2023 VTrans Large-scale Bicycle and Pedestrian Grant Application

1. Project Title: Richmond Road Pedestrian Path Segments A & B

2. Applicant Name(s): Town of Hinesburg

3. Project Contact Info:
   a. Name: Joy Dubin Grossman
   b. Mailing Address: 10632 VT RT 116
   c. Town: Hinesburg
   d. Zip Code: 05461
   e. Email Address: jdubingrossman@hinesburg.org
   f. Phone Number: (802) 482-4207

4. Fiscal Information:
   a. Accounting System ☑ Automated ☐ Manual ☐ Combination
   b. Unique Entity Identifier # GGDVKGH3HDN5
   c. Fiscal Year End Month June

5. RPC(s) Chittenden Co. RPC

6. Primary Facility Type: ☐ Sidewalk ☐ Bike Lane ☑ Shared-use Path
   ☐ Shoulder
   ☐ Other (Please describe)

7. Approximate project length in feet : 4,456

8. Project Description: Please give a brief description of the project (100 words or less.) Detailed information should be submitted as part of addressing the selection criteria. Be sure to include identifying streets or landmarks that the proposed project links at either end (e.g. New concrete sidewalk with granite curbing on Main St. from Elm St. to Maple St.).

Design and construction of a shared use path along TH#2 from CVU Rd/ Pond Rd/ Mechanicsville Rd/ Richmond Rd intersection west approximately 4,456 linear feet to Jourdan Street. The total cost for segment A is $1,380,000, and for segment B is $1,310,500 for a grand total for both segments $2,690,500.00 which accounts for a 12.2% increase due to inflation over the 2022 Toole Design Table 3: Project Segment Cost Summary.

9. **Estimated Project Costs:**

Engineering/Administration/Project Manager: Costs associated with survey, design, plans development, permitting, development of bid documents, bid analysis and Municipal Project Manager - typically around 25% of construction.	Engineering/ Admin/MPM Cost $ 417,384
Right of Way: Cost of appraisals, property owner compensation and associated legal fees (Minimum of $5000 recommended).	ROW Cost $ 104,326
Construction: Cost of paying contractors to build projects, including a reasonable contingency. Please attach as much detail/ backup information as available to support the construction estimate.	Construction Cost $ 1,901,790
Construction Inspection : Cost to provide oversight of contractor during construction - typically around 15% of construction.	Const. Insp.Cost $ 267,000
TOTAL DESIGN/CONSTRUCTION AMOUNT APPLIED FOR : (including 20% local share)	$ 2,690,500

10. **Have you received any other grant funding for this project? Please describe and include the source of funding:**

Not at this time.

11. **Will you accept an award less than you applied for?** ☑ **YES** ☐ **NO**

IF YES, please indicate below whether local funds will be used to make up the shortfall or if the project scope will be reduced:

☐ Keep Scope of project the same and make up shortfall with other funds

☑ Reduce project scope – Describe and provide cost breakdown (attach backup with supporting materials, if necessary)

Note: If the project scope is to be reduced, document what part of the project you would accept partial funding for and break out the costs associated with that part or segment. Attach additional pages if necessary. If adequate information is not provided, partial funding will not be considered. **Use Partial Funding Template provided by VTrans.**

Given the estimated cost of segments A & B, the town understands that it may not be awarded its full grants request. If that turns out to be the case, the town will explore a different option such as shortening the project to include one segment.

There is a partial funding worksheet included.

Partial Funding Worksheet

Town of Hinesburg

Richmond Road Pedestrain Path Segments A & B

Full Project Funding

description: approximately 4,456 linear feet of shared use path

Engineering/Administration/Project Manager Costs:	$417,384
Right of Way:	$104,326
Construction:	$1,901,790
Construction Inspection:	$267,000
Total Design/Construction Amount Applied for:	$2,690,500

Partial Project Funding

description: approximately 2,844 linear feet of shared use path

Engineering/Administration/Project Manager Costs:	$212,058
Right of Way:	$66,190
Construction:	$966,042
Construction Inspection:	$135,762
Total Design/Construction Amount Applied for:	$1,380,052

Applicant Name: Town of Hinesburg

Project Title--Design/Construction: Richmond Road Path Segments A & B

Application Checklist – If any elements are missing, application may not be considered.

Make sure everything is included and pages numbered.

☒ (1) Project Application Form (separate PDF file)

All other materials noted below to be provided in the same order as below.

☒ (2) Project Evaluation Criteria Documentation for the project (completed BELOW)

☒ (3) Project Map(s)

☒ (4) Budget support information (e.g. detailed cost estimate)

☒ (5) RPC review confirmation letter

☒ (6) Current letter of support from the municipal governing body acknowledging their willingness to provide the local match and future maintenance responsibility

☐ (7) Documentation of contact with VTrans District office if project is on the state system

☒ (8) Supporting Documentation (scoping study or equivalent report, maps, and drawings) Note: If the scoping study is in a publicly accessible location online, applicants may provide a link with reference to relevant pages as appropriate.

DESIGN/CONSTRUCTION PROJECTS

1. **Community Need—25 Points:** How does the proposed project contribute to an existing or planned bicycle and/or pedestrian network? If the proposed project is a sidewalk along a street that already has a sidewalk, explain why the redundant facility is needed. What destinations or populations are served? What walking and/or bicycling access or safety problem are you trying to solve?

