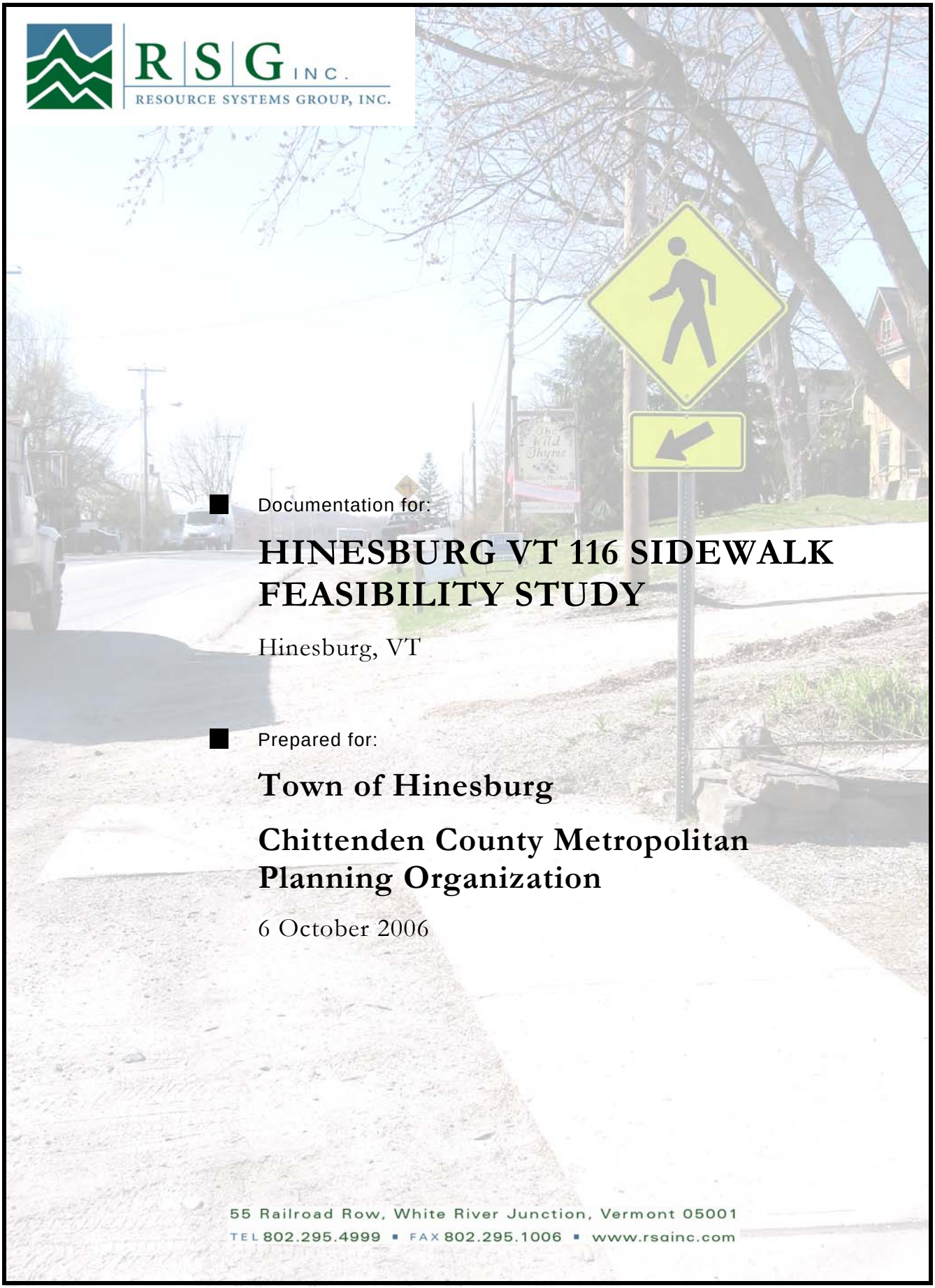

RSG INC.
RESOURCE SYSTEMS GROUP, INC.

Documentation for:

HINESBURG VT 116 SIDEWALK FEASIBILITY STUDY

Hinesburg, VT

Prepared for:

Town of Hinesburg

Chittenden County Metropolitan Planning Organization

6 October 2006

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1.0 INTRODUCTION

The VT 116 Sidewalk Feasibility Study is a joint effort of the Town of Hinesburg, the Chittenden County Metropolitan Planning Organization, the Vermont Agency of Transportation (VTrans), and local residents to examine the feasibility and potential impacts associated with the construction of new sidewalk in Hinesburg village. These new sidewalks would further the Town's goals of enhanced village walkability and would also serve to greatly enhance the safety of children walking to and from the Hinesburg Community School.

The purpose of this study is to evaluate the feasibility of constructing three new sidewalk segments in Hinesburg Village and to provide the Town with the documentation necessary to pursue preliminary engineering and construction funding through applicable Federal and VTrans sources.

The development of the feasibility study has proceeded through the series of steps shown below.

Table 1: Study Progress

TASK 1: Identify Existing Conditions	April-June 2006
TASK 2: Develop Conceptual Designs	June-July 2006
TASK 3: Draft Feasibility Study	August 2006
TASK 4: Public Meeting	18 September 2006
TASK 5: Final Feasibility Study	30 September 2006

