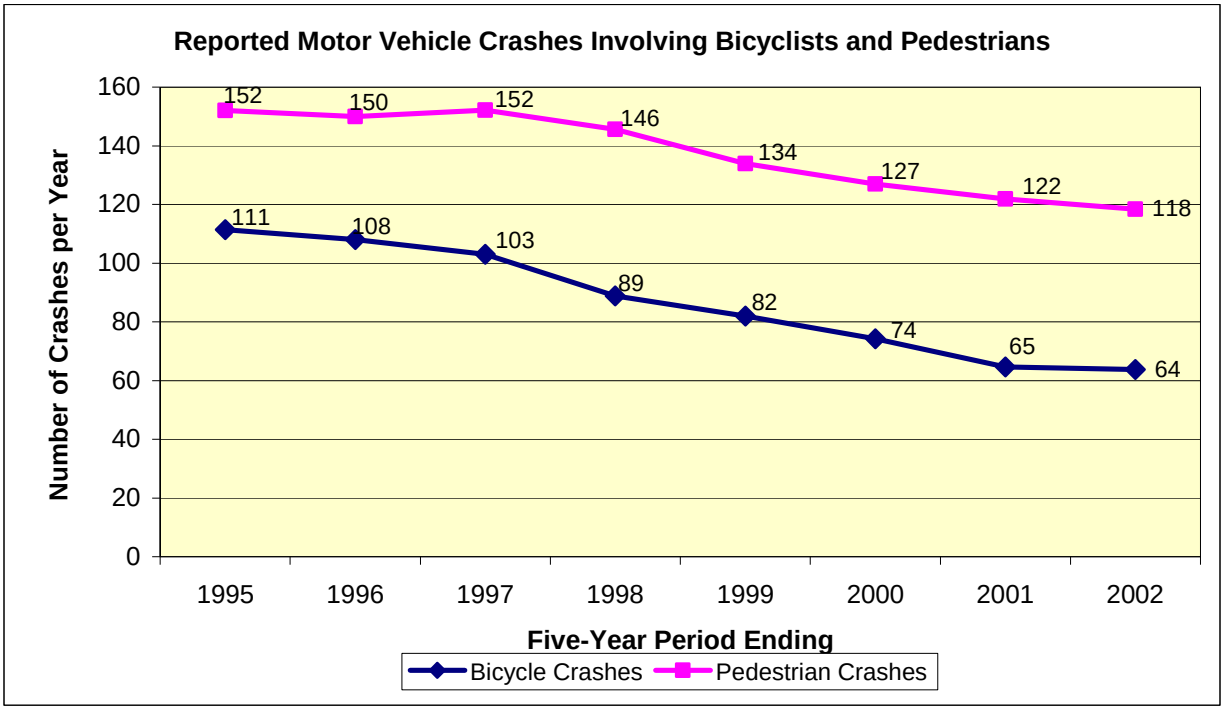
Number & Percentage of High Priority Safety Needs Addressed for FY'04 Goal – 100%	
State Roads	**Town Roads**
16 addressed out of 21 = **76%**	3 addressed out of 23 = **13%**

Bicycle/Pedestrian Program:

Recognizing that bike and pedestrian facilities (shared use paths, rail trails, bicycle lanes, and sidewalks) can play an integral role in offering an alternative mode of transportation, VTrans is continuing to plan and integrate these assets into a comprehensive transportation strategy. Staff 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, bike paths and bike friendly highways 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 crashes between vehicles, pedestrians and cyclists as tracked in Figure 5. VTrans, via the Bicycle and Pedestrian Program, has funded the construction of a total of 66 miles of bicycle and pedestrian facilities since 1993 as shown in Figure 6.

- **Reported motor vehicle crashes involving bicyclists & pedestrians**

  The measure indicates the change in reported crashes involving motor vehicles and pedestrians and/or bicyclists over time. This measure will enable VTrans to track the number of incidents to determine whether providing facilities and bicycle/pedestrian education are resulting in greater overall safety. Figure 5 reflects the five-year rolling average of crashes.

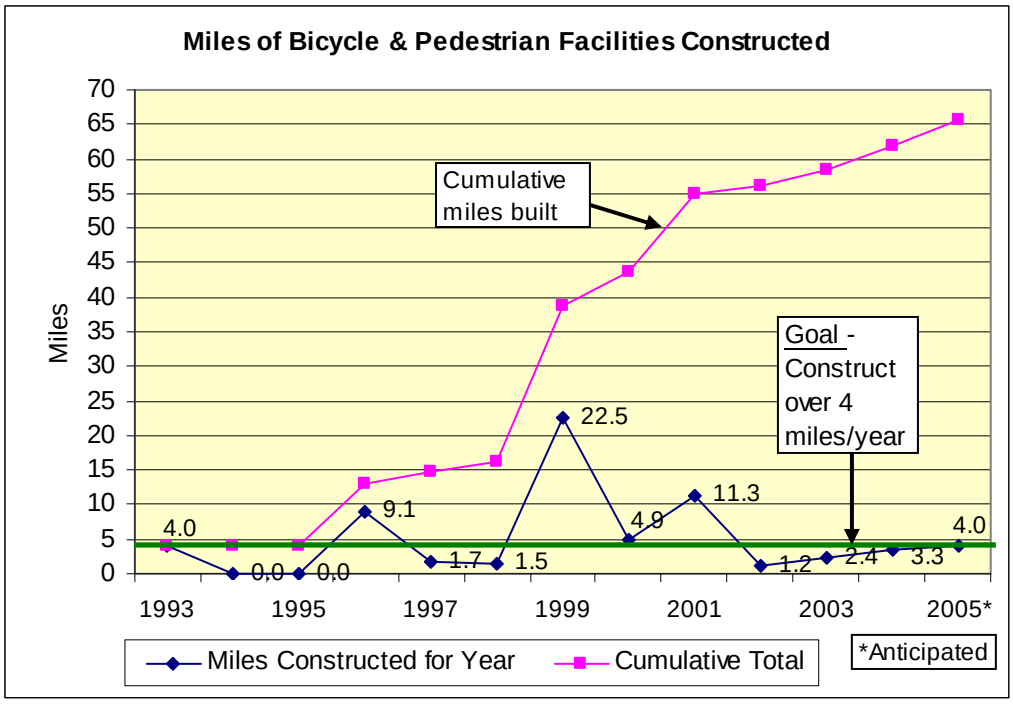


Source: VTrans Bike/Ped Section

Figure 5: Reported motor vehicle crashes involving bicyclists and pedestrians

- **Miles of bicycle and pedestrian facilities developed:**

  Figure 6 shows the increase in the construction of bicycle and pedestrian facilities (shared use paths, bike lanes, and sidewalks). When correlated with the crash and other data, this measure indicates greater opportunities for walking and bicycling in a safer environment.



