Executive Summary

Highway System Policy Plan Context and Objectives

Vermont's highway system constitutes the most important component of the State's transportation network. Private vehicle travel is the predominant mode of transportation for the vast majority of Vermonters (approximately 98 percent).[1] In addition, trucking is the primary mode of freight transportation in Vermont, accounting for the vast majority of freight moving into, out of, within and through the State.

The Highway System Policy Plan (HSPP) takes a broad look at current and likely future highway system conditions and needs. It provides a high-level, strategic view to guide the Vermont Agency of Transportation (VTrans) in preserving, maintaining and enhancing the highway network over the next 20 years. This strategic view complements the existing processes already in place for identifying and developing specific highway projects.

The HSPP responds to a number of key transportation concerns, including:

- **Aging Infrastructure –** Vermont roads and bridges are at an age where maintenance and rehabilitation requirements are substantial and increasing. Careful planning is required to ensure that appropriate levels of resources are targeted towards infrastructure maintenance and that these resources are used in the most effective manner.

- **Limited Resources for Transportation –** Even in the best economic times, there is never enough funding to address all of the legitimate needs for infrastructure maintenance and improvement. Major projects currently in progress such as the Bennington Bypass, the Mississquoi Bay Bridge, and the Circumferential Highway account for a large share of the highway program. The need to complete these projects must be balanced against other, more dispersed but nevertheless real needs across the State.

- **Increased Emphasis on Highway Operations and Management –** Given the limited resources and the myriad complexities and impacts of adding new highway capacity, transportation agencies across the country have recognized the need to put greater emphasis on improving highway operations and management strategies.

- **Recognition of Transportation/Land Use Relationships –** A coordinated approach to land use and transportation decisions at the corridor level must be pursued and

[1] Vermont Long-Range Transportation Plan, January 2002.

combined with careful highway access management in order to maintain mobility and safety on existing highways while allowing for economic development.

- **Balancing Quality of Life, Mobility, Environmental, and Economic Development Concerns –** The need to achieve a balance between promoting economic well-being, providing convenient travel options for both freight and passengers, and preserving the character and scenic beauty of Vermont has been a central theme of previous planning efforts, and is recognized in the HSPP.

Development of this policy plan was guided by an Advisory Committee with representation from VTrans, the Department of Motor Vehicles, the Chittenden County Metropolitan Planning Organization, the Vermont Association for Planning and Development Agencies (VAPDA), and the Federal Highway Administration (FHWA). It also reflects comments received from members of the Transportation Planning Initiative (TPI), a partnership between VTrans and Vermont's regional planning organizations.

Contents of the Highway System Policy Plan

The HSPP includes the following sections:

- A **Current Profile** of the highway system and the activities it supports.
- **Performance and Investment Framework** identifies highway system subnetworks and land uses for which goals, measures and targets are established covering preservation, safety, mobility, and environment/quality of life.
- **Investment Tradeoff Analysis** to understand likely future highway and bridge preservation needs and estimate system performance based on different investment levels.
- **Policy Guidance** for future highway investments.
- **Implementation Plan** with actions for VTrans to take in order to carry out the policy guidance in the HSPP.

Highway System Profile

System Overview

There are over 14,000 miles of public roads in the State of Vermont. The state highway system (SHS) accounts for less than one-fifth of these miles (2,704 miles), but provides the backbone network serving interregional and interstate passenger and freight travel. Vermont has 703 miles on the designated National Highway System (NHS), including 320

Interstate system miles. There are a total of 2,659 publicly owned long[2] highway bridges in the State, 40 percent of which are on the SHS. However, SHS bridges account for over 70 percent of all of the State's bridge deck area. The SHS also includes another 1,306 short structures (six to 20 feet in length), over 40,000 culverts (six feet or less in diameter), nearly 65,000 signs, 235 traffic signals, roughly 1,000 roadway lights, and over 1,000 miles of guardrails.