This project will connect more than 100 households, including a mobile home community, along Richmond Road with Hinesburg's path network in the village. Over the years, the Town of Hinesburg has constructed a network of sidewalks and shared use paths throughout its designated village center. The Richmond Rd path would serve the area with the greatest population density in Hinesburg. It would provide a connection to pedestrian and bicycle facilities that serve the Champlain Valley Union High School, Hinesburg Community School, grocery store, laundromat, bank, Town Hall, public library, restaurants, pharmacy, public safety buildings and other village businesses and employers.

There is no pedestrian or bicycle infrastructure connecting the numerous residents along Richmond Road with the village center destinations. This section of Richmond Road includes a state designated high crash location. The road shoulder widths on Richmond Road are narrow and do not provide for safe walking or biking, effectively cutting off numerous residents from the village center. Given that the shoulder widths on Richmond Road do not meet the Vermont State Design Standards for a rural major collector, and that the natural resource and topography constraints on either side of the road would make it costly and likely not feasible, an off-road shared use path is the most feasible option for improving pedestrian and bicycle safety.

A Richmond Road path is listed specifically in the Hinesburg Town Plan section 6.4.4 "Budget for and develop sidewalks, paths, and trails in the village area as shown on the Official Map, as well as the high-density residential area along the Richmond Road." A scoping study of the Richmond Road path was completed by the Town with support from the Chittenden County Regional Planning Commission in 2016.

16-25 Points – Project is an important part of a pedestrian or bicycling network and serves obvious bike/ped generators and/or the project includes measures identified in the FHWA STEP initiative.

6-15 Points – Project is in an area of low land use density or not clearly contributing to a local network.
0-5 Points – Unclear how proposed facility contributes to a network or solves a safety problem

2. **Economic Development—10 Points:** How does the project contribute to broad local community and economic development goals? How does the project contribute to ongoing local placemaking or economic development initiatives?

Hinesburg desires to be a pedestrian friendly town. Adding pedestrian amenities helps achieve that goal and helps make Hinesburg a desirable place to live. Richmond Road serves 286 homes including two mobile home communities with 122 homes. It also serves Iroquois Manufacturing, a local employer. A multi-use path would provide an alternative mode of transportation for individuals who may not have access to vehicular forms of transportation, to safely access businesses for patronage or for accessing employers

As demonstrated in the Hinesburg Official Map, the Richmond Road multi-use path is part of the town's overall strategy for improving bicycle and pedestrian safety as per section 6.4.5 "...Identify, evaluate, and prioritize road segments most in need of improvements for pedestrian and bicycle use. Pay particular attention to paved roads that connect the village to the rural parts of town, or serve as likely routes for bicycle commuting, in order to bolster bicycle use, and improve safety for none vehicular users of the road." The path was subject to a 2016 Scoping Study, is included in the Town Plan and Official Map and the 2016 study was updated in 2022 to break the path into segments with independent utility and the 2022 scoping study update is a clear indication that the town sees the path as an important project.

6-10 Points – Specific references to community planning or economic development documents that support the project.

0-5 Points – Vague or non-existent references to community planning or economic development documents that support the project

3. **Well-supported budget —20 points:** How were the project costs developed? Are all required project elements (admin, engineering, construction, inspection) adequately

budgeted for? Be sure to include backup documentation for project costs. Include reasonable contingency for inflation over the life of the project.

The original scoping study was updated in 2022 to divide the path into segments and to come up with updated construction estimates for each segment. In order to serve the greatest number of residents the town plans to complete two segments, A & B, totaling 4,456 linear feet 2,844 and 1,612 respectively. The cost estimates were completed by a qualified engineering company and include the following elements: construction costs based on the conceptual alignment + 25% contingency, design and construction engineering, potential utility relocation costs, and an allowance for right-of-way costs. The total cost for segment A is $1,380,000, and for segment B is $1,310,500 for a grand total for both segments $2,690,500 which accounts for a 12.2% increase due to inflation over the 2022 Toole Design Table 3: Project Segment Cost Summary. Segment B has a higher cost per linear foot than the other three segments due to combined factors of path bridge and ledge excavation. Additionally, utility relocation costs are relatively higher in both Segment A & B.

11-20 Points – Cost is well documented/detailed and consistent with bid history on similar projects.

0-10 Points – Cost is significantly less than similar projects, no detail provided or missing costs.

4. **Complexity—10 points:** What complexities does your proposed project have and how do you plan to address them? Response must address need for right of way, anticipated permitting, natural resource constraints or identified cultural resource (historic or archaeologic) impacts anticipated for the project. If a scoping or planning report is attached, please highlight or reference the applicable sections.

The project is proposed to be within the Richmond Road right-of-way, and will be separated from the roadside with a vegetated buffer that will carry stormwater and provide separation from traffic for people using the path. The project's complexities are thoroughly discussed in the Scoping Study and summarized here. It is expected that the following permits will be required for path construction: State wetlands permit (for impacts to Class 2 wetlands), Stream Alteration (for proposed bridge), and Stormwater Discharge (due to more than one acre of new pavement). There are

no documented historic resources in the study area, and archeological impacts are not anticipated due to the disturbed roadway corridor. The Design Engineering cost estimate includes the cost of securing the needed permits for this project.
It is expected that the path will fit within the public right-of-way for most of its length, but it may be necessary to secure permanent or temporary easements for the path in locations with steep topography, wetland areas or utility conflicts. Design techniques to avoid these impacts will be incorporated into the design, and may include routing the path along the roadway and using curbing, or using closed drainage for short sections in order to avoid utility, right-of-way or environmental impacts. Developing detailed designs for a typical section is beyond the scope of a Scoping Study. The project cost estimate accounts for the potentially higher costs for locations that will require more complex designs with a generous contingency of 25%. While this project may be somewhat more complex for design and construction due to the environment and topography, the conditions along Richmond Road are typical for Vermont roadsides, and can be overcome with good engineering design and a cost estimate that recognizes these potential complexities.