Source: VTrans Bike/Ped Section

Figure 6: Miles of bicycle and pedestrian facilities constructed

The condition of the Bike/Pedestrian program is "fair" based on the ability to build four miles of new facilities each year as defined in the table below.

Bicycle & Pedestrian Facilities					
	Excellent	**Good**	**Fair**	**Poor**	**Very Poor**
Assets consist of: • Sidewalks, walkways & boardwalks • Multi-use Paths • Bike Lanes • Bike/Ped Bridges	Funding and personnel are available to meet all current project needs. No competitive selection process is necessary. All communities requesting funding receive funding.	The ability to construct greater than four miles of facilities per year	The ability to construct four miles of facilities per year	The ability to construct less than four miles of facilities per year	No projects constructed

Park & Ride Facilities:

VTrans owns and maintains 25 strategically placed Park & Ride lots with 848 spaces throughout the state. Park & Ride facilities are an effective method to reduce traffic and minimize fuel emissions. The available spaces were 52% full per a 2003 survey. The usage figures and feedback from a 2003 public outreach program indicate the Park & Ride program enjoys wide public support.

Park & Ride usage is expected to increase due to four activities/trends:

- VTrans is improving existing facilities with lighting, paving, appearance, and security.
- New facilities will be built and existing ones expanded to meet demand.
- General increased demand from the public to save fuel and vehicle costs.
- Increased connectivity with public transit.

Clean, safe, and secure facilities with adequate spaces encourage usage. The facilities and conditions as of November 2003 are:

Location	Lot Size	Parking Spaces Used	Percentage Utilization	Adequacy (considers condition and size)
Berlin	77	41	53%	Good
Bradford	23	20	87%	Fair
Bristol	10	2	20%	Very Poor
Cambridge	19	4	21%	Poor
Colchester	108	20	19%	Excellent
Georgia	25	19	76%	Fair
Hartland	20	26	130%	Poor
Manchester	30	1	3%	Very Poor
Middlesex	24	14	58%	Fair
Montpelier	55	35	64%	Good
Morrisville	6	2	33%	Good
Randolph	15	17	113%	Very Poor
Richmond	105	82	78%	Good
Royalton	15	5	33%	Very Poor
Sharon	24	6	25%	Fair
South Barre	28	20	71%	Fair
Springfield	24	8	33%	Fair
St. Albans	59	35	59%	Fair
St. Johnsbury	35	20	57%	Fair
Thetford	25	7	28%	Poor
Waterbury	60	22	37%	Poor
Weatherfield	20	15	75%	Very Poor
West Danville	17	4	24%	Fair
Williamstown	24	14	58%	Fair

Spaces Available	**848**
Spaces Used	**439**
Percentage Utilization	**52%***
Condition weighted by usage	**Fair - 3.14 on a scale of 1 (very poor) to 5 (Excellent)**

* Utilization was estimated through a survey done on two days during daytime hours. The spaces occupied are compared to the lot's capacity. When calculating the "condition weighted by usage", the more heavily used lots influence the average more than the low-use lots.

The adequacy standards are defined as follows:

Park & Ride					
	Excellent	**Good**	**Fair**	**Poor**	**Very Poor**
25 Park & Ride facilities run by the agency	New facility Has all amenities Size is good	Newer facility. Has all amenities Size is good	Gravel or paved surface Some amenities Lighting Well used for size	Gravel surface May have amenities Some lighting Well used for size	Gravel surface No amenities Brushy borders Little or no lighting Little usage
Notes on Park & Ride: The rating of Park-and-Ride Facilities is based on the users' perspective. It considers physical condition, security, maintenance, visual, and usage conditions. Considerations are gravel or paved surface, lighting, line striping, bus shelter, security, landscaping, visual appearance, maintenance, litter, capacity and usage. Ideally, usage should be about 60%-70% of capacity. Good facility condition attracts more Park & Ride users. The total program rating is the average of all the individual facilities' ratings.					

- **Park & Ride spaces used:**

  The base line is 439 spaces used in November 2003. This figure will be determined on an annual basis by visiting each area on sample days. (The measure excludes the Rutland Park & Ride, which is used as a parking garage for businesses and state offices.)

  Goal: Increase the number of spaces used.

- **Average Park & Ride facility condition (weighted by usage):**

  The current condition is between "fair" and "good" at 3.14. This baseline will be used as a comparison for future years. The measure will reflect the quality of preventative maintenance and will encourage cost effective investments in those areas where demand is greatest.

  Goal: Improve the average facility condition each year.

Rest Areas:

VTrans and the Department of Building and General Services work together to plan, design, construct, renovate and operate the 18 rest areas owned by the State. These areas are important for the convenience and safety of the traveling public and for providing information to the many tourists who visit Vermont. Rest areas reduce driver fatigue accidents and are especially important to commercial truck drivers. The rest areas are placed at reasonable intervals including six areas where vehicles enter Vermont on Interstates I89, I91, I93 and US 4.

The areas, visits and conditions in 2004 are:

Area	Visits in 2004	Condition
Interstate 89		
Sharon NB		Under construction
Sharon SB	235,837	Very Poor
Randolph NB	289,679	Very Poor
Randolph SB	298,149	Very Poor
Williston NB	368,429	Excellent
Williston SB	239,521	Excellent
Georgia NB	94,050	Good
Georgia SB	95,106	Good
Highgate SB	68,732	Good
Interstate 91		
Guilford NB	958,472	Excellent
Hartford NB	216,302	Very Poor
Hartford SB	216,964	Very Poor
Bradford NB	172,491	Good
Lyndon SB	113,051	Good
Derby SB	168,842	Fair
Interstate 93		
Waterford	132,225	Good
Other		
Arlburg	16,231	Good
Fair Haven	114,244	Good
Total Visits	**3,798,325**	
Average Condition weighted by Visits*	**Fair - 3.38 on a scale of 1 (very poor) to 5 (excellent)**	

*"Weighted by visits" means that heavily visited areas count more. For example, when calculating the average weighted condition, Guilford with 958,000 visits is more than four times as "important" as Hartford with its 216,000 visits.

The definitions of "excellent" thorough "very poor" are:

Rest Areas					
	Excellent	**Good**	**Fair**	**Poor**	**Very Poor**
18 Rest areas managed by the state	Facility in "like new" condition	Facility is less than 10 years old or has been renovated in the last 10 years.	Facility is more than 10 years old but functionally and structurally adequate.	Facility is functionally deficient.	Facility is functionally deficient and structurally deficient.

Definitions for the condition rating:

- Functionally Deficient:
  - Facility is too small for visitor load (bathroom space, number of bathrooms or size of lobby space) may have inadequate parking.
- Structurally Deficient:
  - Facility has one or more failed building systems such as HVAC system, utilities (water/sewer/power), external envelope, internal equipment and finishes.