System Performance

Pavement Condition – Pavement condition (rutting, cracking and roughness) is surveyed regularly and this information is used to assign a condition rating from 0 (worst) to 100 (best) to each section of pavement. Data collected in 2003 indicates that roughly one-third of the SHS pavement is in "very poor" (0 to 39) or "poor" (40 to 64) condition. The Interstate system is in better shape than the remainder of the system, with only eight percent in poor or very poor condition. Pavement condition ratings are an indicator of road surface smoothness, but do not provide a complete picture of how long pavements will last. There is some uncertainty about the "remaining life" of the pavement network, particularly given the fact that 57 percent of SHS pavement length is classified as "non-engineered" which means that the type and placement of fill underneath the surface is unknown and may not meet engineering specifications or criteria.

Bridge Age and Condition – Almost half (46 percent) of the SHS bridges are between 31 and 50 years old, which is the stage of a bridge's life span when substantial maintenance or rehabilitation is required to preserve its structural integrity. Eight percent of the SHS bridges are over 70 years old, which indicates that they are nearing (or exceeding) the typical bridge life of 75 to 80 years old[3]. About one tenth of the SHS bridges have a bridge sufficiency rating below 50, which means they are eligible for Federal bridge replacement funds. Seventeen percent of Vermont's SHS bridges (188 of 1,075) are classified as structurally deficient, a Federally defined indicator which is based on a poor condition rating for one of their major structural components (deck, superstructure, substructure, culvert). This is slightly higher than the national average of 14 percent.

Traffic – Vermont is a predominantly rural state with low-population density and only one designated urbanized area – Chittenden County. Additional small urban areas and clusters are scattered around the State. While the Interstate system and sections of the NHS carry the heaviest traffic (passenger cars and trucks) in the State, heavy traffic and congestion conditions are also experienced by motorists on urban arterials and connectors primarily during peak hours. Based on responses to surveys conducted for the 1995 and 2002 Long-Range Transportation Plans, the majority of Vermonters surveyed indicated that congestion is not considered to be a major problem and it does not adversely affect their quality of life. Traffic projections for 2020 indicate that congestion will be spreading beyond the Burlington area to other portions of the State including Hartford, Rutland, Bennington, St. Johnsbury and the I-89 corridor north of Burlington.

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[2] Long structures are defined as those over 20 feet in length.

[3] NCHRP Report 483, "Bridge Life-Cycle Cost Analysis," 2003.

Safety – The Vermont Agency of Transportation is committed to roadway safety and diligently works to monitor crashes to ensure that there are no roadway design flaws that could contribute to hazardous roadway conditions. According to the agency's extensive – but not comprehensive – crash database, there were 3,461 crashes and 76 fatalities in 2000. Analysis conducted on historical crash data indicates that the crash rate has been declining steadily over the past decade, and is significantly lower than the national average (52.8 crashes per 100 million VMT in Vermont versus 232 for the United States as a whole).[4]

Performance and Investment Framework

Vermont's highway network requires continuing investments to maintain its function and continue to serve the transportation needs of residents, employees, industries and visitors. The list of maintenance, operation and improvement needs is large and inevitably, the dollars fall short of the level that is desirable. Investment decisions should be made based on a thorough understanding of the needs and opportunities at different highway system locations, but also with an understanding of the implications of various investment levels on different portions of the system.

This section presents a performance and investment framework for Vermont's highway system under which desired outcomes are defined for the system (such as preservation, safety, mobility and environment/quality of life); performance measures and targets are established for different highway sections and land uses; and an analysis is presented of future highway system conditions (pavements and bridges) under different investment scenarios.

The performance and investment framework includes three key elements:

- Definition of different highway system subnetworks and land uses for which different performance targets or approaches to improving performance may be appropriate.
- Establishment of performance categories and goals, defining the major considerations driving the identification and evaluation of highway investments.
- Development of specific performance measures and targets pertaining to the different subnetworks that address the performance goals.

[4] Vermont Department of Public Safety, Vermont Crash Data Resource Book 2000.

