

***TECHNICAL MEMORANDUM #5***  
**Vermont Agency of Transportation**  
***Implementation Plan***

**Vermont Bicycle and  
Pedestrian Policy Plan**

**Submitted by:**  
**WILBUR SMITH ASSOCIATES**

***in association with***  
**Toole Design Group**

**September 5, 2006**

## TABLE OF CONTENTS

5.0. Implementation Plan .....	1
5.1. Introduction .....	1
5.2. Responsibilities .....	1
5.3. Actions .....	1
5.3.1 Overview.....	2
5.3.2 Current Actions .....	2
VTrans.....	2
VBPP.....	3
RPCs/MPO.....	4
5.3.3 Strategic Actions .....	5
VTrans.....	5
VBPP.....	5
RPCs/MPO.....	7
5.3.4 Long Term Actions .....	7
VTrans.....	7
VBPP.....	7
RPCs/MPO.....	8
5.3.5 Actions by Others .....	8
Current .....	8
Strategic.....	8
Long Term Actions.....	9

## Technical Memo #5

# 5.0 Implementation Plan

## 5.1 INTRODUCTION

This Implementation Plan describes the actions that should be taken to achieve the vision and goals for bicycle and pedestrian transportation in Vermont. It presents current actions, strategic actions, and long term actions for the Vermont Agency of Transportation (VTrans), Vermont Bicycle Pedestrian Program (VBPP), and regional planning commissions (RPCs), and Chittenden County Metropolitan Planning Organization (MPO). Following this is a section of current, strategic, and long term actions that are to be accomplished primarily by other stakeholders. Overall, this implementation plan is meant to provide direction yet allow flexibility in day to day operations within VTrans to take advantage of shifting opportunities, needs or demands.

This implementation plan is meant to advance the goals and objectives of this policy plan. Each of the actions relates to at least one, if not more, of the objectives outlined in Technical Memorandum # 4 (TM#4). Table 5.1 (to be distributed at 8/30 SAG meeting) highlights the relationship between the actions outlined in this Technical Memorandum and the objectives developed in TM#4.

In order to understand how progress on the various actions could be tracked, their relationship to the different performance measures developed in Technical Memorandum #3 (TM#3) has also been reviewed. Table 5.2 (to be distributed at 8/30 SAG meeting) provides an overview of this review. The Table shows two different means of measuring progress, direct and indirect. Direct measurements are those that measure results that can be directly attributed to the specific action. Indirect measurements are those that can not be directly attributed to the specific action, but to which the specific action could contribute progress.

## 5.2 RESPONSIBILITIES

The Vermont Bicycle and Pedestrian Policy Plan outlines the Vermont Agency of Transportation's policies as they relate to bicycle and pedestrian facilities and programs. By its nature, it must be implemented by VTrans as a whole. While there are some actions that pertain directly to the VBPP within VTrans, the integration of the policies into all VTrans projects and programs is the responsibility of every VTrans employee.

VTrans jurisdiction extends only to a small proportion of the total roadway mileage in Vermont (19.2% or 2,708 miles). In order to create an interconnected, well maintained, integrated bicycle and pedestrian system that works for all users, additional actions are necessary from numerous other agencies and organizations beyond VTrans. Consequently, the Vermont Bicycle and Pedestrian Policy Plan also includes several additional recommended actions for regional commissions, municipalities, advocacy groups and others.

## 5.3 ACTIONS

### 5.3.1 Overview

To implement the policies, and meet the goals and objectives in the Vermont Bicycle and Pedestrian Policy Plan, a variety of players must work together cooperatively to continue current or undertake new initiatives. The recommendations listed in **Sections 5.3.2, 5.3.3, 5.3.4, and 5.3.5** describe current or strategic new actions for the Vermont Agency of Transportation (VTTrans) as a whole and the VBPP specifically, as well as RPCs, the MPO, and other agencies, individuals or organizations to improve pedestrian and bicycle transportation in Vermont. Each action is listed under the agency or organization that is most responsible for its implementation, but partners in the implementation of specific actions are listed in parenthesis.

Current actions are those that are already being done that should continue into the future. Some would continue as is, while a few should be modified to more closely align with the goals and objectives of this plan. In addition, there are new activities, practices or programs that should be undertaken in the next five years. These actions, listed as strategic actions, identify the responsible party to implement the action. Long term recommendations are listed after these current and strategic actions and are those that are anticipated to be implemented more than five years into the future.

