

INTRODUCTION AND OVERVIEW

The Vermont Agency of Transportation (VTrans) has a vision of a safe, efficient and fully integrated transportation system that promotes Vermont's quality of life and economic wellbeing.

VTrans' mission is to provide for the movement of people and commerce in a safe, reliable, cost-effective and environmentally responsible manner.

GOALS

SAFETY: Promote safety as a critical component in the development, implementation and maintenance of the transportation system.

EXCELLENCE: Cultivate and continually pursue excellence in financial stewardship, performance accountability, and customer service.

PLANNING: Optimize the future movement of people and goods with corridor and natural resource management, balanced modal alternatives, and sustainable financing.

PRESERVATION: Protect the state's investment in its transportation system.

ROAD TO AFFORDABILITY:

VTrans in 2006 under the leadership of Governor James Douglas and Transportation Secretary Neale Lunderville embarked on a long-term effort to change the Agency's business model. Titled "The Road to Affordability," the policy is driven by a number of factors, but the policy's essence is based on the fact that Vermont has an aging transportation infrastructure that demands greater and more costly attention than in the past. As a result, bridge, culvert and road maintenance are competing with new construction projects for limited funds.

Given this reality, VTrans decided that Vermont must first step back and preserve its existing assets so that they do not deteriorate to the point that they require major reconstruction and become a financial drain on the entire system. Such early intervention and preventative maintenance can result in significant savings:

- A \$100,000 investment in a culvert under 20 feet of fill on the Interstate today will save over \$1 million for replacement construction and detours tomorrow.
- A \$100,000 investment in a new bridge membrane today will save over \$1 million for deck replacement tomorrow.
- A \$1 million investment in the pavement of a good roadbed today will save over \$5 million in costly reconstruction in the future.
- Preventative maintenance done today also minimizes future aggravation and delays for the traveling public and freight haulers.

Another critical component of “The Road to Affordability” is a set of strategic parameters that VTrans intends to use in the day-to-day management of Agency activities. These include:

Realignment of priorities:

- Future investment will be focused on traveler safety and the preservation of existing infrastructure.
- Optimize financial resources by focusing attention on a practical number of large projects.
- Set realistic timetables for large projects and new roadway segments, and balance funding within the Roadway Program to reflect priority on system preservation.

Rethink project focus:

- Back to Basics – Where design status allows, develop project scopes that limit the addition of project amenities not related to preservation and environmental protection. (Example: under-grounding of utilities, streetscapes)
- Innovative Financing – Any proposed new roadway-segment project not presently in the Transportation Capital Program will require an innovative financing approach acceptable to the Agency prior to being considered for inclusion in the capital program.
- Just-in-time delivery of design, right-of-way, and permitting.

STRATEGIC NEXT STEPS:

While there is little debate about the need to focus more resources on Vermont’s transportation infrastructure, there is considerable discussion about the best way to finance the needed improvements. Despite a tight overall state budget, the Governor’s recommended transportation budget contains additional revenue. The FY2009 budget continues the recent trend of annual JTOC adjustments to redirect transportation funds to transportation uses (\$1.2 million), as well as contains an infusion from the Capital Budget (\$4.65 million) to help address transportation needs. These new revenues are important to strengthen the transportation budget, but it is still incumbent on VTrans to reduce its expenses and cost overruns.

VTrans’ strategic approach is to reprioritize how the Agency conducts its business and make sure all available transportation revenue is targeted towards well-established priorities. Government has an obligation to first look internally during tight fiscal times before seeking new revenue streams.

During the past year, VTrans took many steps towards meeting its goals and objectives so that funds for maintenance and preservation can be increased. Policies that rein in spending on non-essential amenities have been established, efforts to reduce overruns are showing promise, and timetables for large and therefore costly infrastructure projects have been reset and placed on realistic timetables so they do not “bust” the budget and money can be freed up to fund immediate preservation and safety needs. This strategic approach will bear considerable fruit well into the future.

There is more that VTrans can do to use its roughly \$420 million budget more effectively on core transportation needs, especially in the areas of on-time/on-budget project delivery, limiting project amenities, maximizing asset management principles in the project prioritization system, cutting administrative costs, and pursuing federal funding and flexibility.