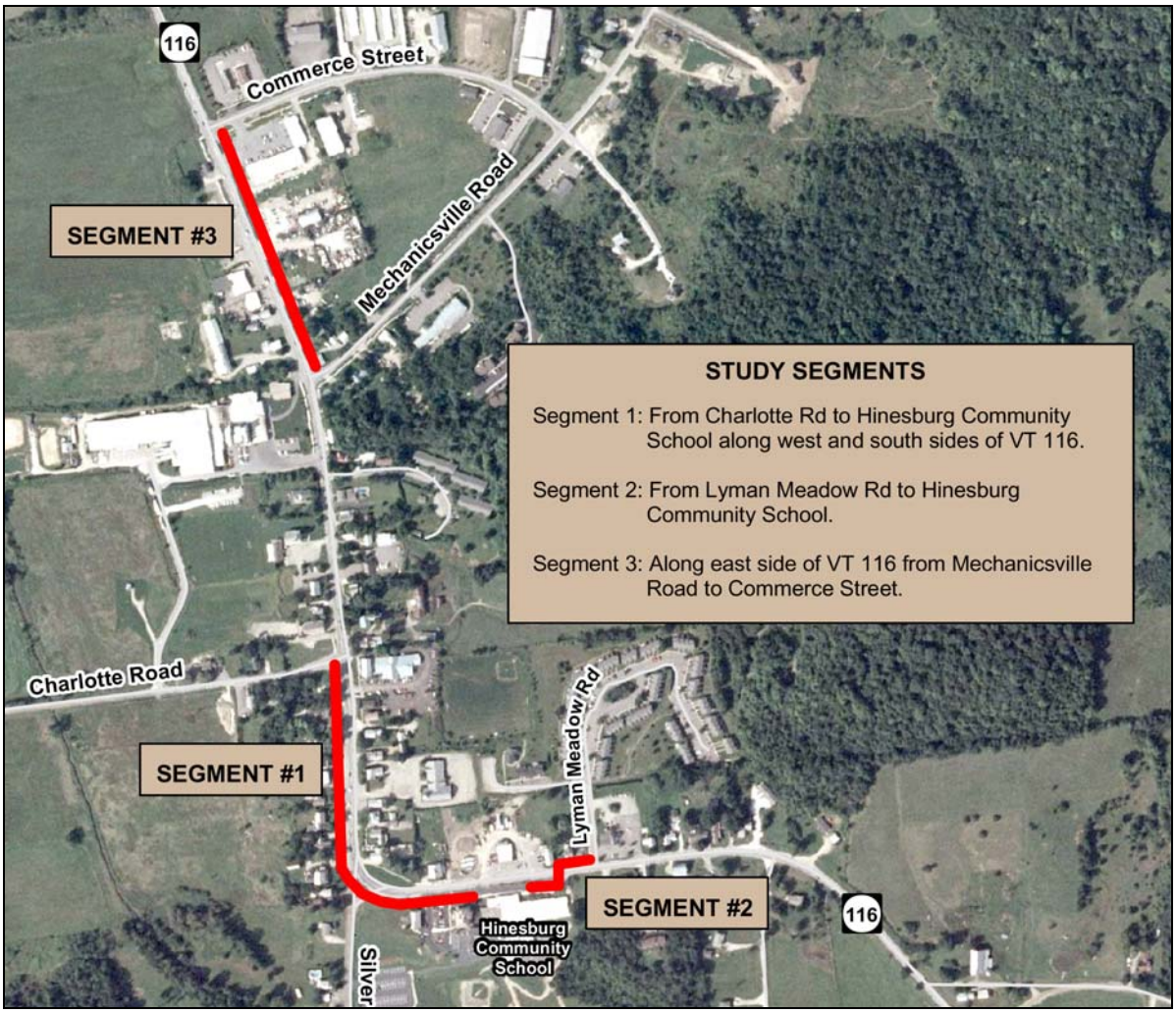
This feasibility study represents the culmination of the site investigation, analysis, design, and outreach efforts in the village. Through the analysis of existing conditions and public and steering committee input, a feasible alignment for new pedestrian facilities, on-street parking, and streetscaping improvements have been identified.

The feasibility study includes the following sections:

- Summary of Existing Conditions: Traffic volumes, bicycle and pedestrian origins and destinations, traffic crash history, resource assessment, and permitting.
- Conceptual Alignment Evaluation: Overview of proposed elements, cost estimates, evaluation matrix, and traffic analysis.
- Summary and Findings: Summary of project feasibility and overview of next steps.

Figure 1 shows the approximate limits of the study area.

Figure 1: Study Area



2.0 SUMMARY OF EXISTING CONDITIONS

The Village of Hinesburg straddles VT 116 and generally runs from Commerce Street south and east to Friendship Lane. The village has a diverse mix of land uses all within walking distance of the Town Offices including a grocery store, a hardware store, restaurants, a school, and a variety of housing types. The village currently has approximately 1.5 miles of sidewalk, with another 1,800 feet (Creekside sidewalks and new sidewalk along the west side of VT 116 between the Town Offices and Saputo Cheese) nearing construction.

Two of the major intersections in the village are scheduled for improvement in early 2007. The VT 116-Charlotte Road intersection will become signalized, while the VT 116-Silver Street intersection will be reconstructed into a T-intersection. Both projects are currently proceeding through final design.

This section provides a summary of the existing conditions in the village including: roadway classification and design standards, vehicle crash summaries, utilities, right-of-way, existing sidewalks, and environmental and cultural resources.

2.1 ROADWAY CLASSIFICATION AND DESIGN STANDARDS

VT 116 is a state route, maintained by VTrans, and classified as a minor arterial through the village. The facilities developed as part of this feasibility study adhere to the relevant design standards including the *Vermont State Design Standards*, *A Policy on Geometric Design of Highways and Streets, Manual on Uniform Traffic Control Devices*, *Vermont Pedestrian and Bicycle Facility Planning and Design Manual*, and the *Americans with Disabilities Act Accessibility Guidelines*.

On 2 October 2006, Hinesburg Town officials met with officials from VTrans to discuss roadway design standards along VT 116 in the village. Following this meeting, Hinesburg Town officials submitted a letter to VTrans requesting permission to apply an 11 foot travel lane and 4 foot shoulder cross-section (15 foot offset to curb) along VT 116 between Commerce Street and Buck Hill Road. We have assumed this cross-section in developing the conceptual plans for this study.