- **Average rest area condition weighted by visits:**

  The average condition for rest areas in 2004 is between "fair" and "good" at 3.38 on a scale of 1 to 5. ("1" is "very poor". "5" is "excellent".)

  Goal: Maintain or improve the average rest area condition each year.

  This measure will reflect sensible preventative maintenance policies and will encourage cost-effective investments in areas with the highest usage or potential usage. The Agency collects visitation information annually and will conduct a condition assessment using the above criteria. This information enables the Agency to choose the right investments at the right places.

Signs (State & Interstate):

VTrans is responsible for 75,000 signs on state highways and 6000 signs on the Interstates. Over time, the colors and sign reflectivity deteriorate making them difficult to read especially at night. Signs must be replaced on a cycle of about 15 years to keep up with normal deterioration. That equates to about 5000 signs per year on state highways. The outcome of this effort is improved highway safety and providing useful information to the traveling public.

Additionally, signs are replaced or new ones installed for reasons other than life-cycle. These reasons include:

- Manual for Uniform Traffic Control Devices (MUTCD) compliance: MUTCD standards assure that the meaning, appearance and placement of signs are consistent between states. Drivers know what to expect. Sometimes out-of-compliance signs are replaced prior to the end of their life cycle especially if highway safety is an issue.
- Knockdowns and stolen signs.
- Changing roadway conditions such as school bus stops, speed limit changes and traffic patterns.

At a 15 year replacement cycle, signs will be readable, relevant to roadway conditions, and reasonably current with MUTCD requirements.

- **Reduce the average age of signs on state highways to 7.5 years.**

  The goal is to reach an average of 7.5 years in order to achieve a 15 year replacement cycle. Today the average age of signs on state highways is 8.1 years. 71% of the signs are greater than 7.5 years old.

- **Reduce the average age of signs on Interstate highways to 7.5 years.**

  Interstate highways signs are more expensive and difficult to replace and are in poorer condition today. Today the average age of signs on state highways is 9.5 years. 77% are greater than 7.5 years old.

The definitions of "excellent" through "very poor" condition for highway signs are:

Signs (State Highways)					
	Excellent	**Good**	**Fair**	**Poor**	**Very Poor**
75,000 Signs on State Highways.	>95 % of signs on the National Highway System (NHS) in compliance with current *Manual on Uniform Traffic Control Devices* (MUTCD) standards, and ranging in age from 0 to 15 years.	> 95 % of signs on NHS in compliance with current MUTCD standards, and ranging in age from 0 to 15 years. >95 % of signs on other state highways in substantial compliance with MUTCD, and less than 20 years old.	> 90 % of signs on NHS in compliance with current MUTCD standards, and ranging in age from 0 to 15 years. > 90% of signs on other state highways in substantial compliance with MUTCD, and less than 20 years old.	> 80 % of signs on in compliance with current MUTCD standards, and ranging in age from 0 to 15 years. > 80% of signs on other state highways in substantial compliance with MUTCD, and less than 20 years old	< 80 % of signs on NHS in compliance with current MUTCD standards, and ranging in age from 0 to 15 years. < 80% of signs on other state highways in substantial compliance with MUTCD, and less than 20 years old
Signs (Interstate Highways)					
	Excellent	**Good**	**Fair**	**Poor**	**Very Poor**
6,000 Signs on th Interstate & "interstate-like" highways	>95 % of signs in compliance with current MUTCD standards, and ranging in age from 0 to 15 years in age.	> 95 % of signs on NHS and Interstate in compliance with current MUTCD standards, and ranging in age from 0 to 15 years.	> 90 % of signs on NHS and Interstate in compliance with current MUTCD standards, and ranging in age from 0 to 15 years.	> 80 % of signs on NHS and Interstate in compliance with current MUTCD standards, and ranging in age from 0 to 15 years.	< 80 % of signs on NHS and Interstate in compliance with current MUTCD standards, and ranging in age from 0 to 15 years.

Notes on Signs:

- The federal *Manual on Uniform Traffic Control Devices* (MUTCD) details specifications for signs. Signs are managed by the Traffic Operations Unit; however, the most of the actual work and funding is accomplished by other Sections in the Agency. Signs are often part of paving projects, construction, and maintenance.
- Interstate signs are more expensive and difficult to replace. Most have never been replaced and are reaching the end of their lifecycle.

2. Aviation Program Performance Measures

At the ten state owned airports, the Agency continues to reconstruct runways, and add taxiways, hangars, tie-downs, instrumentation, and lighting systems to improve safety and security. Convenient air service is an integral asset for moving people and goods and has been determined to be among those criteria reviewed by businesses evaluating Vermont sites. Air facilities are important for freight and passengers; however, their usefulness depends on the modal interconnectivity to move passengers and goods between airports and other parts of the state. The Agency will pursue both public and private options for integrating transit with air and rail services and service locations.

The Agency must plan for future growth. At the same time, we will continue to maintain and upgrade the air facility infrastructure in order to improve service to the public, passengers and freight service customers.

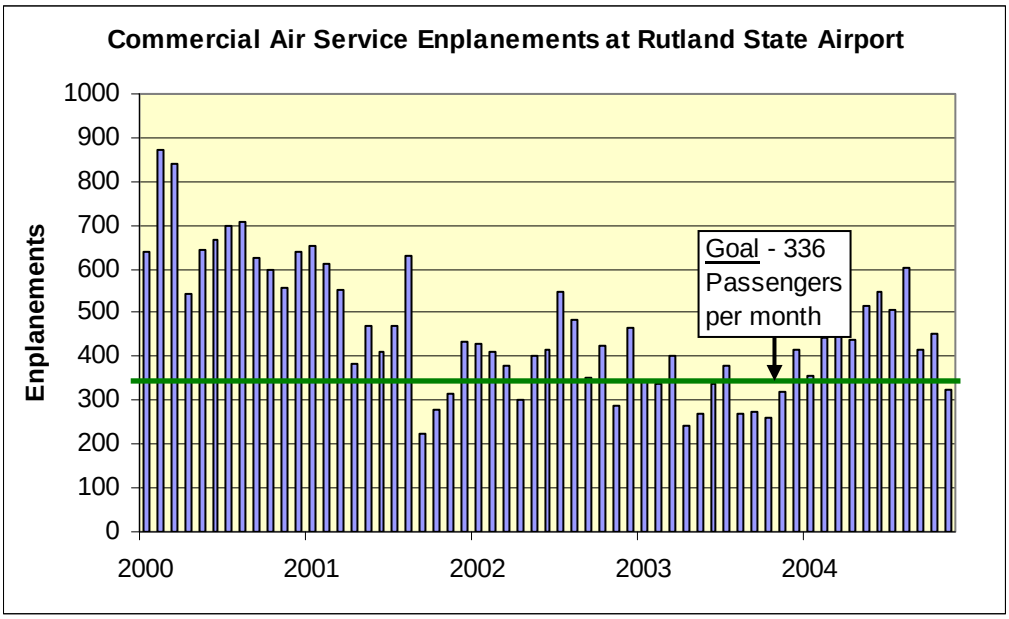
- **Complete monthly safety inspections at all state-owned airports to ensure compliance with FAA regulations**

  Safety inspections are a critical component to ensuring that deficiencies are resolved in a timely manner thereby providing a safe transportation system for the traveling public. Federal funding is contingent upon compliance with grant assurances and meeting all FAA requirements. In order to ensure all federal projects continue to receive 90% FAA funding, it is necessary for the state to have a thorough inspection program to address shortcomings. Additionally, this helps to prevent litigation resulting from any unsafe conditions.