Highway Subnetworks

For system preservation purposes, especially under fiscally constrained conditions, it is desirable to define different sections of the highway system based on functionality and overall level of importance for which different performance standards and investment policies are developed. The HSPP establishes a *Primary* state highway network which includes the National Highway System (NHS) and NHS Intermodal Connectors as well as additional routes included in Vermont's designated Commercial Vehicle Network (see Figure ES.1). This network serves the vast majority of freight and passenger travel in the State, and is of critical importance to the State's economy. Conditions will be tracked for all highway subnetworks to look at future investment options, and to develop policy guidelines for highway management and improvements:

Primary Network

- ***The Interstate Network–*** is the most critical portion of the network, constructed to the highest standards. It constitutes one-fifth of the state highway two-lane[5] miles but nearly one-third of the SHS's vehicle miles of travel, and nearly one-half of all of the truck miles of travel. There are 314 Interstate bridges.

- ***The Non-Interstate Primary Network –*** includes the rest of the NHS along with additional routes included in the designated Commercial Vehicle Network. The Non-Interstate Primary network accounts for another third of the vehicle miles of travel, and another 28 percent of the truck travel on state highways. There are 190 bridges on the Non-Interstate Primary network.

Off-Primary Network – includes the remaining portion of the SHS, accounting for 58 percent of the miles, 40 percent of the vehicle miles of travel, and 25 percent of the truck traffic. There are 530 bridges on the Non-Primary network.

Intercity Corridors and Land Uses

Assessing the performance of the highway system with respect to mobility is best done at a corridor level taking into consideration different land use requirements. The HSPP identifies nine North-South and seven East-West corridors and four land use area types (large cities and towns, smaller towns and villages, suburban corridors and rural corridors) for which performance targets and highway policies are established. The selected corridors connect population and employment centers served by the Primary Network (see HSPP report for more details). These corridors will be used as the basis for future detailed corridor planning efforts that examine transportation and land-use issues and strategies.

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[5] The Pavement Management System analyzes two-lane sections of roadway. Two sides of a divided highway are treated as separate sections. Therefore, the Interstate Pavement Management System mileage is roughly double the number of Interstate centerline miles.

Figure ES.1 Primary Network

Performance Categories and Goals

Based on the Vermont Long-Range Transportation Plan (LRTP), a set of performance goals to guide future highway investment and management were established. These are presented in Table ES.1.

Table ES.1 Performance Categories and Goals

Performance Category	Goals
Preservation	• Protect the existing investment in the highway network by keeping it in serviceable condition. • Provide acceptably smooth and safe driving surfaces. • Minimize the need to restrict or close bridges by maintaining their structural integrity in accordance with current and anticipated loadings. • Negate the risks of structure failure. • Minimize the life-cycle cost of maintaining acceptable condition levels.
Safety	• Minimize the occurrence and severity of crashes on the highway network through application of appropriate, context sensitive design standards and cost-effective improvements to address high-accident or high-risk locations. • Minimize conflicts between vehicles, pedestrians and bicycles.
Mobility	• Maintain safe and efficient flow of traffic at acceptable speeds. • Provide convenient interstate and intercity connections for passengers and freight. • Support economic development consistent with established regional and local growth plans. • Provide convenient connections to intermodal facilities.
Environment/ Quality of Life	• Support and reinforce state policies for compact growth patterns. • Manage undesirable impacts of truck traffic in downtown areas. • Minimize negative environmental impacts of highways. • Maintain existing air quality attainment status.

Performance Measures and Targets

Quantitative performance measures for these goal areas were established, as shown in Table ES.2. These measures are described in detail in the body of the HSPP.