On-Time/On-Budget Project Delivery

VTrans has made it a priority to better deliver projects on-time and on-budget. Over the past four years, we have made considerable progress. From 2003 to 2006, the percent of the Agency's construction projects delivered "on-time" (not exceeding the original contract completion date) rose from 42 percent to 65 percent. VTrans has increased the percent of its "on-budget" construction projects (not exceeding 105 percent of the original contract amount) from 55 percent in 2003 to 82 percent in 2006.

While VTrans has made significant positive progress, it can do even better. As part of an Agency wide strategic planning effort, targets have been set to increase on budget and on time percentages even more. By 2010, VTrans believes it can increase its five-year average number of on-time construction projects to more than 85 percent, while it can increase its five-year average number of on-budget construction projects to over 75 percent.

Limiting Project Amenities

Completing projects on time and on budget are vital to financial stability, but are only part of the solution. Making hard financial choices regarding priorities also is essential. Separating core transportation needs from project amenities is one of The Road to Affordability's primary objectives.

Publicly funded projects must focus on essential transportation features important to a project's core, while costly, non-essential amenities that have nothing to do with safety, improving mobility or protecting the environment are either kept to a minimum or eliminated altogether. To accomplish this, VTrans established a new policy that will guide how the Agency pays for enhancements to transportation projects.

This policy defines how funds administered by VTrans – including both state and federal non-earmark funds – can be used to support enhancements or amenities to transportation projects. The policy applies to projects administered or developed by VTrans, as well as municipal projects administered under a cooperative agreement between VTrans and the municipality. Under this policy, VTrans will financially support only project elements that are either required by state or federal permits or are deemed functionally necessary to carry out the core purpose of a transportation project. Elements that traditionally may have been financially supported by VTrans in the past – such as benches, undergrounding of utilities, decorative landscaping, and ornamental lighting or curbing – will no longer qualify for state-administered funds. Municipalities, however, can add these elements to a project as long as the municipality is willing to pay for their cost.

The policy is expected to have immediate results as it reaches beyond just newly designed projects that are years from construction. For projects currently in the “pipeline” that have attained the level of accepted/approved “preliminary plans,” the Agency will review the plan for consistency with the policy. Those features determined to be inconsistent will be reviewed. On a case-by-case basis, VTrans will decide if funding for non-core elements will continue. In cases where financial support does continue, the Agency’s involvement will remain only if the municipality agrees to pay for the amenity’s future maintenance and/or replacement, or if an innovative financing arrangement is established.

Asset Management/Project Prioritization

To spend transportation dollars in the most cost-effective manner, VTrans employs an array of asset management tools and practices. Simply put, asset management is putting limited transportation dollars to work where they do the most good. That means maintaining an aging transportation infrastructure before it becomes unusable and requires substantial investment.

A critical component of asset-management is the project-prioritization process. Project prioritization allows VTrans to sift through many project and program ideas and focus its efforts where they will provide the greatest benefit to the transportation network.

A more extensive description of asset management and the project-prioritization process is found in this document below and as a separate tab in the budget book.

Cutting Administrative Costs

VTrans is also doing its part to keep overhead, personnel and consulting costs in line. In the FY2009 budget, VTrans has asked division directors to scale back administrative costs such as travel and overtime, and take a critical look at programs, projects and outside contracts that can be streamlined or modified to reduce costs while protecting services.

Part of this analysis is a look at positions as they become vacant through attrition. The administration this past fall announced a statewide two-year plan to reduce costs through not filling job vacancies. This multi-million dollar savings initiative affects every State Agency, including VTrans which in FY2008 will eliminate 13 vacant positions. The administration has not yet announced its targets for FY2009. This is a good opportunity to reassess the mission and structure of units within VTrans to achieve long-term cost savings.

Increased Federal Funding & Flexibility

Despite additional funding from the federal government under SAFETEA-LU, needs still outstrip federal resources. VTrans remains in close contact with Senator Bernie Sanders, who is expected to play a role in crafting the next federal authorization bill, and is aggressively working with him and the rest of the Vermont Congressional Delegation to assure proper transportation funding in the future and more flexibility to spend those

funds without being burdened by federal requirements. VTrans is also working with the delegation so that any future financial earmarks to Vermont are targeted for core transportation needs.