  The monthly airport safety inspections were completed 100% on time on all ten state-owned airports. (The goal is 100%.)

- **Commercial air service passenger enplanements at Rutland State Airport**

  After a previous carrier stopped providing commercial passenger service Rutland, VTrans found others carriers willing to serve the area, and worked to obtain a DOT Essential Air Service subsidy of $806,000 annually. CommutAir, a Continental Connection affiliate, is now providing service. The subsidy requires the carrier to serve 4,030 revenue passengers per year or roughly 336 total passengers per month. As shown in Figure 7, that goal is being achieved at 496 passengers per month for 2004.



Source: VTrans Aviation Section

Figure 7: Commercial service enplanements at Rutland State Airport

3. Public Transit Program Performance Measures

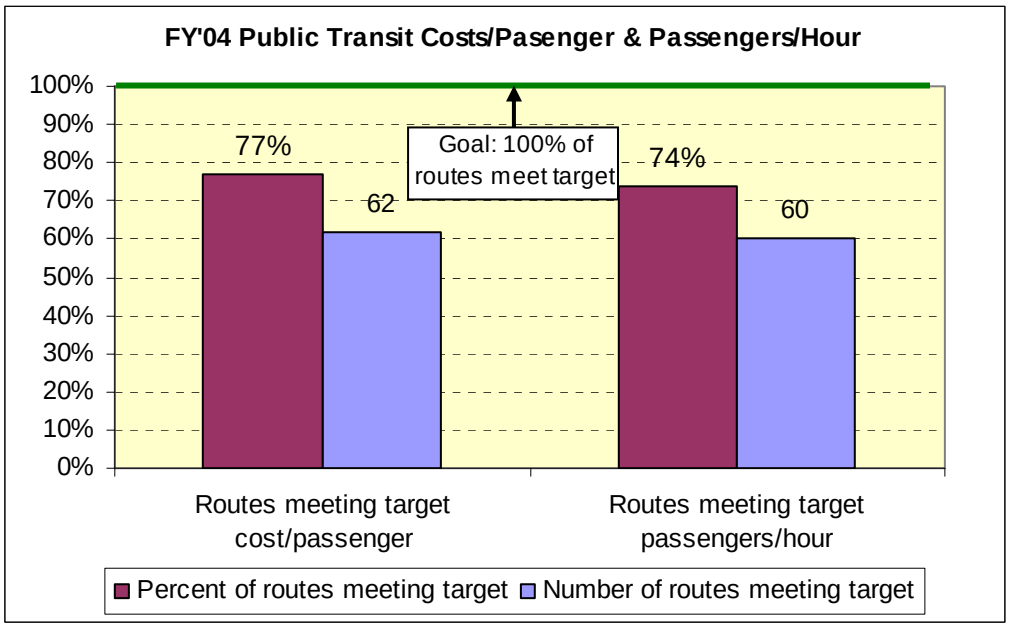
The goal of the Public Transit Program is to encourage and promote statewide public transit and to coordinate passenger special needs such as wheelchair services with other public transportation, whenever appropriate.

Thirteen public transit providers cover the regions of the state. The state subsidizes their operation under a variety of federal and state programs related to transportation and human services. VTrans is responsible for exercising good stewardship over those funds and works with the transit providers to make sure the proper services are being delivered in the most efficient manner. The two performance measures shown below reflect that stewardship.

- **Percent of routes at or below the target level for cost per passenger**
  Cost efficiency of transportation is measured by the percent of routes at or below the target level for cost per passenger. (There is no overall statewide standard. "Target" levels are based on the route category such as rural, urban, demand response, etc.) The results are used to evaluate each route. Discussing the results with public transit system providers helps us to improve overall performance. The goal is 100% as shown in Figure 8.

- **Percent of routes at or above the target level for passengers per hour**

  Use of transit services is measured by the percent of routes at or above the target level for passengers per hour. (As with the cost measure, there is no universal state standard. "Target" levels are based on the route category.) This measure indicates whether services meet community needs. The goal is 100% as shown in Figure 8.



Source: Public Transit Providers and VTrans Public Transit Section

Figure 8: 2003 Public Transit Costs/Passenger and Passengers/hour

4. Rail Program Performance Measures

Over the past ten years, the state has acquired an additional 133 miles of rail line in an effort to preserve those corridors for active freight traffic, passenger service, or conversion to alternate transportation if no longer feasible for rail use. Purchasing, maintaining and improving Vermont's rail infrastructure will provide future opportunities to develop safe, cost effective passenger and/or intercity rail transport that is economically feasible and will provide the highest degree of service possible. Maintaining the rail infrastructure and encouraging increased use of freight rail is essential to future economic development and to the goal of decreasing truck traffic on Vermont highways.