6-10 Points – Fewer complexities, or thorough identification of multiple complexities and specific efforts taken to address them.

0-5 Points – Complexities include ROW acquisition, significant permitting challenges, design constraints, significant structural components such as bridges or retaining walls, etc.

5. **Project coordination – 5 points:** To your knowledge, are there other state or local projects in the same area that might impact the project timeline and schedule for completion? Is the project on a state-maintained route? Is the funding being used for elements of a larger project funded through other sources?

This project is entirely within the town highway system and there are not any other local projects known at this this time that would interfere with the proposed path.

3-5 Points – No conflicting projects.

0-2 Points – Several conflicts or coordination needs.

6. **Equity—10 Points:** How does your project directly address the needs of more vulnerable populations, specifically the needs of children, older persons, people with mobility challenges and low- or moderate-income households? What outreach was performed to include disadvantaged communities, especially low income, BIPOC, people with disabilities and others, in the planning of this project.

A major focus of the complete path project is to provide safe pedestrian and bicycle facilities to all residents of Richmond Road. Out of the 286 residences along the corridor, 122 of them or 43% are mobile homes. This is a potential indicator of low or moderate-income households in the corridor. Residents with mobility challenges, the elderly and those who don't wish to drive or those who lack access to a motor vehicle could utilize the path to safely walk or bike to the existing village sidewalk network which connects to many services. The town has engaged one park in discussions about public safety and is working to continue these conversations to capture greater understanding of the needs of a more vulnerable population. Completing two segments of the path, A & B, allows the path to reach the first mobile home community and will shorten the gap for all residents beyond the north east temporary terminus. As previously stated, the proposed path will connect to the extensive sidewalk system in the village thus providing expanded access to schools, public transit, a hardware store, town hall, employment opportunities and a full-service grocery store meaning residents do not live in a food desert.

6-10 Points – Project that provides direct access to a vulnerable population e.g. a sidewalk from an underserved community, a senior center, or community center to a downtown or clear documentation of outreach to disadvantaged populations.

1-5 Points – Equity is only addressed in broad terms.

0 Points – Equity not addressed.

7. **Multi-modal potential —5 points:** How does your proposed project coordinate with other modes of transportation? Will it improve walking or bicycling access to transit, rail service or park and ride facilities?

It will improve access to public transit and the town's park and ride facility. Abutters to the path would be directly connected to continuous pedestrian infrastructure that

leads to the Town Hall where the town's park and ride is located as well as two transit stops. One for GMTA and one for Tri-Valley Transportation.

5 Points – Project provides direct access to another transportation mode e.g. a sidewalk that connects directly to a transit stop or park and ride

0-4 Points – Project is part of a larger plan to connect to another transportation mode in the near future

8. **State designated centers —5 points:** Is the proposed project within a state designated center?

This project leads to and connects to a Designated Village Center.

5 Points – Project is contained primarily within a state designated center (such as downtowns, villages, or neighborhood growth centers recognized by the Vermont Department of Housing and Community Development).

0-4 Points – Project leads to, but is not primarily within, a state designated center.

Designated centers can be confirmed on the state Planning Atlas - http://maps.vermont.gov/ACCD/PlanningAtlas/index.html?viewer=PlanningAtlas

9. **Project Management—10 Points:** Describe your plan for keeping this project moving forward. What management practices do you now have, or plan to put in place, to successfully administer the project from design through construction? Who will manage the project (municipal staff, RPC, consultant, or other)?

The Municipal Project Manager will be Town Manager Todd Odit. Odit successfully saw many Bike and Pedestrian Transportation Alternatives projects from grant application through completion of construction.