REDUCING EMISSIONS:

Transportation-related activity accounts for about 46 percent of the Vermont's greenhouse gas emissions (GHG). VTrans in FY2009 has several initiatives designed to reduce the state's carbon footprint.

Reduction of transportation GHG emissions is addressed through a three pronged approach that includes the use of cleaner fuels – such as biodiesel – the use of more efficient engine technology and gaining efficiencies from the transportation system through efforts to help Vermonters find alternatives to single-occupancy vehicles or to reduce the length of trips.

VTrans in 2007 used more than 150,000 gallons of B-5 biodiesel to fuel its truck fleet, while supporting the research and development of alternative vehicle technologies including hydrogen-fueled and plug-in hybrids.

Public transit reduces emissions by transporting more people with less energy expended than individual vehicles. More fuel efficient and cleaner engine technology buses increases the emissions benefits of public transit and helps the state meet its reduction goals. In FY2008, VTrans supplied 49 replacement buses in the public transit capital program. This reduced the state's vehicle backlog from 126 to 64. VTrans proposes the same level of funding in FY2009 to further reduce our backlog and cut emissions.

VTrans also invests in several programs designed to reduce “vehicle miles traveled” on the state roadway system. The Agency's Go-Vermont initiative works with local employers to provide mechanisms so that employees can easily share rides to work. For example, in FY2009 VTrans will work with a vanpool management firm to make vanpooling for commuting purposes easier, and will enhance the current rideshare matching program. In the months ahead, carpoolers will use Internet technology to more easily find partners and make seamless connections to desired destinations.

Successful vanpool, rideshare and public-transit programs require a network of state and municipal and park-and-ride facilities. VTrans has a goal of doubling the number of Vermont's park-and-ride spaces over the next decade. In FY2009, projects in Royalton, St. Johnsbury and Waterbury are slated for construction funding.

These efforts, when combined with the state's legal action to increase vehicle efficiency by requiring the auto industry to meet the rigorous “California standards,” allows Vermont to take significant steps towards reducing its transportation-related GHG emissions.

ASSET MANAGEMENT:

As noted in “The Road to Affordability” discussion, VTrans takes a system-wide view of transportation problems, needs, and opportunities. The rationale is to ensure the maximum benefit per dollar of investment, while at the same time achieving system-wide performance goals. That system-wide viewpoint is reflected in the annual budget-development process.

To spend transportation dollars in the most cost-effective manner, VTrans management and staff employ an array of asset management tools and practices. As previously mentioned, asset management is putting limited transportation dollars to work where they do the most good. That means maintaining an aging transportation infrastructure before it becomes unusable and requires substantial investment. This requires VTrans to balance competing interests among programs such as paving, bridges, new highways, rail, airports, park-and-ride lots, and more.

The tradeoffs are evaluated through a quantitative project prioritization approach. In 2006, VTrans worked with the state’s various Regional Planning Commissions and the Chittenden County Metropolitan Planning Organization to assign a numerical score to transportation projects based on defined criteria. Project age, politics, and geography are not part of the discussions. The scores drive the transportation program, and are an essential part of the budget process. Other reasons for implementing a prioritization process are:

- VTrans owes transportation stakeholders an explanation of why one project is chosen over another.
- Prioritization is an essential part of VTrans’ asset management approach as the Agency must do the right projects at the right time to best preserve the State’s transportation system.
- Prioritization moves the most important projects to the top.

VTrans views asset management, performance measures, and project prioritization as a means to get the most out of limited transportation dollars. The State’s transportation budget must preserve an aging infrastructure that includes:

- 3,200 two-lane miles of pavement on state roads.
- 2,675 bridges greater than 20 feet in length.
- 10 state-owned airports.
- 305 miles of state-owned rail line with 265 bridges.
- 122 heated and 289 unheated buildings.
- More than 80,000 traffic signs.
- Over 60,000 small culverts.
- Other assets including a fleet of vehicles, park-and-ride lots, rest areas, bike paths, and ancillary highway assets.

In essence, asset management is a tool to maximize the value of existing transportation infrastructure. Databases and computer models compare scenarios with different levels of funding for pavement and bridge. Other models are in various stages of development.

Vermont is one of the few states with asset-management principles, performance measures and project prioritization written into statute. To accomplish this, VTrans worked on a cooperative basis with the General Assembly, the Joint Fiscal Office, and the Legislative Council in developing the language.