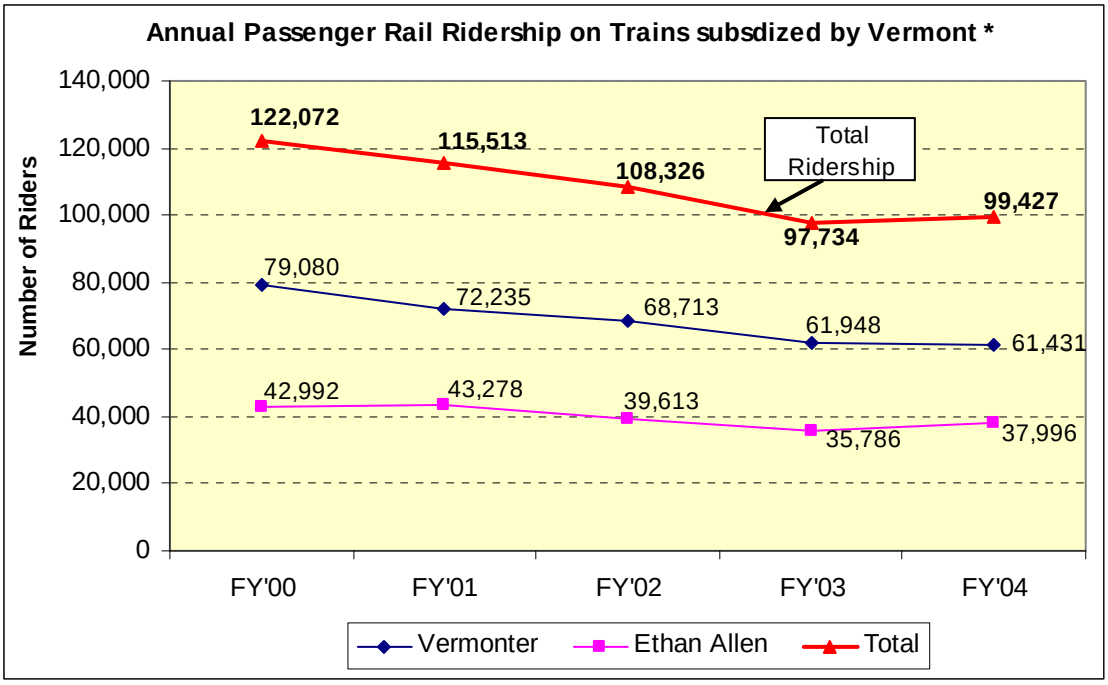
- **Percent change in freight tonnage on Vermont railroads**

  Increasing the freight tonnage shipped by rail will reduce the demands placed on the state highways, thereby increasing the lifespan of the highway infrastructure. Additionally, greater tonnage means more revenue to the state since lease payments from the railroads operating on state-owned lines are based on tonnage shipped.

  (This performance measure is under development.)

- **Annual passenger rail ridership**

  An increase in ridership provides a benefit to the State in terms of higher revenues and a reduction in the subsidy paid by the State of Vermont for Amtrak service. Figure 9 illustrates ridership on trains subsidized by Vermont.



Source: VTrans Rail Section

Figure 9: Annual passenger rail ridership on trains subsidized by the State of Vermont * Ridership figures include passengers traveling on any leg from Albany, NY to Rutland, VT on the Ethan Allen, or any leg from Springfield, MA to St. Albans, VT on the Vermonter. Revenue from the non-Vermont legs help subsidizes the route.

- **Rail Track & Bed Condition**

  The overall condition of the rail track and bed owned by Vermont is "fair" as defined in the table below.

Rail					
	Excellent	**Good**	**Fair**	**Poor**	**Very Poor**
476 miles of state owned rail line leased to rail operators	Federal Railroad Administration (FRA) Class III Track with Continuously Welded Rail	FRA Class III Track with Jointed Rail (40 mph max speed for freight, 60mph for passenger)	FRA Class II Track (25 mph max speed for freight, 30 mph for passenger)	FRA Class I Track (10 mph max speed for freight)	FRA Excepted Track (< 10 MPH max speed; no occupied passenger trains; limited hazmat use)

Notes on Rail:

1. This does not include railroad bridges and crossings which are listed as separate assets.

Earmarks are a major source of funds for railroad infrastructure improvements and rail funding is primarily used to upgrade current conditions of track structure. The rail operators under their operating agreement are required to maintain the track at the same class as of the date of the operating agreement or as subsequently improved by the State.

5. Maintenance Program Performance Measures

The primary goal of the Maintenance Program is to keep Vermont state highways and airports open, safe, and aesthetically pleasing to travelers, while managing the system in a cost effective and environmentally sensitive manner. Maintenance is vital to keeping Vermont's existing transportation systems in working order and helping to reduce costs of repair, refurbishing or replacement of infrastructure. The Operations Division, including the maintenance program, has a lead role in supporting overall Agency objectives for safety, environmental justice, fiscal investment, mobility and organizational performance.

- **Percent of bridges cleaned and washed annually (50% goal)**

  In order to extend the life of State-owned bridges, the Agency has set a goal of washing the state's washable bridge every two years.

  In 2004, the goal was exceeded. 903 washable bridges (71.8%) were washed.

- **Percent of state highway centerlines renewed annually (100% goal)**

  In order to enhance the safety of the state highway system, the Agency has established a goal of reapplying the centerlines on all state highways annually.

  In 2004, 92% of the state highway centerlines were renewed.

- **Mowing: Mow at least two swaths on all major state roads and arteries each calendar year (100% goal).**

  Preventing excess vegetation on roadsides improves visibility, safety and the attractiveness of Vermont highways.

  Achieved 97% of the state roadside mowing for 2003.

- **Potholes: Patch 100% of post-winter potholes on the state roads by June 1.**

  Timely repairs of potholes prevent further damage to highways and to vehicles, and improve highway safety.

  Achieved 98% of the post-winter pothole patching in 2004. That required 2,872 tons of patch.

- **Litter pickup: Complete spring clean up of litter on 100% of state roads by the end of May each year.**

  Litter pickup is performed by Agency staff and volunteers after the snow melt. In 2004, 328 tons of trash were removed from Vermont Highways, requiring 30,515 hours of labor.

  Achieved 98% of goal in 2004**.**

- **Bridge Painting: Paint at least 780 tons of structural steel each calendar year.**

  Bridge painting is part of the normal bridge preventative maintenance. Preventative maintenance is essential if bridges are to reach their design life-expectancy (about 80 years).

  Achieved 641 tons, or about 82%, of the goal.

6. Transportation Buildings Performance Measures

The primary goal for the Transportation Buildings Program is to ensure that VTrans has adequate facilities to use, protect, store, or make repairs to the state transportation system. This program is primarily driven by the need for: garages to house and maintain trucks and other heavy equipment; storage sheds to protect materials such as sand and salt; and terminals and other buildings for state airports, rail and public transit services provided by VTrans. The Transportation Buildings Program includes funds for capital improvements and major component replacement/repair for all VTrans-owned buildings.

- **Building condition index**

  A common way for businesses to evaluate the condition of their building assets is to conduct a thorough inspection and determine the *building condition index*. The index reflects the condition of all the major components of a building such as heating, foundation, electrical, and roofing. The Buildings & General Services Division (BGS) has recently received federal funding for benchmarking their buildings using an EPA software tool. VTrans is working with BGS to use a standard tool that will measure the Agency's buildings against similar buildings nation-wide. VTrans owns and maintains 122 heated buildings and 289 unheated buildings such as salt & sand sheds and storage areas. These buildings support the maintenance and operation of the transportation network.

This measure is under development. VTrans is inspecting buildings and calculating the building condition index. After inspections are complete, a target condition will be established. The buildings will measures against the condition definitions defined below.