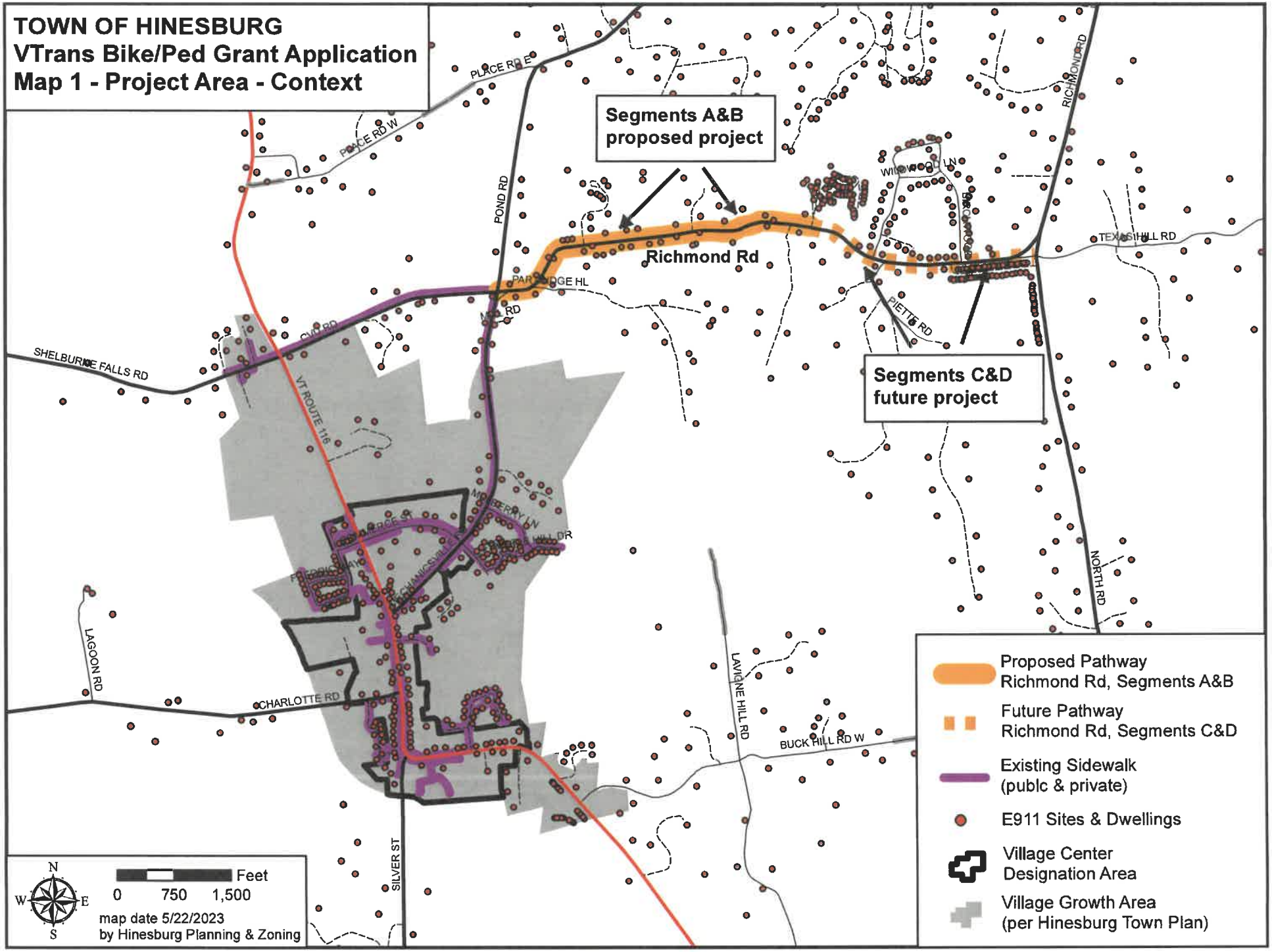
The MPM will be assisted by the Assistant Town Manager, Treasurer and Town Accountant. The MPM's role will consist of maintaining a complete grant file, reviewing invoices, submitting reimbursement requests, budgeting matching funds, communicating with the design engineer, answering questions, scheduling the required public meetings with the selectboard, handling the design engineer selection process, and handling the construction inspection selection process. The Assistant Town Manager will be involved in all communications and all typical MPM

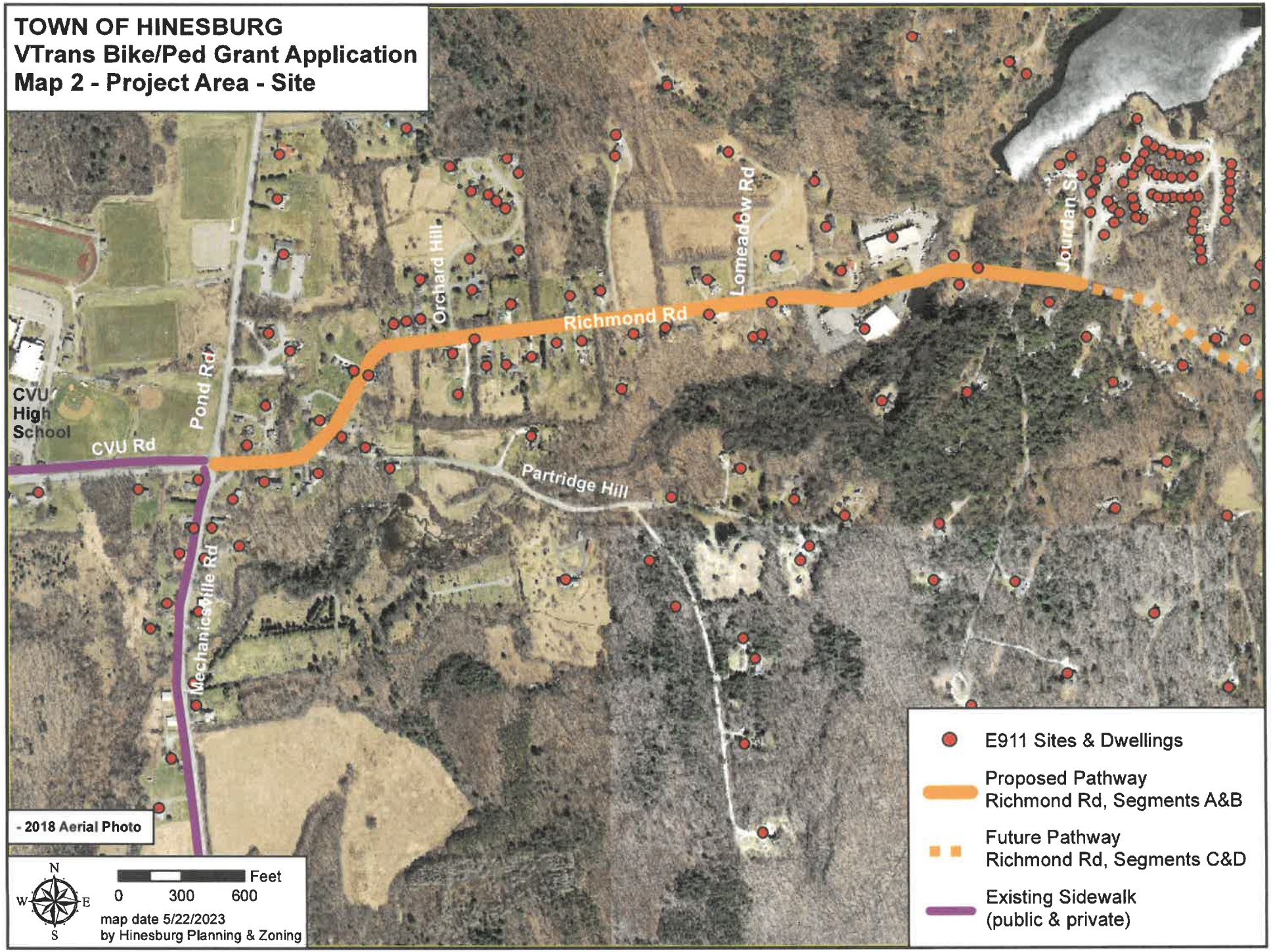
tasks for project continuity should there be a prolonged absence of the MPM. A key to keeping the project moving forward is regular contact between the MPM and design engineer to make sure plan development is progressing.