The following specific standards have been applied when designing the proposed facilities in Hinesburg:

- Minimum sidewalk width: 5 feet
- Minimum stopping sight distance: 250 feet (for mid-block crosswalks on 35 mph facilities)
- Minimum shoulder width: 4 foot shoulders (in locations without on-street parking)
- Minimum On-Street Parking Stall Width: 8 feet
- Minimum Clear Zone: 10 feet

2.2 POSTED SPEEDS

The posted speed limit along VT 116 within the village of Hinesburg is 35 mph between Buck Hill Road and Commerce Street. There is a "School Zone Speed Limit When Flashing" adjacent to the Hinesburg Community School which is currently is being revised to meet current Manual on Uniform Traffic Control Devices (MUTCD) standards. A work order has been issued to conduct these changes. The new 25 mph School Speed Zone "Flashing Beacons" will be located at mile points 4.232 and 4.371. The work order will also revise all other school and related signs in the area.

2.3 VEHICLE CRASHES

VTrans maintains a statewide database of reportable vehicle crashes. A reportable crash is a crash involving $1,000 or more in property damage, an injury, or a fatality. Between 2000 and 2004 there were 22 reported vehicle crashes on VT 116 along the three study segments as follows:

- Section 1: Commerce Street to Mechanicsville Road
  - Number of Recorded Crashes: 12
  - Number of Injuries/Fatalities: 13/0
  - No crashes noted involving bicycles or pedestrian activity
  - High Crash Location (HCL) Segment[1]? **Yes**
- Section 2: Charlotte Road to Hinesburg Community School
  - Number of Recorded Crashes: 10
  - Number of Injuries/Fatalities: 11/0
  - No crashes noted involving bicycles or pedestrian activity
  - High Crash Location (HCL) Segment? **Yes**
- Section 3: Hinesburg Community School to Lyman Meadow Road
  - Number of Recorded Crashes: 1
  - Number of Injuries/Fatalities: 9/0
  - No crashes noted involving bicycles or pedestrian activity
  - High Crash Location (HCL) Segment? No

[1] In order to be classified as a High Crash Location (HCL), an intersection or road section must meet the following two conditions: 1) it must have at least 5 crashes over a 5-year period, and 2) the Actual Crash Rate must exceed the Critical Crash Rate.

2.4 UTILITIES

The following underground and overhead utilities were identified within the study area:

- Overhead power, telephone and cable;
- Underground storm drainage with drop inlets; and
- Underground phone lines, water lines, and fire hydrants.

The identified sidewalk alignments were identified to have the following potential utility impacts:

Table 2: Potential Utility Impacts by Segment

	Catch Basin	Utility Pole	Phone	Fire Hydrant	Water Line
Segment 1	4	0	0	1	0
Segment 2	1	1	1	0	1
Segment 3	1	0	0	1	1

The identification and location of these utilities is based on field observations and a topographic survey conducted for the *Route 116 Hinesburg Village Corridor Study* (DuBois & King, 2004). As a number of the utilities could be affected during the construction of pedestrian facilities identified in this report, additional investigation is required to precisely locate the affected utilities and to proceed with necessary permitting and relocation plans.

The conceptual sidewalk designs included in this study specify granite curbing along VT 116 to further define the edge of the roadway, to channel stormwater runoff, and to better delineate driveway locations. Our preliminary analysis finds that the new curbing would necessitate the relocation or retrofit of certain identified catch basins.

2.5 RIGHT-OF-WAY WIDTHS

Based on previous right-of-way investigations, the State's right-of-way width along VT 116 is 4 rods (66 feet) between Shelburne Falls Road and Silver Street. The right-of-way narrows to 3 rods (49.5 feet) between Silver Street and Friendship Lane.

Although the conceptual design recommendations remain within the state right-of-way, it is recommended that a temporary construction easement of 5-20 feet on parcels fronting on the proposed sidewalk be pursued to minimize potential construction-related conflicts.

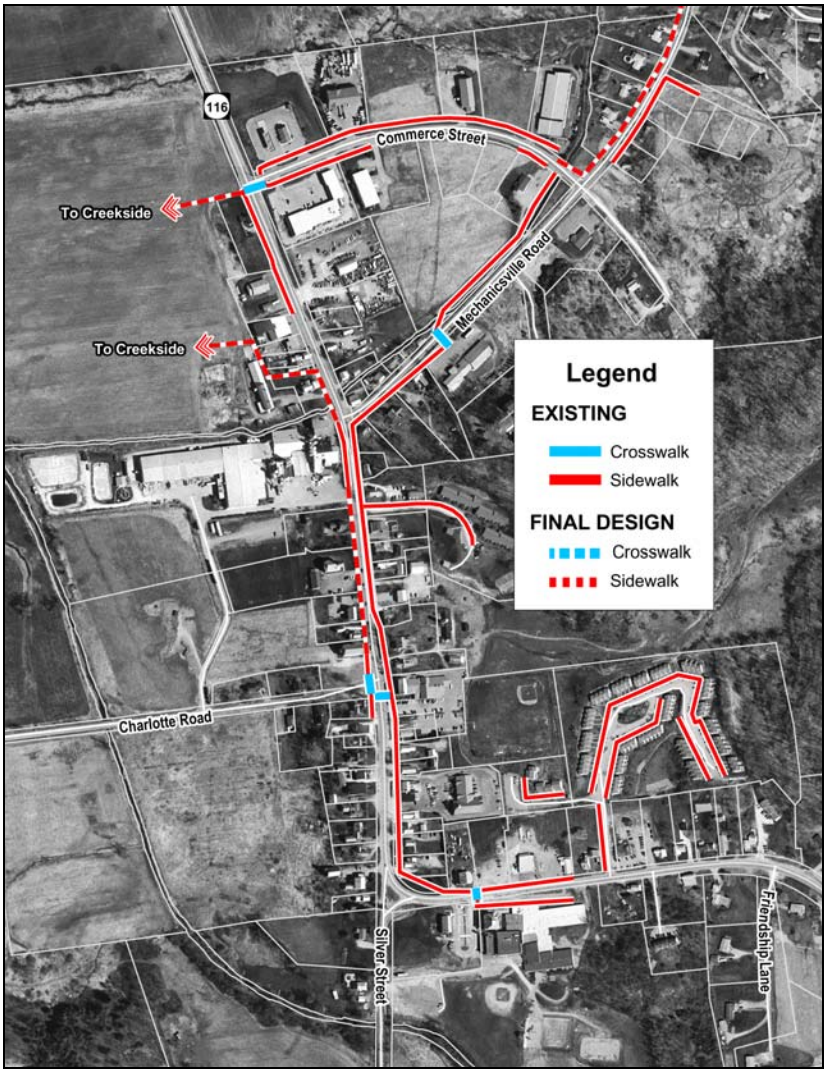
An access permit will be needed from VTrans to conduct work on the recommended elements within the State right-of-way.