Table ES.2 Vermont Performance Measures and Targets

Performance Category	Performance Measure	Level of Application	Baseline (2002)	Target
Preservation				
Pavements	Average Condition Index of Vehicle Miles Traveled	Interstate Non-Interstate Primary Off-Primary	79 68 62	Maintain existing conditions[1]
	Percent lane miles with "very poor" condition rating	Interstate Non-Interstate Primary Off-Primary	1% 7% 23%	Maintain existing conditions[1]
Structures	Number of restricted bridges (weight limits, height restrictions, one-lane bridges)	Interstate Non-Interstate Primary State-owned Off-Primary	0 2 6	0 Maintain adequate connectivity; keep bridges open or provide detour route
	Number of structurally deficient bridges (>20 feet)	Interstate Non-Interstate Primary State-owned Off-Primary	36 27 116	Maintain existing conditions[1]
	Number of structurally deficient short structures (six to 20 feet)	Interstate Non-Interstate Primary State-owned Off-Primary	48 50 129	Maintain existing conditions[1]
	Average health index (> 20 feet)	Interstate Non-Interstate Primary State-owned Off-Primary	90 88 84	Maintain existing conditions[1]
Safety				
	Number of major crashes per year (fatal, "serious injury," and "moderate injury")	All	1,244 (in 1998)	Five percent reduction from 1998 to 2008 (per Safety Management System)
	Percent of high-priority safety needs addressed (high accident location and high benefit/cost improvement)	All		100 percent within five years of identification
Mobility				
	Average travel time between major cities	Corridors on Primary Network	Varies (see report)	No decline in average travel time from current levels
	Maximum V/C ratio on state highways	Urban area downtowns Rural corridors Other (small towns/ villages, suburban corridors, growth areas)		0.9 0.7 0.8
	Percent of employment within 10 minutes of the Primary Network	All	86% (2000)	Maintain current level
	Percent of Employees Living within 10 minutes of the Primary Network	All	76% (2000)	Maintain current level
Environment/Quality of Life				
	Air quality attainment status	All	No non-attainment areas	Maintain current attainment status

[1] Pavement and bridge preservation targets to "maintain existing conditions" refer to the overall system condition and not to individual projects. These targets should be viewed as "pragmatic" given current fiscal realities.

Investment Analysis

The agency's pavement and bridge management systems were used to obtain an understanding of future investment needs to address the preservation objectives of the HSPP. The analysis looked at how bridge and pavement conditions would vary based on a range of investment levels over a 10-year period. Separate analyses were conducted for the three subnetworks (Interstate, Non-Interstate Primary and Off-Primary). Graphs such as the ones shown in Figures ES.2 and ES.3 were developed for both pavement and bridges on each subnetwork, to provide VTrans information about the effects of different investment levels on the system performance. Based on these graphs, four investment scenarios were assembled, representing a range of possible budget levels.

Figure ES.2 Annual Pavement Investment versus Performance (2002-2011)
Non-Interstate Primary Network