The Town Treasurer and Accountant will be responsible for maintaining a duplicate grant file and tracking of expenses and receipts of reimbursement requests. Every time an eligible invoice is paid, they will make a copy of the invoice and check and place it in a folder for reimbursement to be submitted. The MPM will review that folder monthly and whenever a reimbursement is submitted, a copy of the reimbursement request will be placed in a folder for reimbursement awaiting payment. Once payment is received, the invoice, the reimbursement request and payment proof will be moved to a completed section of the grant file.

6-10 Points – Plan outlined for managing the project, including adequate or additional staffing.

0-5 Points – Vague or ill-defined management plan.


TOWN OF HINESBURG
VTrans Bike/Ped Grant Application
Map 1 - Project Area - Context
Segments A&B proposed project
Richmond Rd
Segments C&D future project
PLACE RD E
PLACE RD W
POND RD
RICHMOND RD
WILLOWOOD LN
TEXAS HILL RD
PARTRIDGE HL
PIETTE RD
SHELBURNE FALLS RD
CIDER RD
VT ROUTE 116
MONTERRY LN
LAGOON RD
CHARLOTTE RD
LAVIGNE HILL RD
BUCK HILL RD W
NORTH RD
SILVER ST
N
W
E
S
Feet
0 750 1,500
map date 5/22/2023
by Hinesburg Planning & Zoning
Proposed Pathway
Richmond Rd, Segments A&B
Future Pathway
Richmond Rd, Segments C&D
Existing Sidewalk
(public & private)
E911 Sites & Dwellings
Village Center
Designation Area
Village Growth Area
(per Hinesburg Town Plan)


TOWN OF HINESBURG
VTrans Bike/Ped Grant Application
Map 2 - Project Area - Site
CVU High School
CVU Rd
Pond Rd
Orchard Hill
Richmond Rd
Lomeadow Rd
Jourdan
Partridge Hill
Mechanicsville Rd
- 2018 Aerial Photo
N
W
E
S
Feet
0
300
600
map date 5/22/2023
by Hinesburg Planning & Zoning
E911 Sites & Dwellings
Proposed Pathway
Richmond Rd, Segments A&B
Future Pathway
Richmond Rd, Segments C&D
Existing Sidewalk
(public & private)

TOOLE DESIGN

2 OLIVER STREET
SUITE 305
BOSTON, MA 02109

617.619.9910
TOOLEDESIGN.COM

MEMORANDUM

April 28, 2022

To: Bryan Davis, CCRPC and Todd Odit, Town of Hinesburg
From: Lucy Gibson, PE
Project: Richmond Road Bicycle and Pedestrian Scoping Study Update

Re: Richmond Road Project Segment Costs

Toole Design has been retained by the Chittenden County Regional Planning Commission to update the Richmond Road Bicycle and Pedestrian Scoping Study, prepared for CCPRC and the Town of Hinesburg in August, 2016. This study investigated the costs, impacts and feasibility of constructing a shared use path on Richmond Road in Hinesburg from Pond Road to Texas Hill Road. The report's findings included a total construction cost estimate of $2,485,000. Because this cost significantly exceeds the typical funding award from the Vermont Agency of Transportation Bicycle-Pedestrian Program, the Town of Hinesburg has elected to break the project into smaller segments, with estimated costs that are more in line with typical projects funded by VTrans.

Toole Design conducted the following tasks to support the revised cost estimate:

- Site visit to confirm field conditions
- Identify project segment limits
- Develop updated project cost estimates for each segment using most recent available VTrans unit costs

This memorandum summarizes this effort and provides updated projects costs by segment.