2.6 EXISTING PEDESTRIAN FACILITIES

Figure 2 below shows the location of existing pedestrian facilities throughout Hinesburg Village. In addition to the facilities shown in the graphic, final design plans are currently being prepared for a new sidewalk segment running along the west side of VT 116 between Town Hall and the Saputo

Cheese and a new sidewalk connecting to the Creekside development including a new bridge over the canal adjacent to Mechanicsville Road.

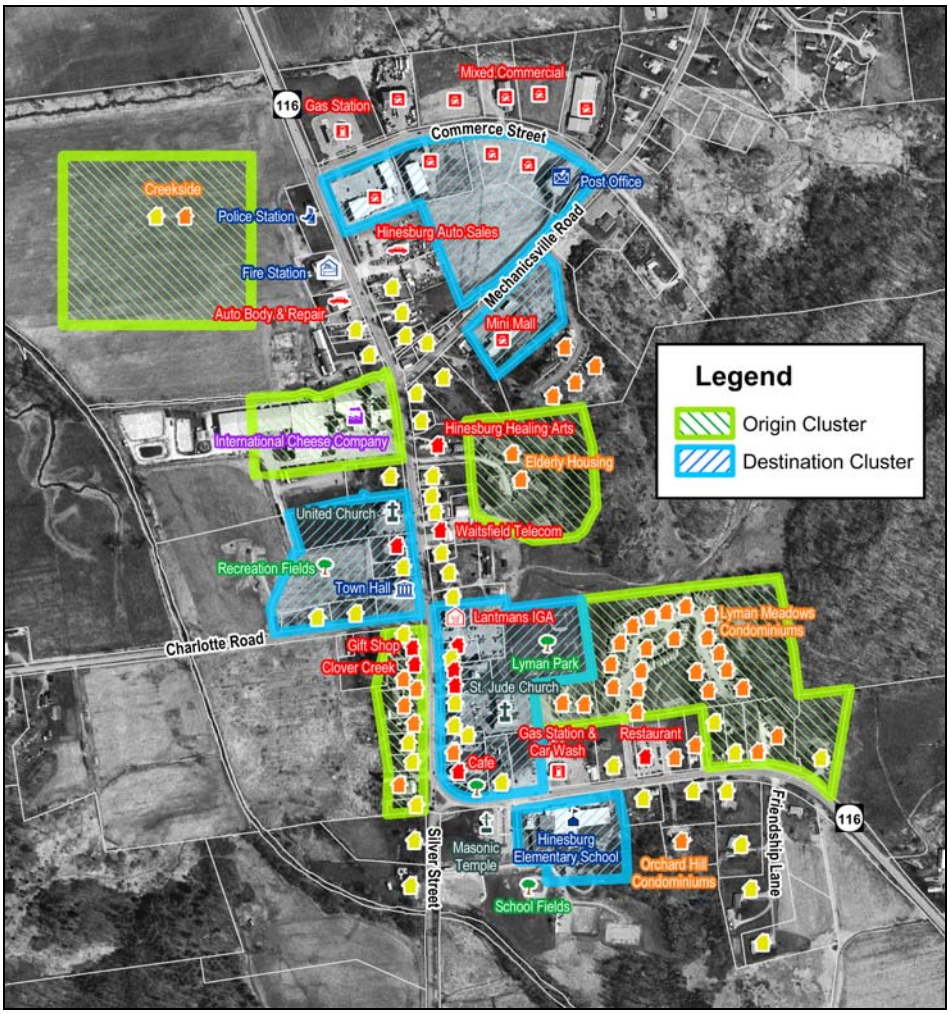
Figure 2: Existing Pedestrian Facilities



2.7 GENERALIZED VILLAGE LAND USES AND PEDESTRIAN TRIP DESTINATIONS

Figure 3 below shows a map of generalized land uses and pedestrian trip origin and destination clusters across the village. The proposed sidewalk segments will serve to further complete the village sidewalk network and will enhance pedestrian accessibility between a number of important locations including the Hinesburg Community School, Lyman Meadows Condominiums, and Commerce Street retail and commercial uses.

Figure 3: Generalized Village Land Uses and Pedestrian Trip Origin and Destination Clusters



2.8 RECENT AND ONGOING PLANS AND STUDIES

1) The 1998 *Hinesburg Village Transportation Study* and 2004 *Hinesburg Village Scoping Report* have identified the need for improvements at the VT 116-Silver Street and VT 116-Charlotte Road intersections. As of the drafting of this Feasibility Study, final design was underway for the following intersection improvements:

   - VT 116-Silver Street: Intersection re-alignment to remove Silver Street divider and create standard "T" intersection with new southbound VT 116 right turn lane.

- VT 116-Charlotte Street-Lantman's Driveway: New traffic signal with pedestrian signals and crosswalks at the VT 116 northbound approach, the Charlotte Road approach, and the Lantman's approach.

2) The 2004 *Hinesburg Sidewalk and Crosswalk Assessment* identified the missing sidewalk segment between Town Hall and the Cheese Factory as the highest priority connection to make in terms of pedestrian desire lines in the village. As of the drafting of this Feasibility Study, final design and construction plans were being developed for this sidewalk segment.

3) The 2005 *Hinesburg Center Road Feasibility Study* examined the feasibility of a connector road between Lantman's and Lyman Meadows Road to improve auto, bike, and walk mobility in the village center.