Buildings					
	Excellent	**Good**	**Fair**	**Poor**	**Very Poor**
Maintenance garages/heated storage	Sound, weatherproof, well maintained, well insulated, efficient and effective HVAC, safe and comfortable working conditions	No more than one subsystem is in poor condition requiring action	No more than 2 sub systems are in poor condition requiring action	3 or more sub systems are in poor condition requiring action	Building has safety issues requiring immediate action before using
Salt/sand shed	Sound, weatherproof, well maintained, no broken or poorly operating components	Needs minor cosmetic repairs	Needs structural or electrical repairs	Building is useable but needs replacement	Building is not useable due to safety concerns and should be demolished
Cold storage	Sound, weatherproof, well maintained, no broken or poorly operating components	Needs minor cosmetic repairs	Needs structural or electrical repairs	Building is useable but needs replacement	Building is not useable due to safety concerns and should be demolished
Notes on Buildings: The agency owns and maintains 122 heated buildings and 289 unheated buildings such as salt & sand sheds and storage areas. These buildings support the maintenance and operation of the transportation network.					

7. Central Garage Performance Measures

The mission of the Central Garage is to acquire and maintain safe and reliable vehicles and maintenance equipment which support Agency operations at an economical cost.

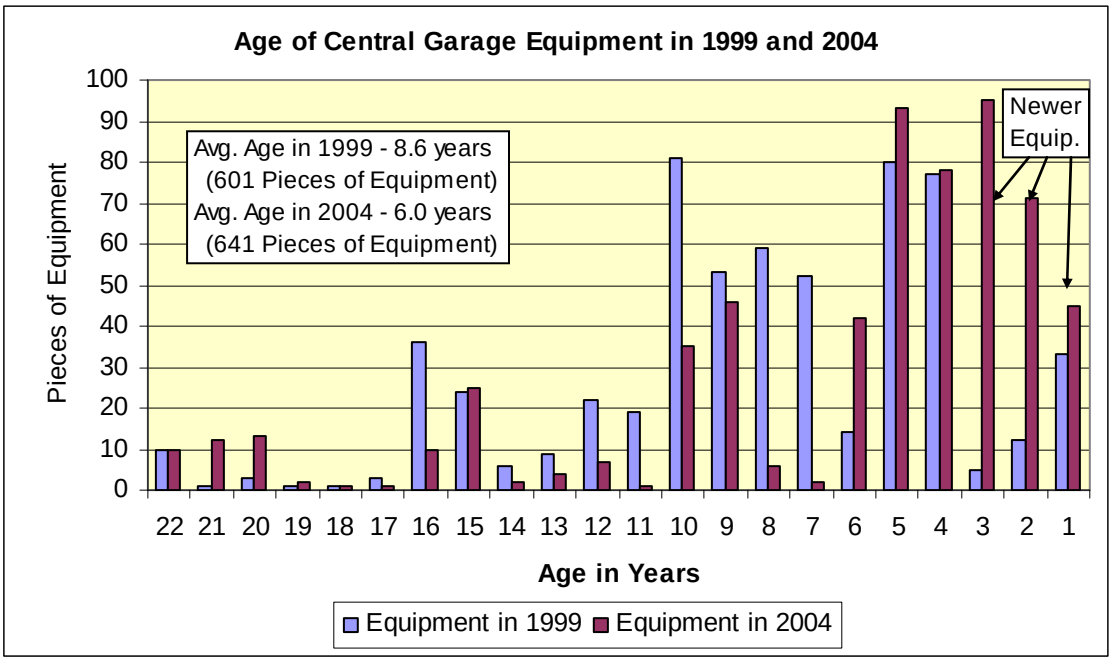
- **Percentage of vehicles within their cost-effective service life**

  The primary measure of fleet condition is the percentage of vehicles within their cost-effective service life. Retaining equipment beyond its cost-effective service life results in increased repair costs and reduced productivity.

  The goal of the Central Garage is to have at least 90% of its vehicles and equipment within their cost-effective service life. A regular and sustainable replacement schedule results in lower overall costs and minimizes costly unscheduled downtime.

  Currently **83%** of all Central Garage equipment is within their cost-effective service life:
  - Plow Trucks: 85% within their cost-effective service life (8 years)
  - Light Utility Vehicles: 97% within their cost-effective service life (6 +/- years)
  - Heavy Utility Vehicles: 79% within their cost-effective service life (10 +/- years)
  - Construction & Miscellaneous Equipment: 67% within their cost-effective service life (15 +/- years)

Figure 10 illustrates the trend towards a modernized VTrans fleet. Such progress is a direct result of the Central Garage Equipment Replacement Program initiated in 2000.



Source: VTrans Central Garage

Figure 10: Age of Central Garage equipment in 1999 and 2004

- **Unscheduled Vehicle Repairs: Keep unscheduled repairs and breakdowns to 25% or less of total repairs performed.**

  Unscheduled repairs are more costly and disruptive to the public. Preventative maintenance reduces this figure.

  Achieved 28.4% in FY'04.

Currently the Central Garage Equipment asset is in "fair" condition based on the definitions in the table below.

Central Garage Equipment					
	Excellent	**Good**	**Fair**	**Poor**	**Very Poor**
Plow trucks, light and heavy utility vehicles, and construction & Misc. Equipment 641 Units	95% to100% vehicles are within their cost effective service life.	85% - 94% of vehicles are within their cost-effective services life.	70% - 84% of vehicles are within their cost-effective service life	50% - 69% of vehicles are within their cost-effective service life	Fewer than 50% of vehicles are within their cost-effective service life.

8. Department of Motor Vehicles Performance Measures

The Department of Motor Vehicles (DMV) is responsible for issuing driver's licenses, permits, motor vehicle registrations, registrations for boats, snowmobiles and trailers, driver license suspensions and 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.

DMV is directly involved with citizens more than any division in the Agency. DMV understands that service to customers and their safety is paramount. There is a concerted effort to utilize computers, technologies, and customer focus training in an effort to provide better, more efficient, and cost effective service.