Current Field Conditions

A site visit was conducted to assess any changes in field conditions that have occurred since the 2016 study was completed. The only significant change is the construction of stormwater infrastructure to support new development on the north side of Richmond Road. The new infrastructure will need to be considered in the design, but does not affect the basis for the cost estimate. Drainage infrastructure cannot be determined until the design engineering phase, when a topographic survey is available, hydrologic modeling is conducted, and drainage requirements can be determined.

Project Segment Analysis

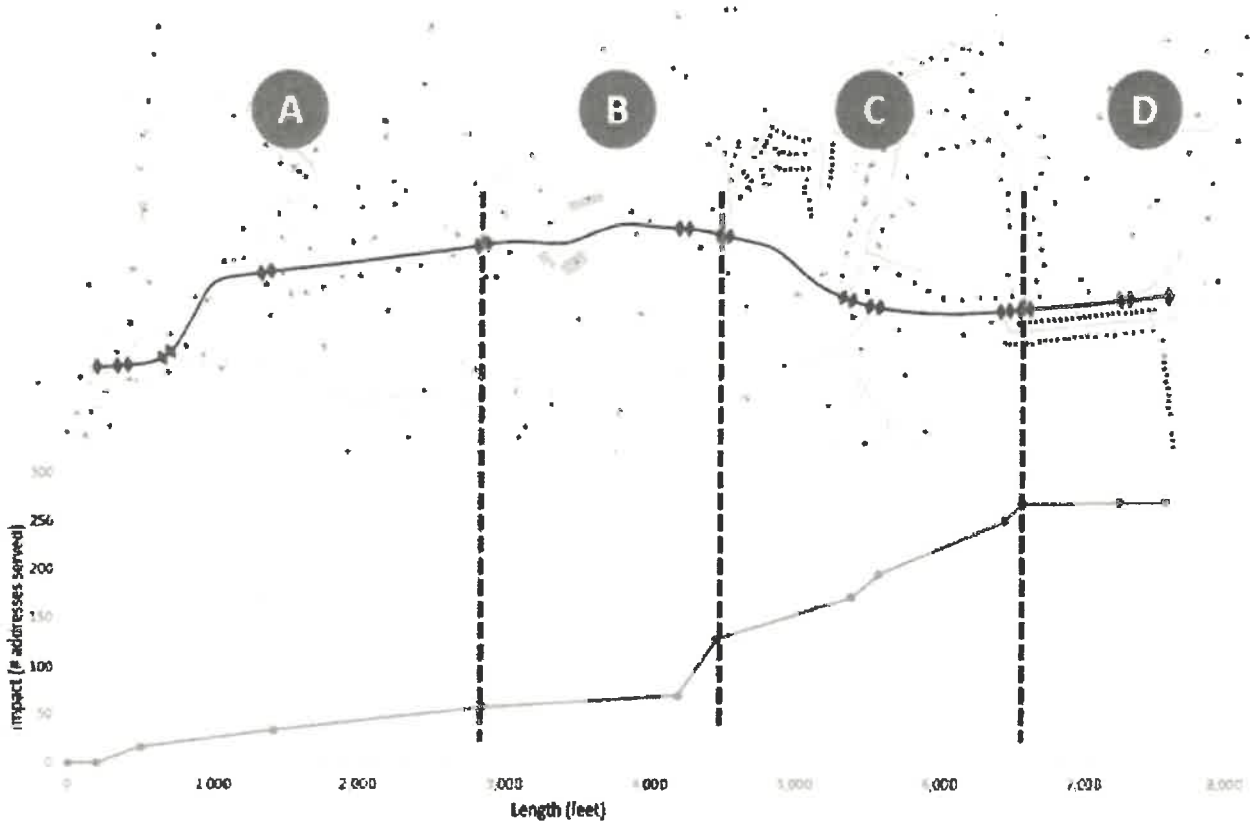
The project length of approximately 1 ½ miles was evaluated for logical end points for segments. The following considerations were included in this process:

Logical Termini. Typically, federal funding is provided for projects that will have independent utility, even if they are part of a longer term phased process. Segment ends are proposed at street intersections, which will provide a connection to all addresses on that street.

Impact. The impact of different segment options can be evaluated by the number of residences and businesses that are connected to the Hinesburg bicycle and pedestrian network.

It is proposed to divide the project into 4 segments, as illustrated below. This allows for greater flexibility in establishing costs for a grant application.

Figure 1: Recommended Project Segments



The table below shows the segment boundaries, lengths, and number of addresses that each segment will connect to the shared use path. Residents are not equally distributed along Richmond Road, but rather are more concentrated in the eastern portion of the project.

Table 1: Project Segment Data

Segment	From	To	Addresses Served	Length (feet)
A	Pond Road	Longmeadow Road	58	2,844
B	Longmeadow Road	Jourdan Street	73	1,612
C	Jourdan Street	Birchwood Street	122	1,979
D	Birchwood Street	Texas Hill Road/N Road	19	1,133
TOTAL			**272**	**7,568**

The construction costs by segment were calculated using the same methodology as in the 2016 report, but updated with the most recent available unit cost information. The design files were used to determine the quantity of each item in each project segment. The following table shows the distribution of quantities that was used to develop estimates for each project segment. These quantities were developed from the proposed conceptual design as outlined in the 2016 report, and are subject to change once survey is collected and the project design is developed in greater detail.