### 5.3.2 Current Actions

#### VTTrans

**C.1. Incorporate appropriate bicycle and pedestrian accommodations into VTTrans projects, programs and actions.** Bicycle and pedestrian improvements and programs are an integral part of transportation projects; the responsibility for accommodating bicyclists and pedestrians should be shared among all divisions within VTTrans. These accommodations are not solely the responsibility of the VBPP. All VTTrans initiatives and actions should address non-motorized travel. This will include not only those sections of VTTrans that initiate and implement roadway design/operations projects and maintenance, but will also include the research program, data collection activities, the Department of Motor Vehicles, the Rail Section, regional maintenance activities, and other programs. The process of integrating bicycle and pedestrian concerns into a wider array of VTTrans projects and programs has already begun, and should continue in the future.

**C.2. Fully implement current provisions of the VTTrans Project Development Process that incorporate consideration of bicycle and pedestrian needs into the process.** The VTTrans Project Development Manual contains numerous directives and references for including bicycle and pedestrian considerations into the development of VTTrans projects. VTTrans staff needs to be aware of this information and actively follow the existing recommendations in the Manual. The Bicycle and Pedestrian Coordinator and the Local Transportation Facilities Program Manager should continue to be members of the VTTrans Project Definition Team (PDT) to reinforce the consideration of bicycle and pedestrian issues during the project development process.

**C.3. Continue to incorporate maintenance of State-owned pedestrian and bicycle facilities into routine maintenance activities.** Regular State facility maintenance should continue to

include repairs and maintenance to shoulders and curb ramps, as well as repainting lane lines and crosswalks, replacement of signs, sweeping shoulders, and addressing other bicycle and pedestrian related maintenance or repairs.

**C.4. Continue to share project plans for upcoming transportation projects with the RPCs. (RPCs)** VTTrans should continue to share its plans for upcoming transportation projects with the RPCs/MPO. To increase the awareness of the RPCs/MPO of this opportunity, VTTrans should actively solicit input. Providing review opportunities to the RPCs at regular intervals can help localities and regions identify additional opportunities to include bicycle and pedestrian facilities more easily.

**C.5. Continue coordination efforts with other State and federal agencies.** Walking and Bicycling is affected by actions of agencies other than VTTrans. By coordinating activities with other State agencies and departments, such as the Department of Health, the Agency of Natural Resources, the Department of Housing and Community Affairs, Department of Tourism and Marketing and the Department of Education, VTTrans can be both more effective and strategic in its actions.

**C.6. Maintain the VTTrans design manuals, design details and standard drawings to include the most recent non-motorized transportation facility design treatments. (VBPP)** VTTrans staff should continue to update VTTrans standard design details as needed to ensure that they reflect up to date pedestrian and bicycle facility design details.

**C.7. Complete the ADA Transition Plan for the State Highway System.** VTTrans should continue to inventory the accessibility needs in the public right-of-way for non-access limited roads in the State system and develop a program of prioritizing ADA retrofits. Some ADA improvements will continue to be made through the standard process of road reconstruction and/or repaving or via VTTrans permitting of work in the State right-of-way by others.

**C.8. Continue to refine the crash reporting form to capture more accurate data about pedestrian and bicycle crashes.** VTTrans should continue its efforts to refine the practice of reporting pedestrian and bicycle crashes so that the data is more comprehensive.

**C.9. Analyze the locations of police-reported pedestrian and bicycle crashes.** VTTrans should continue to work with the Vermont Department of Public Safety to incorporate more detailed pedestrian and bicycle crash data into the State Crash Data Base. It should conduct an analysis of bicycle and pedestrian crash locations and characteristics to identify the most significant bicycle and pedestrian issues and/or locations.

**C.10 Consider staffing needs of the VBPP necessary to accomplish the current and strategic actions contained in this Plan.** In light of the current activities of the VBPP, the new strategic actions identified in this Plan, and the new federal law that *requires* a full time coordinator for the SRTS program, VTTrans should ensure the staffing needs of the VBPP is adequate.

## **VBPP**

**C.11. Maintain the current involvement with VTTrans projects beyond the scoping phase.** VBPP staff is already involved in the development of many projects throughout the various VTTrans

Sections in addition to their involvement with VTrans Local Transportation Facilities (LTF) projects. They should continue this involvement to ensure adequate consideration of bicycle and pedestrian issues in each VTrans project; however the need for this involvement will lessen as VTrans' staff becomes proficient at incorporating bike/ped facilities into projects.

**C.12. Continue to support the Safe Routes to School programs throughout Vermont.** In addition to safety, the Safe Routes to School program has multiple emphases, including physical activity and health of children and improving air quality near schools. Support efforts should include continuing outreach to interested individuals and organizations to broaden the coalition of partners implementing and advocating for Safe Routes to School activities. Opportunities should be sought to incorporate identified Safe Routes infrastructure needs into larger transportation projects.