4) As part of the Act 250 permitting process, the Creekside residential development was required to: 1) construct a new sidewalk and pedestrian bridge over the canal to connect the new development to the existing sidewalk at the Mechanicsville Road intersection, and 2) construct a new right turn lane on the northbound VT 116 approach to Commerce Street.

3.0 ENVIRONMENTAL AND CULTURAL RESOURCES

The study area was examined for potential environmental, natural, and cultural resource impacts based on site assessments, existing GIS resource coverages, and previous site investigations. This preliminary resource assessment should be revisited during the preliminary and final design stage.

3.1 FLOOD ZONES

The latest Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Hinesburg identified the area along the Mechanicsville Road canal as within the 100-year flood zone.

3.2 WETLANDS

No wetlands were identified within or immediately adjacent to the study segments. Based on the Vermont Significant Wetlands Inventory, the closest identified wetlands are located between Silver Street and VT 116 beginning approximately 400 feet south of the Hinesburg Community School.

3.3 ARCHEOLOGICAL RESOURCES

An Archeological Resources Assessment (ARA) conducted by Archaeology Consulting Team, Inc. in 2004 identified the potential for archeological resources to exist within the village, but also noted that subsequent construction activities within the village will likely have altered some or all of the archeological information..

3.4 HISTORIC RESOURCES

A scoping level historic resource survey was conducted by C.K. Quinn & Company in 2004 in Hinesburg Village and found that a number of individual structures in the Lower Village Historic District are potentially eligible for National Register designation as individual properties. Thus, final plans will need to be reviewed by the State Historic Preservation Officer to determine whether any potentially sensitive properties are impacted.

3.5 HAZARDOUS WASTE SITES

The Vermont Agency of Natural Resource's Active Hazardous Site List (5/06) includes four identified locations adjacent to the study segments. Figure 4 below provides a summary of the site and current project status as of May 2006.

Figure 4: VT ANR Hazardous Site List

ID	SITE	STATUS
911017	International Cheese	Now Saputo Cheese. Long history of on site LUSTs, several AOCs. Current phase of remediation completed. Onsite well is contaminated with MTBE.
931486	Hart And Mead Texaco	Sparging CAP proposed and accepted. Public Comment period finished. Installation expected Summer2002
961988	Lantmans IGA	Annual GW monitoring, next rd. fall '05. Lantman and MTBE impacted Martin bedrock wells closed. Bottled water delivery discontinued w/municipal connection.
982480	Giroux Body Shop	Petroleum contamination found in front of site during waterline project. Additional investigation did not indicate that water line is serving as preferential pathway for contaminant migration. Semi-annual groundwater monitoring.
20033159	Morgante Residence 56 Mechanicsville Rd	UST removed. Contam found. Investigation finished. SMAC AFTER MW CLOSURE

3.6 RARE THREATENED OR ENDANGERED SPECIES AND SIGNIFICANT COMMUNITIES

Based on the latest assessment released by the Vermont Fish and Wildlife Department (2003), there are no identified species or communities in the study area.

3.7 PRIME AGRICULTURAL SOILS

The soils potentially impacted by the conceptual sidewalk alignment are not identified by the Natural Resource Conservation Service as being prime agricultural soils. However, most of the soils are identified to be of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. However, the setting of the proposed sidewalks, within a village context, is not typically considered for reversion to farmland.

4.0 PERMITTING

4.1 ACT 250 LAND USE PERMIT

An Act 250 permit will likely not be needed since none of the identified alternatives impacts more than 10 acres or specifies improvements above the elevation of 2,500 feet. However, an Act 250 permit amendment may be required if a property owner along the proposed alignment has an Act 250 permit for their property and the proposed improvements constitute a change of use.

4.2 401 WATER QUALITY PERMIT

A 401 Water Quality Permit will likely not be required since the proposed alignments do not impact any identified waters of the US.

4.3 404 CORPS OF ENGINEERS PERMIT

A 404 Army Corps of Engineers permit will likely not be required since the proposed alignments do not impact any delineated wetlands.

4.4 STREAM ALTERATION PERMIT

A Stream Alteration Permit will likely be required to construct the pedestrian bridge across the canal north of Mechanicsville Road.

4.5 CONDITIONAL USE DETERMINATION

A Conditional Use Determination will likely not be required since the proposed alignments do not impact any Class 1 or Class 2 wetlands or buffer areas.

4.6 STORMWATER DISCHARGE PERMIT

Since the proposed alignment includes additional impervious area, new curbing, and replacement of a drainage swale with a closed drainage system, a stormwater discharge permit will likely be needed.

4.7 SHORELAND ENCROACHMENT PERMIT

A Shoreland Encroachment Permit will likely not be required since the proposed alignments do not impact any public water body.

4.8 ENDANGERED AND THREATENED SPECIES PERMIT

An Endangered and Threatened Species Permit will likely not be required since the proposed alignments do not adversely impact any state-listed rare, endangered, or threatened species.

4.9 VTRANS ACCESS PERMIT

A VTrans Access Permit will be required to allow work to be completed within the State right-of-way.