Table 2: Project Segment Quantities

DESCRIPTION	UNIT	A	B	C	D
Clearing and Grubbing	ACRE	1	1	0.5	0.5
Unclassified Excavation	CY	1,670	840	1,040	550
Solid Rock Excavation	CY	-	60	-	-
Subbase Gravel	CY	1,120	560	700	370
Subbase Sand Borrow	CY	570	280	360	190
Culvert Replacement	EA	1	-	1	-
Shared Use Path Bridge	SF	-	1,500	-	-
Bituminous Concrete	TON	430	220	260	150
Remove and Reset Guardrail	LF	-	80	-	-
Accessible Ramps	EA	6	4	4	2
Detectable Warning Surface	EA	6	4	4	2
Durable 4" Yellow Line, Type 1 Tape	LF	1,500	800	800	600
Durable 12" White Line, Type 1 Tape	LF	280	220	180	80
Hydrant Relocation	EA	1	-	-	-
Utility Pole Relocation	EA	18	5	3	-
Traffic Signs & Posts	EA	10	8	8	6
Loam & Seed	SY	2,540	1,440	1,760	1,020
Tree Plantings	EA	36	-	9	-

These quantities were applied to the most recent available unit prices available from VTrans to develop a segment construction cost. Details on the cost estimates are attached to this memorandum. In addition, allowances for the following items were included based on typical cost factors.

- Erosion Control was estimated to be 5% of the total construction cost. While this is higher than typical, it was considered appropriate for this context, due to the prevalent drainage courses along the north side of Richmond Road and stream crossings.
- Traffic Control was estimated to be 10% of total construction cost, which is a typical factor for projects located on a narrow, heavily trafficked corridor.
- Mobilization was estimated to be 6% of the project construction cost, which is in the typical range.
- A 25% contingency was applied to the construction cost to reflect items for which there is insufficient design to provide a cost estimated, such as drainage infrastructure, curbing, guardrail or higher utility relocation costs than anticipated.
- Design Engineering fees are estimated to be 22% of the total construction cost (inclusive of all the above items).

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- Construction Engineering fees are estimated to be 14% of the total construction costs (inclusive of all the above construction items, but not the design engineering fee allowance)
- An allowance for right-of-way acquisition costs are estimated based on likely area and property values, and include an allowance for legal and engineering services that are required for the acquisition.

A project management fee was not included, but the Town of Hinesburg may wish to retain a municipal project manager to oversee the project. These fees are eligible for reimbursement. If the Town elects to provide these services in house, the staff costs can be included in the local match. However, project funding applications with full cash matches are often considered more favorably by VTrans. The following table summarizes the cost estimates for all four project segments. Details for each segment are included in the appendix.

Table 3: Project Segment Cost Summary

Segment	A	B	C	D	TOTAL
Length (feet)	2,844	1,612	1,979	1,133	7,568
Construction Cost	$689,000	$667,000	$338,000	$170,000	$1,864,000
25% Contingency	$172,000	$167,000	$85,000	$43,000	$467,000
Design Engineering	$189,000	$183,000	$93,000	$47,000	$512,000
Construction Engineering	$121,000	$117,000	$59,000	$30,000	$327,000
Right of Way Costs	$59,000	$34,000	$41,000	$24,000	$158,000
TOTAL	$1,230,000	$1,168,000	$616,000	$314,000	$3,328,000
Cost/Linear foot	$432	$725	$311	$277	$440

The cost per linear foot are generally within the wide range of typical VTrans shared use path projects. Segment B has a higher cost per foot due to the combined factors of the path bridge and ledge excavation. Additionally, utility relocation costs are relatively higher in both segments A and B.

Funding Strategies

The most likely funding source at this time for project implementation would be the VTrans Bicycle-Pedestrian program. In reviewing the VTrans recent grant awards from the past three years, the largest construction grant award was $1,452,500 for the Intervale Road Path in Burlington, and the average award was about $600,000. However, it is quite common for larger projects to receive additional funds beyond their initial award as more accurate cost estimates are developed in the design process. Therefore, it is possible that higher cost projects have been funded through this program.

A review of the STIP shows that statewide funding, not including MPO projects, ranges from $4 million to $6 million per year. The CCRPC TIP shows that an average of $2.4 million per year has been put toward bicycle and pedestrian projects. Larger projects are often designed and constructed over several years.

With the possibility of recent infrastructure bill providing significantly increased funding for bicycle and pedestrian projects, it may be more realistic for this entire project to be funded with one grant than previously thought.

Some communities have successfully assembled funding for large bicycle-pedestrian projects by applying to both the Bicycle and Pedestrian program, and the Transportation Alternative Program (which caps awards at $375,000 with a 20% match).

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While the Richmond Road shared use path will be a high-cost project, there are efficiencies gained by going through the federal permitting and procurement process just one time, or as few times as possible. Additionally, a larger project could attract more interest from contractors and result in more favorable unit prices. For these reasons, the Town of Hinesburg should consider pursuing funding for as long a segment as possible, to both enjoy the benefits of the completed project sooner, and minimize the administration resources that are required to use federal funding.

The Town of Hinesburg will need to consider options for funding and sequencing this project. One possible strategy is to apply for funding with the VTrans Bicycle Pedestrian Program for segments A and B. If only partial funding is awarded, the Town can pursue other sources, such as the Transportation Alternatives program, or elect to use a higher share of local funding than required. If additional funds are not secured, the Town can proceed with only Segment A.