Current VTrans Asset Management Systems

Like many other states, Vermont has “stovepipe” systems that analyze investments within a single type of asset. The critical components of VTrans’ asset-management process include a system inventory and condition assessment, performance measures, project prioritization, and the annual budget-development process.

The status of Vermont’s asset management systems are:

- **Pavement** – Computer software for pavement management is widely available. Vermont’s Paving Section runs such software to help develop VTrans’ paving program.
- **Bridges** – Like most DOTs, Vermont uses AASHTO’s Pontis bridge management software. VTrans’ Structures Section measures structurally deficient bridges, but is working to make more use of the Pontis deterioration models and a bridge health index to plan effective preventative maintenance.
- **Safety** – This is not an “asset” in the traditional sense. However, safety and crash statistics are important factors in project prioritization and selection. VTrans is a leader in the multi-agency Strategic Highway Safety Plan. This program works with multiple agencies to reduce Vermont’s crash rate despite rising traffic volume.
- **Roadway** – Vermont is in the process of evaluating and implementing computerized systems to manage highway assets. Such systems will help prioritize roadway projects by evaluating safety, mobility, roadway geometry, pavement structure and condition, condition assessment of small culverts, guardrail and signs, as well as economic factors like travel time or the costs associated with crashes and delays.
- **Maintenance Management** – VTrans’ Operations Division uses MATS (Managing Assets for Transportation Systems) to record most highway maintenance work by location. MATS is being expanded to include culverts, transportation buildings, and ancillary assets.
- **Central Garage Fleet and Equipment** – The Central Garage must have the right equipment available at the right time, especially for snow removal and emergencies. VTrans uses a computerized system to not only track equipment usage, but also to optimize maintenance and replacement cycles at the least cost.

- Buildings – The Operations Division uses facility-inventory and condition-reporting software to both calculate a building health index and to recommend repairs in a priority sequence.
- Signs – Roadway’s Traffic & Safety unit maintains a database of more than 80,000 signs. Over 5,000 signs are replaced annually due to knock-downs, obsolescence, loss of reflectivity, changing federal standards, or as part of paving and construction projects.
- Aviation – The Aviation Section uses the Airport Information Management System (AIMS) to identify, prioritize and track progress on aviation-related projects. Aviation safety is the primary project driver at both the federal and state level.

As stewards of publicly owned assets, it is incumbent on VTrans to periodically report asset condition to the General Assembly as well as the public at large. Transparency is imperative as it not only assures stakeholders that VTrans is effectively managing the resources under its care, but holds the Agency accountable for its actions and decisions. Reports include performance measures that reflect asset condition and/or its level of service.

A last critical component of asset-management is the project-prioritization process. Project prioritization allows VTrans to sift through many project and program ideas, and focus its efforts where they will provide the greatest benefit to the transportation network. A more extensive description of the project-prioritization process is found in this document as a separate tab.

Two years ago, a new component was added to the VTrans business process: the Budget Committee. This committee, made up of senior staff from all divisions and chaired by the Deputy Secretary, is responsible for working with program managers to develop a budget proposal for review and approval by the Secretary and Executive Staff. The committee process is highly iterative. For the key programs, managers develop spending proposals at varying funding levels. For each scenario, program managers define the performance-level impact on the part of the system that they manage. This portfolio-management approach allows the Committee to test varying investment mixes to seek the total system’s optimum performance level.

This work is a continuation of previous efforts designed to infuse the concepts of asset management, performance measurement and project prioritization into VTrans’ business model. Significant activities within the last three years include:

- A Bridge Maintenance category.
- A combination of asset management and RPC/MPO input that helps drive project prioritization budget development. Project prioritization in turn “drives” project selection and the budget.

- Realign Agency priorities using a more scientific approach that recognizes future cost savings by applying the “right treatment at the right time.” Examples include small culverts, slope, and ledge projects.

While these efforts are promising, more needs to be done to incorporate these principles into the Agency’s business model. Such efforts are a long-term and continually-evolving process. As VTrans’ staff becomes more adept in this approach, continuous improvement will result.

In summary, asset management views transportation facilities as the building blocks of our communities. Wise management of these publicly-owned assets is necessary to ensure a satisfactory quality of life that includes a high level of economic vitality.