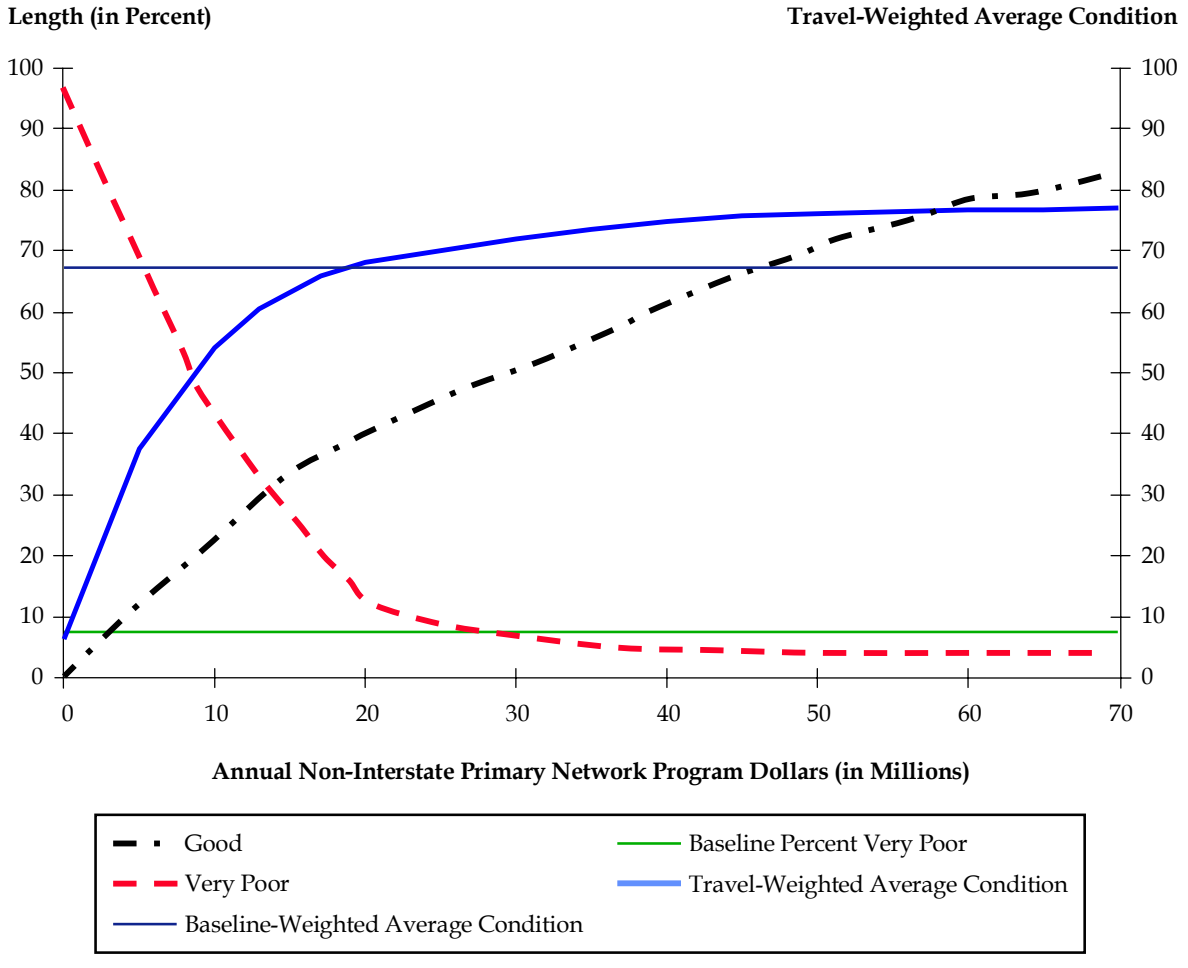
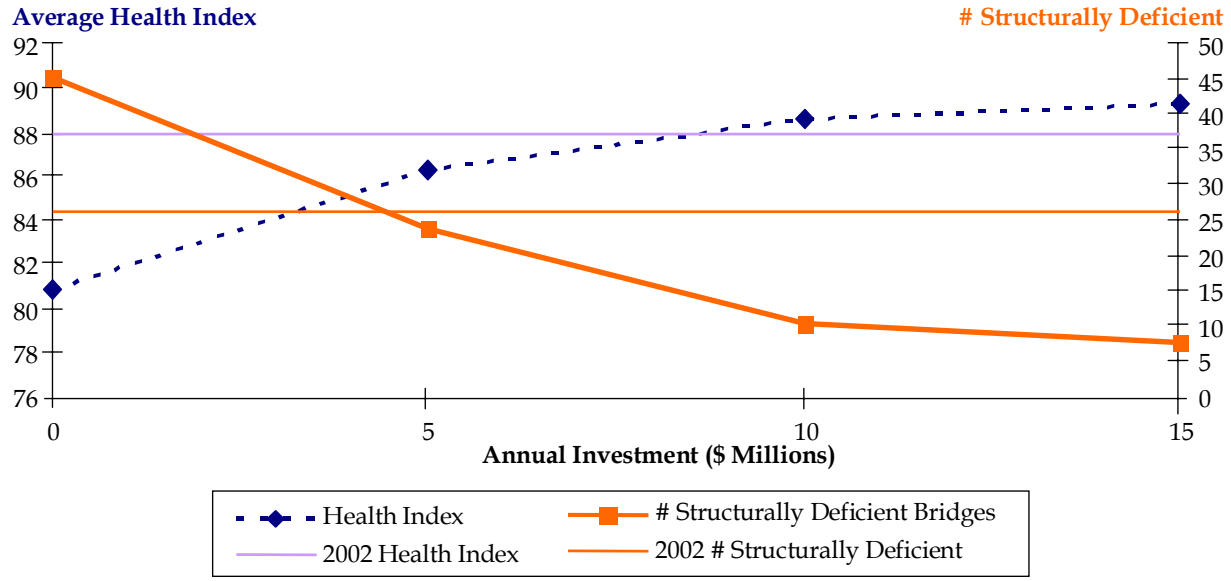


Figure ES.3 Annual Bridge Investment versus Average 10-Year Performance
Non-Interstate Primary Network Bridges



Pavement Investment Scenarios

Four pavement investment scenarios were developed involving different annual investment levels and allocations across the three subnetworks. The first three scenarios ($63 million to $109 million) represent increased funding levels over the historical average; the fourth scenario represents maintaining roughly the same average funding for pavement as over the past five years ($40 million).