**C.13. Offer non-motorized transportation training for VTrans staff, RPC, MPO, consultants and other individuals.** VBPP staff should offer appropriate training sessions to VTrans staff, consultants, advocacy groups, and other interested individuals on pedestrian and bicycle design and planning to enable these professionals to develop their skills to better accommodate these modes. The need for the training sessions will be reduced over time as more VTrans staff and local consultants become skilled in this area. The need for the training will never be eliminated, however, due to staff turnover and the need for education on updated planning and design concepts.

**C.14. Continue to build relationships with non-transportation partners to promote walking and bicycling.** The VBPP should continue its outreach to the Departments of Health, Education, Tourism and Marketing and Housing and Community Affairs, the Agency of Natural Resources, Hospitals, non-profit organizations, and businesses to increase awareness, funding, activities, and political support for walking and bicycling.

**C.15. Sustain current promotions for walking and bicycling as transportation. (RPCs/MPO, Advocacy Groups)** The VBPP should continue its assistance to municipalities, RPCs and advocacy groups in organizing Bicycle/Walk to Work days and other alternate transportation promotions. It should also work with the Department of Health and other appropriate departments or groups to show how walking and bicycling for transportation can be beneficial in terms of cost, time, and physical activity.

**C.16. Continue to conduct research of innovative pedestrian and bicycle treatments. (UVM Transportation Center)** VTrans is one of the few state departments of transportation that has done pioneering research on new design treatments for pedestrians and bicyclists. VTrans should continue to test new facility design techniques and safety countermeasures for use in Vermont. VTrans should explore partnering with the new UVM Transportation Center for this activity.

**C.17. Continue to use short-term advisory committees to assist with specific issues or projects. (Advocacy Groups)** While a Citizen Pedestrian and Bicycle Committee can provide useful feedback to the VBPP, this type of committee is most effective when it is given specific tasks to address and ceases to exist when the task is complete.

## **RPCs/MPO**

**C.18. Continue to promote walking and bicycling as a viable means of transportation.** The Regional Planning Commissions (RPCs) and Chittenden County Metropolitan Planning

Organization (MPO), with assistance from the VBPP, should maintain their assistance to municipalities and advocacy groups to sponsor promotion programs for walking and bicycling and to initiate other activities or publications that show adults how walking and bicycling for transportation can be beneficial in terms of cost, time, and physical activity.

**C.19. Promote the incorporation of pedestrian and bicycle considerations into municipal comprehensive plans.** With assistance from VBPP and Advocacy Groups, RPCs should continue to encourage local communities to include sections on pedestrian and bicycle transportation in their comprehensive plans. RPCs should encourage pedestrian and bicycle issues to be addressed when they exercise their Act 200 local plan approval authority.

**C.20. Undertake, expand and/or implement regional bicycle and pedestrian plans.** Many RPCs have undertaken regional bicycle and pedestrian plans, but their scope and purpose vary. At a minimum, each RPC should undertake and then work towards implementation of a bicycle and pedestrian plan.

**C.21. Coordinate facility planning and development with adjacent communities and regions.**

### 5.3.3 Strategic Actions

As used in this report, Strategic Actions are new activities, practices or programs that should be initiated within the next five years. Several strategic actions are presented for VTrans and specifically the VBPP. Section 5.3.5 contains additional strategic actions for other critical (stakeholders).

#### VTrans

**S1. Monitor progress on non-motorized transportation policies as measured by established performance measures. (RPCs/MPO)** VTrans should use the non-motorized transportation performance measures established through this Bicycle and Pedestrian Policy Plan to direct the collection of data. Data should be collected with input from VBPP staff by municipalities, RPCs, CCMPO, and VTrans to determine the progress toward this Plan's goals through performance measures. VTrans staff should conduct outreach and training to ensure the quality of the data is consistent throughout the State.

**S.2 Consider bicycle, pedestrian and transit considerations as appropriate in the scope of VTrans Act 250 reviews.**

#### VBPP

**S.2.A Facilitate the implementation of this plan by others**

**S.3. Assist the RPCs/MPO in incorporating model language relating to bicycle and pedestrian needs for use in model development ordinances prepared by the RPCs and MPO for use by their local municipalities. (RPCs/MPO)** The VBPP should work with the RPCs/MPO and the League of Cities and Towns to prepare or update model ordinance that shows

municipalities how pedestrian and bicycle accommodations can be incorporated into development requirements and the development review process. The wording should include information on what to consider when establishing specific thresholds for when bike and pedestrian facilities should be required. **(VBPP)**