- **DMV – Customer Service Performance Measures:**

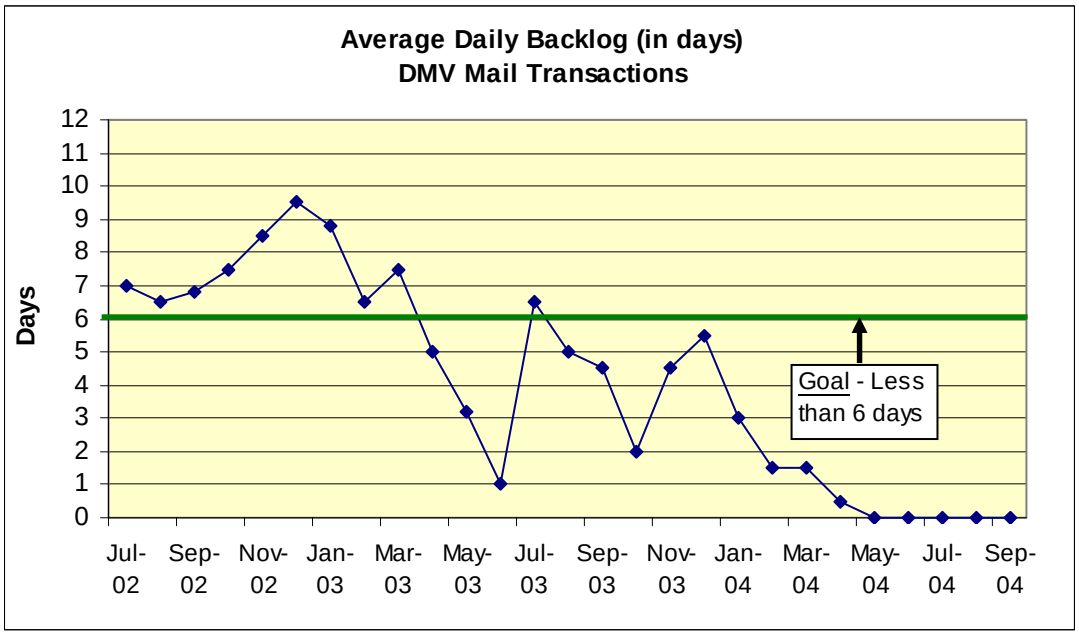
  Feedback from DMV customers has been consistent in terms of their expectations. First, customers want their service to be as quick as possible, and, secondly, they would like more services available closer to their homes.

  During the fall of 2003 DMV undertook an extensive look at its operations to identify ways to improve customer service. The primary objectives were to find ways to reduce wait times at DMV customer service counters and to shorten the turn around time for processing transactions received by mail. Over fifty recommendations were made in areas such as technology, workflow, staffing, productivity, training and customer education.

  Implementation of the recommendations made in the service study is an on-going process; however, the impact of those already put in place has yielded dramatic results. Specifically, service level improvements have been realized in the following areas:

  - **Process DMV mail transactions within the six day standard:**

    Implementation of an incentive plan in the mail-processing unit has increased productivity by 20%. Mail backlogs have been reduced from 6-10 days on average to no backlogs in most cases as shown in Figure 11:



Source: Department of Motor Vehicles

Figure 11: Average daily backlog (in days) DMV mail transactions.

The performance standard for processing transactions received by mail through all of its steps (mail processing, data entry, quality control and retrievals) is six days. In FY'03 this standard was met over 80% of the time; however, overtime was worked 90% of the time to meet that percentage. Since implementation of the service study recommendations, the standard has been met 100% of the time with overtime worked only 35% of the time.

- **Walk-in customers processed within 45 minutes.**

This measure gauges customer satisfaction. The maximum wait time standard at DMV is 45 minutes. In FY'04, DMV significantly improved the percent of customers served within that 45-minute window when the statistics for all offices statewide are factored together.

% Walk-in customers serviced within 45 minutes	
FY'03	85%
FY'04	94%

The measure of DMV's success in meeting customer's expectations for wait time is most relevant when considering the two busiest offices, Burlington and Montpelier. In these offices, wait times based on monthly averages were reduced by 33% and 42% respectively in FY'04.

A better measure of service improvements at the Montpelier office can be seen the table below by looking at the percentage of customers served within various time frames.

Walk-in Customers Average Wait Time in Montpelier					
	0-15 minutes	16-30 minutes	31-45 minutes	46-60 minutes	60+ minutes
FY'03	6.25%	7.90%	13.67%	15.15%	57.04%
FY'04	20.35%	21.08%	18.36%	12.60%	29.13%
FY'05 (3 mo)	35.81%	22.00%	24.69%	13.24%	4.26%

During the first quarter of FY'05 the percentage whose wait times reached one hour or more was reduced to 4% and the number serviced in 15 minutes or less has risen to 36%.

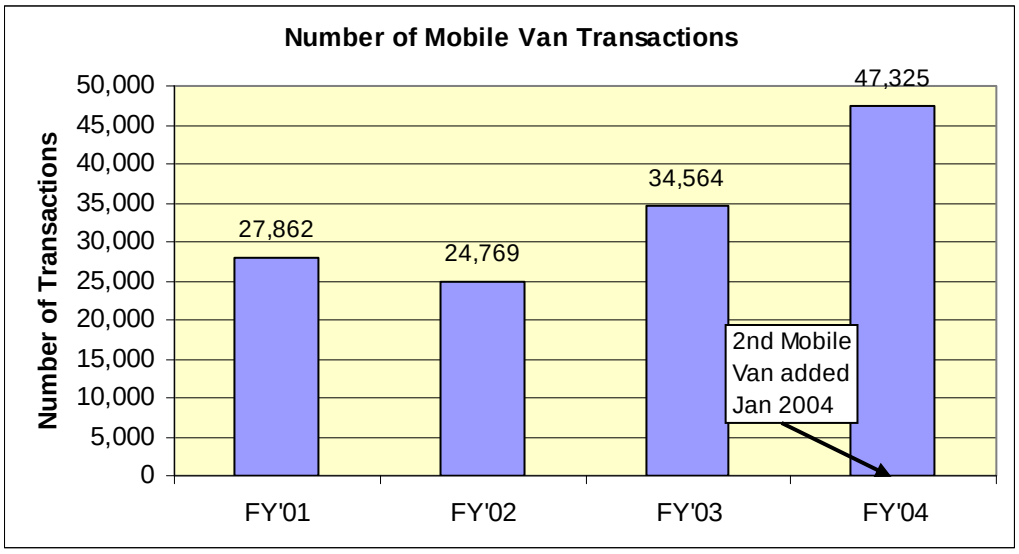
- **DMV – Easy to do business with:**

In FY'04 DMV provided easier customer access. Key accomplishments were:

- **Provide fast, convenient mobile van service throughout the state.**

Customers want their service to be as quick as possible and they would like more services available closer to their homes.