- **Scenario 1: High Investment Level –** This scenario would improve pavement condition on all systems. The share of very poor miles would be negligible on the Interstate, five percent on the non Interstate Primary, and 21 percent on the Off-Primary Network. Average travel-weighted conditions would be 81 on the Interstate, and in the 73 to 74 range on the other two systems. This scenario would cost an average of $109 million per year.

- **Scenario 2: Medium Investment Level –** This scenario would allow very slight deterioration of the Intestate system, but still keep this system in very good condition (three percent of the system in very poor condition; average travel weighted condition of 80). It would hold the share of Non-Interstate Primary miles in very poor condition to its current level (seven percent), but would improve the travel-weighted average condition on this network from 68 to 72. It would allow a moderate decline in the condition of Off-Primary system, both with respect to the share of very poor miles (from 23 percent to 30 percent) and with respect to the average travel-weighted condition (from 62 to 69). This scenario would cost an average of $93 million annually.

- **Scenario 3: Low Investment Level –** This scenario is the same for Interstates as the previous scenario. It holds the travel-weighted average condition for the Non-Interstate

Primary network to the existing level of 68, but does allow the share of very poor miles on this network to increase from seven percent to 12 percent. The Off-Primary network experiences significant declines in condition – 55 percent of its length would be in very poor condition, and the average travel weighted condition would decrease from 62 to 56. This scenario would cost an average of $63 million per year.

- **Scenario 4: Current Funding Level –** This scenario is for an investment level roughly equal to the historical level ($40 million annually). It allows significant deterioration on all three systems. The Interstate system would be maintained at the highest condition level; the Off-Primary would be in the worst shape, with 76 percent in very poor condition.

Table ES.3 compares the required annual funding for these scenarios by network level, and their performance outcomes in the year 2011.

Table ES.3 Alternative Pavement Investment Scenarios

Investment Scenario	Network Level	Funding (per year)	Percent Length in "Very Poor" Condition		Travel-Weighted Average Condition	
			Baseline	Projected	Baseline	Projected
1. High Investment Level *$109 million/year*	Interstate	$14 million	1%	0%	79	81
	Non-Interstate Primary	$35 million	7%	5%	68	74
	Off-Primary	$60 million	23%	21%	62	73
2. Medium Investment Level *$93 million/year*	Interstate	$13 million	1%	3%	79	80
	Non-Interstate Primary	$30 million	7%	7%	68	72
	Off-Primary	$50 million	23%	30%	62	69
3. Low Investment Level *$63 million/year*	Interstate	$13 million	1%	3%	79	80
	Non-Interstate Primary	$20 million	7%	12%	68	68
	Off-Primary	$30 million	23%	55%	62	56
4. Current Funding *$40 million/year*	Interstate	$10 million	1%	10%	79	77
	Non-Interstate Primary	$15 million	7%	25%	68	63
	Off-Primary	$15 million	23%	76%	62	40

Bridge Investment Scenarios

Analogous to the pavement scenarios, four bridge investment scenarios were developed involving different annual investment levels and allocations across the three subnetworks. Rather than looking at performance at the end of the 10-year period as was done for the pavement analysis, the bridge analysis results are presented in terms of the average performance over the entire 10-year period. This is because the number of structurally

deficient bridges exhibits considerable variation from year to year in the bridge management system so looking at the result for the end of the 10-year period could be misleading.

- **Scenario 1: High Investment Level –** This scenario includes sufficient funds to maintain the 10-year average health index for Interstate bridges at the current level (while reducing the 10-year average number of structurally deficient Interstate bridges down to three percent), and to make moderate improvements in the condition of Primary Network and Off-Primary Network bridges. This scenario would cost an average of $70 million annually.

- **Scenario 2: Medium Investment Level –** Maintaining the 10-year average performance at the current level on all of the three subnetworks. This scenario would cost an average of $59 million annually.