**S.4. Incorporate more bicycle and pedestrian questions into the Vermont Behavioral Risk Factor Surveillance System Survey.** The VBPP should work with the Vermont Department of Health to include additional questions about obtaining physical activity by walking and bicycling. It is recommended that separate questions be asked for walking and bicycling. The survey should also ask respondents to report the amount of time that they spend doing each activity. **(VBPP)**

**S.5. Determine the value and viability of using a Bicycle Level of Service (BLOS), Bicyclist Compatibility Index (BCI) or other appropriate measurement to gauge roadway bicycle suitability in Vermont. (VTrans, RPC, and MPO)** One of the most commonly heard comments at the public work sessions for the development of the Vermont Bicycle and Pedestrian Policy Plan was the need to provide more or better paved shoulders on Vermont roads. Many factors in addition to paved shoulder width impact the suitability of any particular roadway for bicycle and/or pedestrian travel. A study that addresses the public concern but also provides meaningful data may be appropriate for consideration. The most likely possibilities are the use of the BLOS or BCI

**S.5A Assist the Act 250 district staff members in understanding the relevance and importance of incorporate bicycle, pedestrian and transit considerations into the Act 250 project review process by.** Work with the Act 250 district coordinators as possible to raise the awareness of the importance of including consideration of bicycle, pedestrian, and transit issues under Criteria 5, 7, 9(A), 9(H), 9(K) or 10.

## **RPC/MPO**

**S.6. Designate RPC/MPO pedestrian and bicycle coordinators.** In order to maximize the ability of RPCs and the MPO to promote bicycle and pedestrian agendas, they should each designate an individual to assume responsibility for coordinating the various bicycle and pedestrian programs and projects.

**S.7. Encourage the use of existing of the formation of new municipal citizen committees to promote bicycle and pedestrian activities on the local and regional level. (Municipalities, Advocacy Groups)**

**S.8. Integrate multi-modal transportation guidelines into local land use regulations and local and regional land use plans. (Municipalities)** Pedestrian and bicycle transportation are more viable choices when the density and mix of development create shorter trips between where people live, work, shop, recreate, and do other activities. Land use and transportation decisions should be coordinated. To this end, the RPCs can develop regional plans that support multi-modal transportation choices at local and regional level. The RPCs can use the model ordinances developed as part of S.3 and other information to help local municipalities integrate multi-modal transportation guidelines into local regulations and plans. The RPCs should also, through their review authority over local plans, encourage development to be planned in a way that supports multiple transportation choices.

### 5.3.4 Long Term Actions

The following long term actions are anticipated to be implemented more than five years into the future. The groups that are partners for undertaking the action are listed in parenthesis at the end of the action.

#### **VTrans**

**L.1. Program funding to implement accessibility improvements in priority locations based on the ADA Transition Plan.**

**L.2. Evaluate education curriculum, materials and tests for drivers' licenses for their effectiveness in providing bicycle and pedestrian education. (DMV and Dept. of Education)** VTrans drivers' education and testing materials currently contain information relating to bicycle and pedestrian awareness. The curriculum, materials and tests should be revised as appropriate to maximize their effectiveness.

**L.3. Coordinate with organizations that have existing surveys to obtain statistically accurate bicycle and pedestrian travel survey data. (VTrans)** VTrans should work with other State agencies and organizations to incorporate questions on annual or new surveys about non-motorized trips, which would help benchmark mode share data over time. Data from the surveys could show trip purpose, trip length, trip time, and other information about non-motorized trips. They could also be used to develop methods for estimating pedestrian and bicycle demand and estimate exposure for crash analyses.

**L.4. Establish a long-term pedestrian and bicycle facility inventory and counting program. (VTrans, RPC/MPO)** The VBPP should coordinate with RPCs and the MPO to develop consistent methodologies for collecting pedestrian and bicycle counts and inventorying non-motorized facilities at the state and regional levels. VTrans and the Vermont Center for Geographical Information should be responsible for compiling and storing the data from around the State in a consistent format and preparing reports about the counts and facility inventories. This data collection effort, possibly including automated and manual counts, in combination with census data, the new Statewide travel survey, and records for crashes, would provide the basis for the VTrans pedestrian and bicycle performance measures.