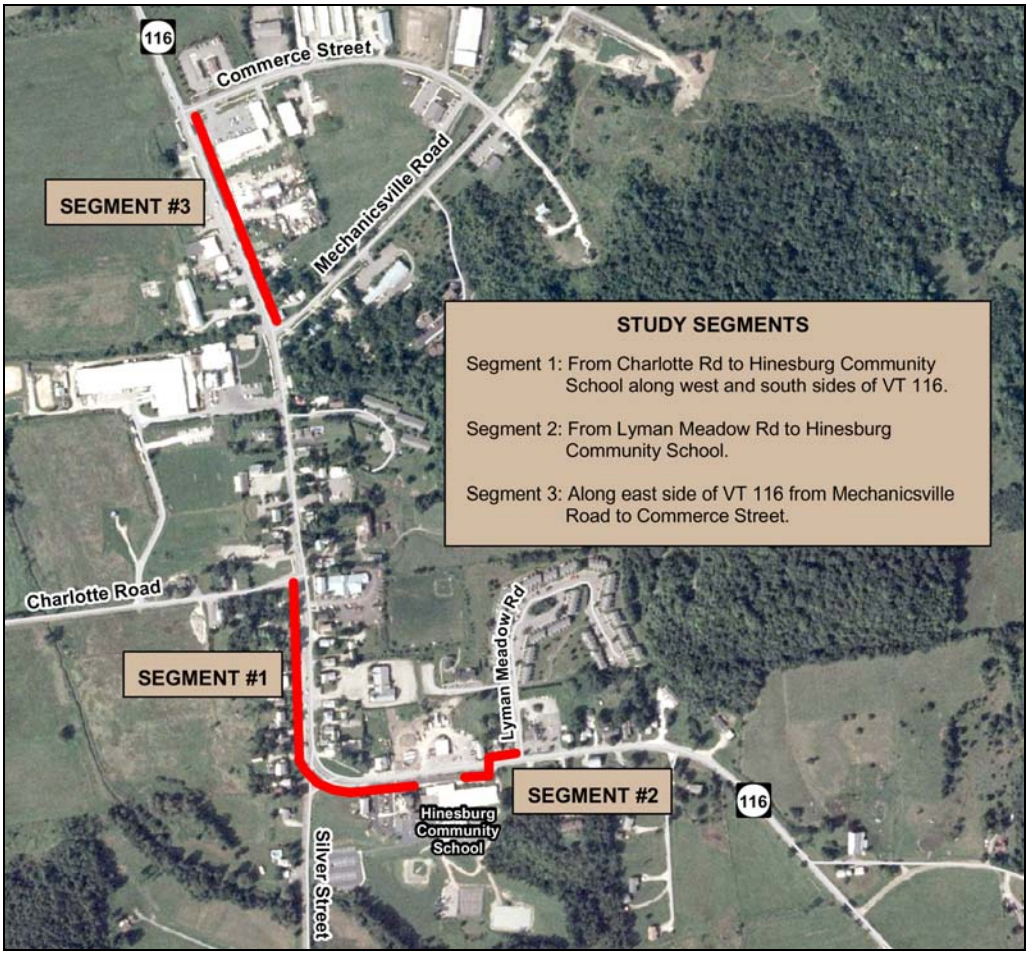
4.10 CATEGORICAL EXCLUSION (CE)

Due to the relatively minor impacts of the proposed alignments, the improvements will likely qualify for Categorical Exclusion status. Since Federal Funds will likely be used for a portion of the final design and construction, a Categorical Exclusion Environmental Analysis will need to be submitted to VTrans and the Federal Highway Administration for review and approval.

5.0 CONCEPTUAL ALIGNMENT EVALUATION

This section provides a comprehensive evaluation of the sidewalk alignments for each of the three segments shown below in Figure 5. The alignment evaluation includes an overview of the proposed section elements, potential impacts, cost estimates, and evaluation matrix for each of the segments.

Figure 5: Sections Used for Evaluation



5.1 SEGMENT 1

Segment 1 encompasses the segment between Charlotte Road and the Hinesburg Community School and focuses on the west and south sides of Route 116. The proposed sidewalk alignment begins at the existing crosswalk just south of Charlotte Road and proceeds south and then east approximately 1,000 feet to connect with the existing sidewalk and crosswalk at the Hinesburg Community School.

The proposed cross-section includes a five-foot concrete sidewalk, a green strip of variable width, granite curb, a four foot shoulder to accommodate bicycle travel, and on-street parallel parking in certain locations.

A total of 6 on-street parallel parking spaces are delineated in the conceptual plans and will help to enhance the village feel, calm traffic speeds, and add to the existing parking capacity. The Town will assume responsibility for snow removal in the on-street parking areas. In addition to the on-street parking, the conceptual plans also identify two new off-street parking areas to provide additional parking capacity for two private multi-family residences along VT 116.

Figure 6: Segment 1 - Looking South Along VT 116: Location of Proposed Retaining Wall

This design identifies the relocation of several mailboxes, signs, and drainage catch basins as well as the narrowing of certain driveways. A retaining wall will be necessary to accommodate the slope in front of the old Wild Thyme flower and gift shop. The conceptual sidewalk alignment crosses at the bottom of the Wild Thyme driveway slope to avoid adversely impacting stormwater flows and vehicle access to the driveway. New street trees are also identified between along the segment to enhance the village feel and encourage slower traffic speeds.

VTrans currently has a work order to relocate the flashing school zone sign from its current location north of Silver Street to a point between Silver Street and the Masonic Lodge/Nursery School (MM 4.371) to comply with the Manual on Uniform Traffic Control Devices standards. A standard school zone sign will remain posted at the current location of the flashing school zone beacon.

The VT 116-Silver Street intersection re-alignment project is currently undergoing final design. The current plans call for replacing the forked intersection with a T-intersection that is stop-controlled on the Silver Street approach. The VT 116 southbound approach will have a new right-turn lane onto Silver Street. Northbound VT 116 will continue to have one lane for both through and left-turn movements. The redesigned intersection is shown as the existing condition in the conceptual plan.

The VT 116-Charlotte Road intersection signalization project is also currently undergoing final design. This project will add a traffic signal to the intersection, with crosswalks and pedestrian signals across each approach. The project also includes the removal of the crosswalk and sidewalk approaches to the current crossing adjacent to Lantman's IGA.

5.2 SEGMENT 2

Segment 2 is a short segment between Lyman Meadows Road and Hinesburg Community School. The conceptual alignment begins at the VT 116-Lyman Meadow Road intersection (where the Lyman Meadows Road sidewalk ends) and continues a 5-foot concrete sidewalk and granite curb along the north side of VT 116 to connect with the existing sidewalk at H & M Auto Supply.