- **Scenario 3: Low Investment Level –** Allow the 10-year average Interstate bridge health index to drop below the current average of 90 to 88 but reduce the 10-year average number of structurally deficient Interstate bridges to 16 (currently 38). Allow the remainder of the bridges on the Primary Network to deteriorate slightly with respect to average health index (decline of one point), while slightly reducing the 10-year average number of structurally deficient bridges. Maintain the current performance level off of the Primary Network, given that the number of structurally deficient bridges on that network is already quite high, and would increase considerably at lower investment levels. This scenario would cost an average of $37 million per year.

- **Scenario 4: Current Funding Level –** This scenario assumes an investment level of $18 million per year, split evenly across the three networks.

Table ES.4 compares the required annual funding for these three scenarios by network level, and their average performance outcomes over the 10-year analysis period.

Table ES.4 Alternative Bridge Investment Scenarios

Investment Scenario	Network Level	Funding (per Year)	Ten-Year Average Health Index	Ten-Year Average Number Structurally Deficient
1. High-Level Investment *$70 million/year*	Interstate	$40 million	90	8 (3%)
	Non-Interstate Primary	$10 million	89	11 (6%)
	Off-Primary	$20 million	89	77 (14%)
2. Medium-Level Investment *$59 million/year*	Interstate	$40 million	90	8 (3%)
	Non-Interstate Primary	$7 million	88	27 (14%)
	Off-Primary	$12 million	84	116 (22%)
3. Low-Level Investment *$37 million/year*	Interstate	$20 million	88	16 (5%)
	Non-Interstate Primary	$5 million	87	24 (13%)
	Off-Primary	$12 million	84	116 (22%)
4. Current Funding Level *$18 million/year*	Interstate	$6 million	85	27 (9%)
	Non-Interstate Primary	$6 million	87	22 (12%)
	Off-Primary	$6 million	83	150 (28%)

Policy Guidance

The HSPP establishes policy guidance for preserving and improving the Vermont SHS. Its intent is to clearly identify the types of strategies to be pursued in order to meet established performance objectives in the most cost-effective manner.

General Policies

Based on the goals and performance targets established in the previous section, six key policy areas have been established for the highway system:

A. Investment Priorities;

B. Keeping Highways Safe;

C. Maintaining Primary Network Continuity;

D. Preserving the Existing System;

E. Improving the System; and

F. Managing Access to Maintain Mobility and Safety.

Policies within each of these areas are presented below.

A. Investment Priorities

Highest priority shall be placed on investments in the highway system that improve safety, preserve its physical integrity, enhance existing operations, and foster economic development.

Under limited funding conditions, investments shall be focused on high-priority safety improvements and on preserving highways and bridges on the Interstate and Non-Interstate Primary Networks.

B. Keeping Highways Safe

The established Safety Management System (SMS) process will be used to identify and implement cost-effective actions for reducing the number of serious crashes and fatalities on the SHS. A wide spectrum of actions shall be considered to address highway and driver-related causes of crashes.

VTrans shall strive to implement all spot safety improvements that address high-accident and high-risk locations in a cost-effective manner, as identified through the State's Highway Safety Improvement Program (HSIP), within a five-year period from their time of identification.

Safety considerations should be an integral part of the project identification processes for pavement, bridge and roadway projects through a well-defined work flow process and shared safety information across the Agency.

C. Maintaining Primary Network Continuity

VTrans will keep all Interstate bridges open and free of load restrictions.

VTrans will keep all other Primary Network bridges either free of load restrictions or provide a convenient detour.

D. Preserving the Existing System

Cost-effective investments in preservation projects will be made to keep the SHS infrastructure in safe, structurally sound condition, with a minimum of cost and discomfort to road users.

Available analysis tools will be used to determine least life-cycle cost preservation strategies to maintain established target conditions. In particular, for non-engineered pavements on the Primary Network, analysis will be conducted to assess whether replacement of the pavement (full-depth reconstruction) would be more cost-effective over the long term than periodic resurfacing treatments.

