

5.0 Implementation Plan

■ 5.1 Introduction

Implementation of this Highway System Policy Plan will involve a coordinated set of actions across different units of the Vermont Agency of Transportation. Procedures and programs are already in place that are supportive of the majority of policies in this plan. Appendix A describes the already existing programs that are relevant to highway policy. This section presents a set of actions items that are needed to supplement existing procedures in order to reinforce and strengthen the effectiveness of the policies that have now been made more explicit. These actions are all supportive of the major LRTP objectives, and represent logical next steps for VTrans as it moves towards a more integrated, performance-based approach to managing its transportation assets.

■ 5.2 Recommended Actions

Action 1. Pursue Increased Funds for Highway System Preservation

The investment analysis conducted for this plan indicates a clear need for increased resources for preservation of the SHS. Increases in funding for preservation should be sought in order to allow for both reconstruction of facilities at the end of their life and cost-effective preventive maintenance and rehabilitation actions to prolong the life of facilities throughout their life cycle.

The level of analysis conducted was not sufficiently precise to recommend an exact figure, but it does indicate that conditions are likely to decline precipitously over the next decade without a significant funding increase.

Possible approaches include:

- Continued allocation of available resources to emphasize the preservation component of the program.
- Work with the legislature to identify additional transportation revenue sources.

Lead Responsibility – Executives/Program Development

Action 2. Increase Emphasis on Preventive Maintenance

Because resources for preservation have been limited, Vermont has been in the unfortunate position of having to decide between preventive maintenance and major reconstruction or replacement work to address facilities in poor condition. While this is a difficult choice, it is important to increase understanding and awareness both within the agency and among the general public of the implications of under-funding preventive maintenance. A “worst-first” approach to prioritizing projects is rarely the least-cost long-term investment strategy.

It is therefore recommended that as part of the annual budgeting process, a “preventive maintenance” emphasis option be prepared, which involves allocating an increased share of resources to work to extend the life of facilities that are still in fair to good condition.

Consideration also should be given to establish a preventive maintenance funding category within the pavement and bridge areas. The amount of funding in this category could be established at a relatively modest level at first, with future increases to levels recommended by pavement and bridge management systems. Other states (e.g., Michigan) have found that earmarking funds for preventive maintenance is an effective way to ensure that this important, cost-effective preservation work is accomplished.

Lead Responsibility – Program Development

Action 3. Move Towards a Performance-Based Planning and Programming Process

VTrans should continue making progress towards a performance-based planning and programming process through implementation of the following steps:

- Monitor actual values of the established performance measures and document performance trends over time;
- Establish performance targets as part of the annual budgeting process, which reflect the current performance levels and an understanding of what can be achieved with available resources;
- Periodically conduct customer surveys or focus groups to obtain feedback on highway user sensitivity to different condition levels, and use this information in the target-setting process; and
- Investigate development of a new performance measure reflecting the remaining life or value of the highway network along with methods for calculating this measure using available asset management systems.

Lead Responsibility – Policy and Planning

Action 4. Support Development of Corridor Management Plans

A subset of the Primary Network corridors identified in this policy plan should be selected for the development of corridor management plans which may include:

- Identification and involvement of stakeholders (e.g., local jurisdictions, regional planning agencies, business, residents, environmental agencies, etc.);
- Investigation and documentation of existing and future land-use and transportation conditions and issues;
- Stakeholder agreement on goals and objectives to guide development of future strategies;
- Identification and evaluation of alternative strategies, including both transportation and land-use actions; and
- Consensus-building on a recommended set of actions, and development of implementation approaches (agreements, commitments, partnerships, etc.) and monitoring plans.

Sufficient resources should be allocated to undertake these plans. Possible criteria for selection of corridors include:

- Corridors likely to experience new development over the next decade, where coordination among multiple jurisdictions will be key to managing new transportation needs associated with that development;
- Corridors with significant safety, operational and/or congestion issues; and
- Corridors where there is a potential for improving travel alternatives via multimodal approaches involving improved intermodal connections and/or strategies that encourage modal shifts.

Develop a set of standard guidelines indicating the structure, content and process for developing a corridor plan in order to ensure consistency across plans. These guidelines should define mechanisms for involvement of local agencies, as this is a critical element of successful corridor planning efforts. (For further information, see overview of corridor planning practices in Appendix C).

Lead Responsibility – Policy and Planning

Action 5. Implement Coordinated Approach to Highway Needs Identification and Project Scheduling

In conjunction with the Asset Management initiative, VTrans should examine its current process of highway needs identification and project programming to ensure that 1) all available information on pavement, bridge, safety, pedestrian/bicycle needs and traffic flow/mobility conditions and needs is taken into account in a coordinated fashion, and 2) project programming and scheduling is done in a manner that ensures coordination of different types of work. The result of this effort would be a re-engineered set of business processes, along with new supporting analysis tools. This process should include the following elements:

- Annual mapping of projected five to 10-year needs or deficiencies, including but not limited to high-accident locations, locations where the Pavement Management System shows a resurfacing or reconstruction need, structurally deficient or restricted bridges, other bridges which are recommended for rehabilitation or reconstruction, retaining wall and culvert rehabilitation and replacement locations, locations with traffic congestion, locations with identified pedestrian/bicycle needs, locations with steep grades, and high volumes of commercial vehicles. This map should be used to assist with project identification and scoping.
- Annual program review process, assisted by a map showing locations of programmed and recommended projects (of all types), by corridor. This map should be used to assist in the identification of opportunities to coordinate project timing.