The alignment includes a mid-block crossing with appropriate signage and striping to access the Hinesburg Community School and a short sidewalk connection to access the existing school sidewalk. The stopping sight distance at the proposed crosswalk exceeds 500 feet in both directions. This mid-block crossing location meets all of the criteria for installation of a marked mid-block school crosswalk defined in the *Guidelines for Installation of Crosswalk Markings and Pedestrian Signing at Marked and Unmarked Crossings* (VTrans, 2004):

- The speed limit is 40 mph or less: YES
- A sidewalk or adequate shoulder for use by pedestrians exists on both sides of the roadway approach: YES – Sidewalk planned for both sides
- There is not another crosswalk across the same road within 200 feet: YES
- Adequate sight distance is available in both directions: YES

The proposed crosswalk location has been reviewed by VTrans Traffic Operations in August 2006 and was determined to be *acceptable*.

This alignment will require the relocation or removal of the composite fence (which is located within the State ROW) located along the north side of VT 116 between H & M Auto Supply and Lyman Meadows Road. This alignment also involves a curb extension at the eastern school access and a relocation of a catch basin to accommodate the curb extension.

A potential opportunity for access management enhancement is available by relocating the residential driveway at the corner of VT 116 and Lyman Meadows Road which currently accesses VT 116 to access onto Lyman Meadows Road. This reconfiguration, which is shown on the conceptual plans, would reduce the number of access points on VT 116 and would help to reduce conflict points. This enhancement is not critical to the pedestrian network and would require coordination with the landowner, the Town, and VTrans.

The overhead telephone line goes underground from the utility pole located at the northwest corner of the VT 116 - Lyman Meadows Road intersection. The depth and location of the underground conduit will need to be identified prior to any excavation or construction. A new water line was

recently installed along the south side of VT 116 in this section. The depth and location of this water line should be identified prior to any excavation or construction.

VTrans currently has a work order to locate a new flashing school zone sign on the northwest corner of the VT 116-Lyman Meadows Road intersection (MM 4.232) to comply with the Manual on Uniform Traffic Control Devices standards.

Figure 7: Segment 2 - Looking North Along VT 116

5.3 SEGMENT 3

Segment 3 encompasses the segment of Route 116 from the Mechanicsville Road intersection to Commerce Street. The proposed cross-section includes a five-foot concrete sidewalk, a green strip of variable width, granite curb (portions), drainage swale (portions), and four foot shoulder to accommodate bicycle travel along the eastern side of VT 116. A canal lies north of the Mechanicsville Road intersection (running parallel to Mechanicsville Road) and will require a pedestrian footbridge to cross.

A closed storm drainage system with catch basins runs along the east side VT 116 from Mechanicsville Road to the north side of the new Hinesburg Auto Sales driveway where it outflows into a drainage swale. As Figure 8 below shows, the integrity of the swale has been compromised over time from lack of maintenance and adjacent development. The sidewalk improvements should also include retrenching and repairing the open drainage swale between the Hinesburg Auto Sales driveway and Commerce Street.

Between the Automotion driveway and Commerce Street, the proposed sidewalk alignment would be offset approximately 15 feet from the edge of pavement to avoid impacting the drainage swale and

utility poles. The existing saplings in this section should be removed and replaced with new street trees (approximate 40' spacing) on the east side of the proposed sidewalk to enhance the village feel and encourage slower traffic speeds. To accommodate the proposed sidewalk and new street trees in this section, an easement or purchase of approximately 6,000 square feet of private land from the owners of Automotion and the Firehouse Plaza will be needed.

Access management enhancements, in the form of curb extensions, are shown at the Automotion driveway and at the Police cruiser garage driveway to narrow the opening to 40 feet and bring them into compliance with VTrans commercial driveway standards.

Figure 8: Segment 3 - Looking South along VT 116 – Existing Drainage Swale in Foreground

5.4 PRELIMINARY COST ESTIMATES

Preliminary cost estimates are presented below for each segment. The estimates include costs associated with final design, construction, construction inspection, municipal project management, and contingencies. The unit costs for the sidewalk, curbing, and accompanying signage and minor drainage work are based on the VTrans Bicycle and Pedestrian Program Unit Cost Database (2/06). The remaining unit costs are based on the VTrans Average Bid Price Listing (5/06).

SEGMENT 1 - Preliminary Cost Estimate

ITEM	QUANTITY	UNITS	$/UNIT	TOTAL
Pedestrian Facilities				
Concrete sidewalk w/ granite curb	900	linear feet	$140	$126,000
Crosswalk Striping	75	linear feet	$20	$1,500
Retaining Wall	80	linear feet	$1,100	$88,000
Parking				
Parking Area for Private Residence	2	each	$5,000	$10,000
Striping for On-Street Parking	80	linear feet	$20	$1,600
Utility/Feature Relocation				
Relocate Catch Basin	4	each	$2,500	$10,000
New Catch Basin	1	each	$2,300	$2,300
Relocate Fire Hydrant	1	each	$1,400	$1,400
Sign Relocation	3	each	$50	$150
Mailbox Relocation	8	each	$50	$400
Landscaping				
New Deciduous Trees	17	each	$200	$3,400
Grass seed & fertilizer	9	lb	$7	$59
Topsoil	400	CY	$17	$6,926
			Construction	$251,735
			Engineering/Permitting (20%):	$50,347
			Municipal Project Management (10%):	$25,173
			Construction Inspection (15%):	$37,760
			Contingency (25%):	$62,934
			Right-of-Way:	$5,000
			TOTAL:	**$433,000**

SEGMENT 2 - Preliminary Cost Estimate

ITEM	QUANTITY	UNITS	$/UNIT	TOTAL
Pedestrian Facilities				
Concrete sidewalk w/ granite curb	250	linear feet	$140	$35,000
Crosswalk Striping	35	linear feet	$20	$700
Curb Extension	1	each	$5,000	$5,000
Utility/Feature Relocation				
Relocate Catch Basin	1	each	$2,500	$2,500
Sign Relocation	1	each	$50	$50
Mailbox Relocation	1	each	$50	$50
Landscaping				
Grass seed & fertilizer	3	lb	$7	$17
Topsoil	33	CY	$17	$571
			Construction	$43,888
			Engineering/Permitting (20%):	$8,778
			Municipal Project Management (10%):	$4,389
			Construction Inspection (15%):	$6,583
			Contingency (15%):	$6,583
			Right-of-Way:	$5,000
			TOTAL:	**$75,000**