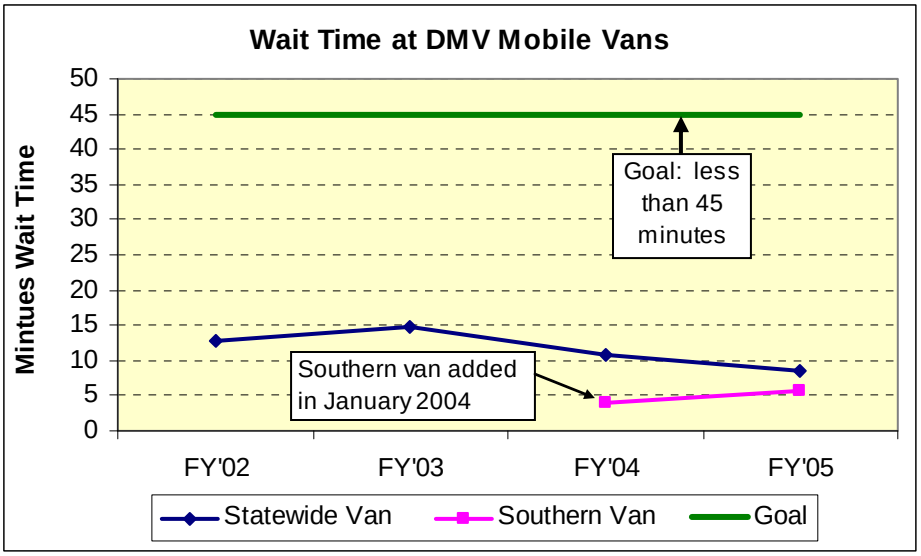
DMV ran an additional mobile van starting in January 2004 to better serve customers closer to their homes. This is enabling DMV to process an additional 20,000 transactions per year near their customers' locations - a 60% increase from the previous year. DMV has roughly doubled the number of days that they are in the communities serviced by the mobile van operation. The success of the van is evident in Figure 12 that shows the increasing number of transactions.



Source: Department of Motor Vehicles

Figure 12: Number of mobile van transactions

The goal of the mobile van operation is to process customers in less than 45 minutes – the same standard as for walk-in customers at DMV offices. DMV is achieving that goal as seen in Figure 13.



Source: Department of Motor Vehicles

Figure 13: Average wait time at DMV mobile vans.

- **Expanded Internet Services:**

  Expanded internet services include snowmobile and motorboat registration renewal and address change transactions. Twelve more transaction types will be implemented through FY08. DMV's publicity of the Internet services has paid off through increased transaction volume as shown in table below:

Registration Renewals over the Internet		
	# Web Renewals	# Interactive Voice Response (Phone)
2003	22,243	1,040
2004	35,363	3,934
Percentage Increase	**58%**	**378%**

  Nationally, 5% to 7% of registration renewals are done over the Internet. Since March 2004, Vermont has been running at 7.54% and expects to maintain that rate. Much of that depends on home computers, adequate communication lines to customers' homes, and marketing of the service.

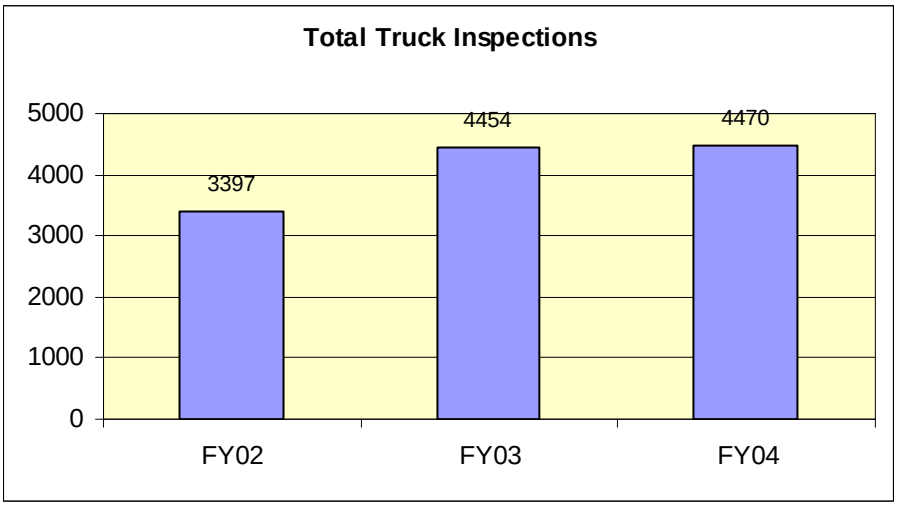
- **Expanded services at DMV offices:**

  These services include:
  - Registration renewals through self-service kiosks.
  - Processing of registration transfer transactions at all field offices.

- Piloted a program to accept first time snowmobile registrations at the Springfield office.

- **Commercial vehicle inspections:**

  In addition to the new initiatives described above, the Department continued to prioritize patrolling Vermont's roadways to enforcing motor carrier safety regulations and state's over-dimension regulations. The number of Commercial vehicle inspections increased 30% over the FY02 level as the graph below portrays. Figure 14 illustrates.

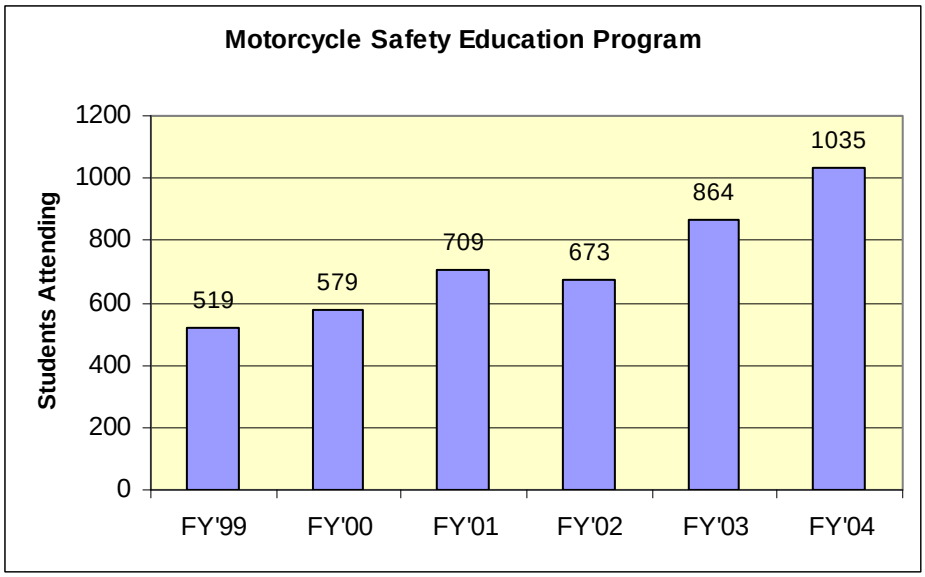


Source: Department of Motor Vehicles

Figure 14: Total truck inspections

- **Motorcycle safety education: Meet the rising demand for courses.**

  Motorcycle safety training activities continued to grow through the highly successful Vermont Rider Education Program (VREP). This past year over 1000 students attended the training which represents a 20% increase over the previous year. In addition, the program improved its service delivery this year by establishing a training site in central Vermont. The goal is to meet the demand for the program by adding instructors and sites. Demand has been increasing about 15% per year over the last six years as seen in Figure15.



Source: Department of Motor Vehicles

Figure 15: Motor Safety Education Program