Current VTrans efforts in the area of data integration should be considered as an important input to the coordinated needs identification and project development process. These efforts are providing a route-log tool that allows for examination of a wide variety of inventory and condition information at a selected location. The data assembled for the route-log tool can be used as the basis for a broader GIS/query tool to provide the types of mapping capabilities suggested above.

VTrans also should continue to explore use of integrated asset management systems in order to better support coordinated identification of projects.

Lead Responsibility - An individual within Policy and Planning or Program Development should be tasked with this responsibility serving as a liaison across the different program areas (roadway, pavement, bridge), and working to bring together information from studies and plans, asset management systems and GIS for consideration in the program development process.

Support Responsibility - GIS

Action 6. Strengthen and Reinforce Access Management Program

Continue current access management practice based on the established Access Management Guidelines. Pursue additional efforts to educate local officials, the development community, and the public at large about the benefits and importance of access management. Continue to monitor compliance with the guidelines, and consider additional formal rulemaking if the guidelines do not appear to be effective.

As part of corridor management planning activities, develop a list of locations in major rural and suburban corridors, and near Interstate highway interchanges where proactive purchase of access rights would be desirable, either to preserve right-of-way for future highway capacity expansion or to prevent future pressure for additional access points (where the Access Management Guidelines may not be sufficient). Explore initiation of a program to selectively acquire access rights for the highest-priority locations. Seek legislative action as needed to allow for proactive purchase of access rights. (See Appendix C for a brief review of state practices in this area).

Lead Responsibility – Program Development

Action 7. Review and Update Design Standards and Project Development Process Description

The 1997 Vermont State Design Standards, including the Level of Improvement (LOI) policy, and the Project Development Process Description should be updated over the next two years, and then every five years to ensure that they reflect current practice and continue to serve their intended function. Specific issues to be addressed in the update effort are:

- Assess the extent to which the LOI policy has been followed since its implementation; were the exceptions to this policy justified based on the established criteria within the policy? Based on the results, build in mechanisms to strengthen this policy, or discuss ways in which it may need modification.
- Include reference to the overall performance-based planning and programming context within which project development takes place.
- Consider incorporating the LOI policy earlier in the project identification process (e.g., as part of the TPI) so that this policy serves as a “ground rule” for screening project ideas rather than as a scoping consideration.
- Consider adding reference to standards for pavement design in order to move towards the goal of fully engineered pavements on the Primary Network.

Lead Responsibility – Program Development, Policy and Planning

Action 8. Periodically Review Functional Classification and Facility Ownership

Periodically review the functionality of SHS roadways, and modify the classifications when changes occur in the nature of use or function of a highway segment. Pursue inter-governmental transfers as appropriate:

- Where a road segment transitions from one of statewide significance to one serving exclusively local traffic (e.g., as in the case of a bypass replacing an old state route); or
- Where a local road segment begins to take on statewide significance (e.g., to serve as a detour route for a bridge that is load-posted).

Lead Responsibility – Program Development

Action 9. Continue Implementation of Integrated Asset Management Systems

Continue to improve and integrate individual asset management systems and make use of these systems as an integral part of highway investment decision-making processes. Improvements in asset management systems should focus on integration of data, providing cost and performance tracking and prediction capabilities in support of the Agency’s planning and programming process, and providing a coordinated approach to programming of pavement, bridge, and highway projects.

Lead Responsibility – Policy and Planning

Action 10. Enhance Pavement and Bridge Performance Models

Pavement and bridge management systems are valuable tools for understanding the relationship between investment levels and performance over the long term, and for assisting in the development of cost-effective preservation strategies. VTrans now has a solid base of historical condition data for both pavements and bridges, which allows for development of improved predictive capabilities. A project is currently underway to develop new pavement performance models; a similar effort is recommended for the bridge management system. In addition, a review of cost models based on actual bid-tab data from projects is recommended for both pavement and bridge management systems. This action will allow VTrans to develop more accurate and reliable predictions of pavement and bridge needs, and will enhance the usefulness and credibility of these important management system tools.

The preliminary analysis of Vermont Highway Needs using the HERS/ST model conducted for this Highway System Policy Plan effort indicated that this tool could serve as a useful complement to the pavement management system in understanding highway needs and their relationships to user costs. An effort to determine the feasibility of expanding the HPMS data set (which is used as the HERS/ST input) to cover a larger

share of the Vermont State Highway Network, and to further examine and calibrate HERS/ST model parameters to Vermont conditions also is recommended. (See Appendix B for further detail).

Lead Responsibility - Pavement Management, Bridge Management, Policy and Planning (HERS/ST)