#### **VBPP**

**L.5. Expand the State non-school oriented pedestrian and bicycle safety education programs. (RPCs/MPO, Advocacy Groups)** The successful BikeSmart bike safety training program should be expanded to be usable in non-school situations and a pedestrian safety component should be added to the program. Safety education programs with pedestrian components have been developed in other states and should be co-opted. These programs should be oriented towards adult walkers and bicyclists. **(VBPP)**

**L.6. Conduct a research study to determine the overall economic benefits of bicycling and walking on the State's economy. (VBPP, UVM, Other State Agencies)** The VBPP should work with the Agency of Commerce and Community Development, the Vermont Department of

Tourism and Marketing, and other appropriate partners to create an overall picture of the economic impacts of bicycle and pedestrian facilities and activities on Vermont. This study would be a one time snap shot of the total economic benefit (direct and spin-off benefits) of bicycle and pedestrian facilities and activities, including tourism, environmental, real estate, health, and other economic benefits.

**L.8. Assuming a positive outcome to Action S-6, assist regional planning entities and local communities in the understanding and use of the roadway suitability tool.**

### **5.3.5 Actions by Others**

#### **Current**

**O.1. Expand current relationships with non-transportation partners to promote walking and bicycling. (Advocacy Groups)** Advocacy Groups have realized that they can increase their effectiveness by partnering with other advocacy groups, private businesses or government agencies in addition to VTTrans to increase awareness, funding, activities, and political support for walking and bicycling. These partnerships should continue and increase over time to maximize the value of their work.

**O.2. Continue to increase awareness of pedestrian and bicycle planning and design issues at the local level through outreach to municipalities. (Advocacy Groups)** Many decisions that affect the pedestrian and bicycle environment in Vermont are made at the local level. Advocacy Groups can assist the VBPP and RPCs/MPO in offering or coordinating pedestrian and bicycle information, training courses and other educational opportunities for local staff and decision makers. This can be through existing training offered by the League of Cities and Towns and the Secretary of State or special courses organized specifically for this purpose and/or the preparation of a document to educate local municipalities in bicycle and pedestrian needs, issues, benefits and design concepts.

**O.3. Encourage and actively assist local communities to build and maintain local bicycle and pedestrian facilities when desired and feasible. (Advocacy Groups)**

**O.3.A. Continue and expand as possible the accommodation of bicycles on transit facilities. (Transit Agencies, RPCs/PO)**

#### **Strategic**

**O.4. Increase the coverage of pedestrian and bicycle transportation issues in colleges and universities courses in Vermont. (Advocacy Groups, UVM, VBPP)** Bicycle and pedestrian advocacy groups should work with professors of urban planning, engineering, parks and recreation, and other university programs in the State to ensure course work that includes non-motorized transportation issues.

**O.5. Initiate outreach to colleges and universities to address bicycle and pedestrian safety on campuses. (Advocacy Groups, UVM)** Advocacy Groups should conduct outreach to

colleges and universities across the State to ensure a focus on pedestrian and bicycle safety issues in student orientation programs on campus.

**O6. Evaluate the need to reallocate highway safety fund expenditures, as administered through the Governor's Highway Safety Program, to a level more proportionate to the percentage of fatalities in Vermont that involve pedestrians and bicyclists. (Department of Public Safety)** On average, Vermont spends less than 1% of highway safety funds on pedestrian and bicycle safety programs. However, between 2001-2005 7.07% of all fatalities in Vermont were pedestrians and bicyclists. Because the safety of pedestrians and bicyclists is an important issue, the Department of Public Safety should evaluate the need to shift more highway safety 402 Program funding within the GHSP to help prevent pedestrian and bicycle injuries and fatalities.

**O7. Encourage bicycling and walking commuting by providing bicycle and pedestrian facilities and amenities. (Municipalities, Public and Private Employers)**

**O8. Build well-planned sidewalks fully integrated into commercial, urban, and village centers and support pedestrian linkages within village and downtown centers. (Municipalities, Public and Private, Employers)**

**O9. Include pedestrian and bicycle facilities in regular municipal maintenance activities. (Municipalities)**

**O10. Encourage the integration of bicycle and pedestrian issues into new or existing municipal citizen committees to promote bicycle and pedestrian activities on the local level. (Municipalities with assistance from Advocacy Groups)**

**O10.A. Incorporate bicycle and pedestrian access into school siting policies. (Department of Education, School Districts VBPP, RPCs, MUN,)** Work with the Department of Education, RPCs, municipalities, and school districts to consider bicycle and pedestrian access in the set of criteria that are used to select school sites. Building schools that are near growth centers can make it possible for more students to bicycle and walk to school. Use nationally available best practices as a model for how to accomplish this.

### **Long Term Actions**

**O.12. Integrate consideration of non-motorized transportation facility requirements into local grant programs. (Legislature)** The Legislature should provide consistency throughout the various transportation, community planning, and other grant programs that have previously been created by adding requirements that appropriate consideration of non-motorized transportation improvements be considered.