SEGMENT 3 - Preliminary Cost Estimate

ITEM	QUANTITY	UNITS	$/UNIT	TOTAL
Pedestrian Facilities				
Concrete Sidewalk w/ Granite Curb	450	linear feet	$140	$63,000
Concrete Sidewalk no Curb	550	linear feet	$87	$47,850
Crosswalk Striping	40	linear feet	$20	$800
Pedestrian Footbridge*	24	feet	$1,200	$28,800
Utilities				
Relocate Catch Basin	1	each	$2,500	$2,500
New Catch Basin	1	each	$2,300	$2,300
Relocate Fire Hydrant	1	each	$1,400	$1,400
Repair Drainage Swale	1	each	$10,000	$10,000
Access Management				
Curb Extensions (granite)	250	linear feet	$28	$7,000
Landscaping				
Remove Existing Saplings	10	each	$50	$500
New Deciduous Trees	6	each	$200	$1,200
Grass Seed & Fertilizer	20	lb	$7	$134
Topsoil	200	CY	$17	$3,463

Construction	$168,947
Engineering/Permitting (20%):	$33,789
Municipal Project Management (10%):	$16,895
Construction Inspection (15%):	$25,342
Contingency (25%):	$42,237
Right-of-Way:	$20,000
TOTAL:	**$307,000**

* Pedestrian footbridge estimate is for a 12' wide bridge.

5.5 EVALUATION MATRIX

The evaluation matrix below summarizes the key points for each segment and provides design construction and maintenance costs, engineering factors, potential environmental and cultural impacts, local and regional issues, and potential permits required for each of the segments.

		Segment 1	Segment 2	Segment 3
COST (order of magnitude)	Preliminary Cost Estimate (final design, construction, inspection, contingency)	$433,000	$75,000	$307,000
	Annual Town Maintenance Costs (surface repair, plow, striping, signs, sweeping, etc.)	$13,000	$2,000	$9,000
ENGINEERING	Traffic Safety	Improve	Improve	Improve
	Level of Service/Congestion	No Change	No Change	No Change
	Roadway Alignment Change	No Change	No Change	No Change
	Bicycle/Pedestrian Access	Improve	Improve	Improve
	Hydraulic Performance	Additional Impervious Surface - Closed Drainage		
IMPACTS	Agricultural Lands	No	No	No
	Archaeological	Potential	Potential	Potential
	Historic Structures/Sites	Potential	Potential	Potential
	Floodplain	No	No	Along Canal
	Fish and Wildlife	No	No	No
	Rare, Threatened & Endangered	No	No	No
	Public Lands	No	No	No
	Noise	No	No	No
	Wetlands	No	No	No
LOCAL & REGIONAL ISSUES	Community Character	Improve	Improve	Improve
	Economic Impacts	Improve	Improve	Improve
	Conformance to Regional Transportation Plan	Yes	Yes	Yes
PERMITS	Act 250	No	No	No
	401 Water Quality	No	No	Potential
	404 Corps of Engineers Permit	No	No	No
	Stream Alteration	No	No	Potential
	Conditional Use Determination	No	No	No
	Storm Water Discharge	Potential	No	Yes
	Shoreland Encroachment	No	No	No
	Endangered & Threatened Species	No	No	No
	State Historic Preservation Office Clearance	Yes	Yes	Yes
	VTrans Access Permit	Yes	Yes	Yes
	Categorical Exclusion	Yes	Yes	Yes

6.0 SUMMARY AND NEXT STEPS

This study evaluated the feasibility of constructing three new sidewalk segments in the village of Hinesburg to improve pedestrian accessibility, to improve student safety and access to the Community School, and to enhance the village feel. The main goal of this study and accompanying plans is to determine which sidewalk segment(s) are generally feasible and to develop a recommended plan to proceed for preliminary design and construction. To that end, this feasibility study identified existing facilities and land use in the village, potential encroachments outside of the State right-of-way, potential impacts to environmental and cultural resources, permits that would be needed prior to construction, and cost estimates for each segment. In addition to new sidewalk segments, this study also included recommendations to improve stormwater management, access management improvements, and new on-street parking in the village.

The primary funding sources which can be used to advance these plans include the Safe Routes to School (SR2S) grant program, the Transportation Enhancement (TE) grant program, the CCMPO Sidewalk Grant Program, the VTrans Transportation Improvement Program, and municipal funding sources. The SR2S, TE, and sidewalk grant programs will provide the Town with the best opportunities for advancing these sidewalk segments in a timely manner.

- Safe Routes to School (SR2S) program: The Town of Hinesburg is currently enrolled in SR2S program to develop non-infrastructure activities including programs to educate students and parents about walking to school. This enrollment enables the Town to pursue funding for infrastructure activities – including the design and construction of sidewalk improvements that bridge an identified barrier on a designated school route within a ½ mile radius of the Hinesburg Community School (Segments 1 & 2). The SR2S program is funded with 100% Federal funds, so no local matching funds would be needed. The first round of infrastructure grants is anticipated to become available in 2007.
- Transportation Enhancement (TE) program: The Town of Hinesburg has successfully received TE grants in the past to fund the design and construction of various bicycle and pedestrian facilities in the village. The next opportunity for the Town to submit an application for funding will be in August 2007. The TE program requires a 20% local match, so the Town will need to budget for that amount prior to the grant application.
- CCMPO Sidewalk Grant Program: The program is designed to improve and expand the region's sidewalk infrastructure through grants to member municipalities for preliminary engineering and sidewalk construction. The next round of applications for this program will begin in April 2007. This program uses 80% federal funds and 20% local funds from the community. The program began in FY05 and makes available $250,000 per year.

Based on our investigation and findings, we have determined that the improvements identified for each of the three segments are feasible and can move forward for further design and construction.