E. Improving the System

Corridor management plans for primary network highways should be developed in order to build consensus on transportation solutions that reflect different stakeholder interests and involve coordinated actions on the part of multiple agencies and jurisdictions.

The following priorities for improvements are established: 1) Prevent safety and capacity problems from developing through the use of access management and coordinated land use planning; 2) improved traffic operations and/or demand management strategies; 3) minor improvements to improve efficiency and capacity, such as widening shoulders, adding climbing lanes or truck pullouts; 4) major improvements such as new general purpose lanes or re-alignments; and finally 5) new facilities, including new interchanges and new bypasses.

General policy considerations for new facilities and major improvement projects may include the following: 1) the project's scope is appropriate given long-range projections of need; 2) the project is consistent with state, regional and corridor-level transportation and land use plans; 3) strategies are in place for protecting the improved facility's function in the future including intergovernmental agreements that require local jurisdictions to adopt actions supportive of access management in their local plans; 4) funding for the project (and any associated work to be undertaken by local governments) can reasonably be expected to be in place; and 5) the project was developed using established public involvement procedures.

F. Managing Access to Maintain Mobility and Safety

Access to the SHS will be managed according to the principles and approaches identified in the existing VTrans Access Management Guidelines. Ensure that the guidelines are effectively serving their intended purpose, through education and outreach, and if needed, through formal rulemaking.

Action Plan

Implementation of the HSPP 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 the HSPP. However, a number of additional actions are needed to reinforce and strengthen the effectiveness of these policies. 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.

HSPP recommended actions are shown in Table ES.5.

Table ES.5 Highway System Policy Plan Actions

Action (Lead Responsibility)	Description
1. *Increase highway preservation funding (Executives/Program Development)*	• Seek increases in funding for preservation 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.
2. *Increase Emphasis on Preventive Maintenance (Program Development)*	• Prepare a "preventive maintenance" emphasis option for consideration in the budgeting process which allocates an increased share of resources to work to extend the life of facilities that are still in fair to good condition. • Consider establishment of a preventive maintenance funding category within the pavement and bridge areas.
3. *Performance-based Planning and Programming Process (Policy and Planning)*	• Set performance targets in conjunction with the annual budgeting process based on current actual performance levels and analysis 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. • Investigate development of a new performance measure reflecting the remaining life or value of the highway network.
4. *Corridor Planning (Policy and Planning)*	• Develop corridor management planning guidelines. • Develop corridor management plans to address transportation and land use issues in a coordinated fashion involving key stakeholders. • Select corridors based on current safety, operational and congestion issues; and/or emerging transportation needs associated with likely future growth.

Table ES.5 Highway System Policy Plan Actions (continued)

Action (Lead Responsibility)	Description
5. ***Coordinated Approach to Highway Needs and Project Scheduling (Policy and Planning and Program Development)***	• Develop tools and processes to look comprehensively at highway needs within a corridor, including pavement, bridge, safety, pedestrian/bicycle and traffic flow/mobility. • Ensure that project programming and scheduling takes into account coordination of different types of work.
6. ***Strengthen and Reinforce Access Management Program (Program Development)***	• Continue current access management practice based on the established Access Management Guidelines. • Continue to monitor compliance with the current access management guidelines, and consider additional formal rulemaking if the guidelines do not appear to be effective. • Educate local officials, the development community, and the public at large about the benefits and importance of access management. • As part of corridor 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.
7. ***Update Design Standards and Project Development Process Description (Program Development and Policy and Planning)***	• 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.
8. ***Periodically Review Functional Classification and Facility Ownership (Program Development)***	• Periodically review the functionality of State Highway System (SHS) roadways, and modify the classifications when changes occur in the nature of use or function of a highway segment. • Pursue intergovernmental transfers as appropriate when 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 when local road segment begins to take on statewide significance (e.g., to serve as a detour route for a bridge that is load posted).
9. ***Integrate Asset Management Systems (Program Development and Policy and Planning)***	• 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.
10. ***Enhance Pavement and Bridge Performance Models (Pavement Management, Bridge Management, Policy and Planning)***	• Utilize historical inspection data and bid tab information to improve deterioration and cost models in the pavement and bridge management systems. • Investigate use of HERS/ST.