Recommendations

A significant concern for constructing the project in segments is that construction of the first segment may encourage more walking and bicycling on the remaining segments, where conditions are not safe. As full funding of the entire project is unlikely, we recommend using some of the contingency allowance to mitigate risk to people walking or biking by reducing speeds and carving out more space for people walking and biking along the road. Possible design strategies include:

- Signage
- Radar feedback sign
- Narrowing travel lanes and providing shoulder striping (9 or 10 ft lanes)
- Removing the center line (allowable on roads with AADT less than 3,000)
- Install speed humps or lumps to reduce traffic speeds
- Closure of slip lane at North/Texas Hill Road to reduce speeds entering corridor (planned)

CHITTENDEN COUNTY RPC
Communities Planning Together

110 West Canal Street, Suite 202
Winooski, VT 05404-2109
802-846-4490
www.ccrpcvt.org

May 2, 2023

Peter Pochop
VT Agency of Transportation
219 North Main Street
Barre, VT 05641

Dear Peter:

This letter is in support of the Town of Hinesburg's application to the VTrans 2023 large-scale Bicycle and Pedestrian Grant Program to construct Segments A and B of the Richmond Road Path project. These two segments will expand the current walk/bike network and connect Richmond Road residents, including families in the Sunset Lake mobile home park, to destinations in the village area. The entire 1.7 mile path was scoped by the CCRPC in 2017, and an update was completed in 2022 to identify specific path segments and update cost estimates.

This project is supported by several sections of the CCRPC's ECOS Plan. One of the four broad goals established at the beginning of the document states:
"Make public and private investments in the built environment to minimize environmental impact, maximize financial efficiency, optimize social equity and benefits, and improve public health." ECOS Plan page 8

In the transportation discussion of key issues there's this finding:
"More robust investment in transportation options – transit, walking/biking, carsharing and ridesharing – could reduce congestion, vehicle miles traveled, use of single occupancy vehicles, social exclusion, and could improve public health, and enhance the economic well-being of our residents, businesses and visitors." ECOS Plan page 63

Under future transportation investments, one of the identified focal areas is to:
"Expand walking and biking infrastructure to support active transportation and to provide interconnection with the region's transit system." ECOS Plan page 93

The Public Health section also includes this as a priority strategy:
"Obesity -- Create policies and environmental supports that increase access to active transportation, active recreation, and healthy foods." ECOS Plan Page 103

The financial section of the transportation element of ECOS also notes a recommended shift in new transportation funding away from roadway investments and more into transportation alternatives like walking and cycling projects (see ECOS Plan page 180).

The Plan section on implementing transportation corridor improvements identifies this priority:

"Expanding the bicycle and pedestrian networks with on- and off-road facilities and more sidewalks." ECOS Plan page 181

This project is also supported by the following goals from our 2017 Active Transportation Plan:

- *"Provide accessible, safe, efficient, interconnected, secure, equitable and sustainable mobility choices for our region's businesses, residents and visitors."*
- *"Encourage walking and biking in local communities through work with towns, schools, businesses and community walk-bike groups."*
- *"Expand walking and biking infrastructure to provide interconnection with the region's transit system."*

I have reviewed the application. Thank you for your consideration of this project.

Sincerely,

Bryan Davis

Bryan Davis
Senior Transportation Planner

Town Manager
10632 VT Route 116
Hinesburg, VT 05461
Ph: 802-482-4206 email: todit@hinesburg.org

May 18, 2023

Peter Pochop
VT Agency of Transportation
219 North Main Street
Barre, VT 05641

Dear Peter:

Dear Mr. Pochop:

On behalf of the Town of Hinesburg Selectboard, I am writing to convey their commitment to providing the local match for Segments A and B of the Richmond Road Pedestrian Path. Construction of this path has been a priority of the town since completion of the original scoping study in 2016. The Selectboard partnered with the Chittenden County Regional Planning Commission to update the 2016 study with current construction estimates this past winter. The Selectboard is also fully aware of the future maintenance responsibilities for the path.

The Selectboard discussed the project at their May 17, 2023 meeting and voted in favor of submitting a 2023 Bicycle and Pedestrian Program Grant Application.

Sincerely,

Todd Odit
Hinesburg Town Manager

SELECTBOARD MEETING DRAFT

May 17, 2023

Attending the meeting; Merrily Lovell, Maggie Gordon, Mike Loner, Dennis Place, Paul Lamberson, Todd Odit, Aaron Miller, George Dameron

Attending remotely; Andrea Morgante, Margaret McNurlan, Anne Sullivan, Anthony Cambridge

Meeting called to order at 6:00 p.m. via zoom

Agenda Additions and Deletions

none

Public Comment

Andrea asked if the wastewater bond is on the agenda. Merrily said it is not but will come up during the ARPA discussion.

Approve Minutes of 4/19 and 5/13

Paul moved to approve the 4/19 minutes as amended. Seconded by Maggie. Merrily, Mike and Paul voted yes. Maggie and Dennis abstained. Motion approved.

Merrily moved to approve the minutes of 5/13. Seconded by Dennis. Merrily, Maggie,

Selectboard Forum

Merrily noted the passing of two important members of the Hinesburg community; Eric Spivack and June Giroux.

Dennis said he was not aware that June co-founded the library at the Hinesburg School so the children did not have to make the trip to the public library. June also co-founded The Hinesburg Record.

Merrily reported that the committee for the Town Charter is moving forward. Members are Paul Lamberson, Phil Pouech and Dawn Francis.

Consider Applying to Vermont Bicycle and Pedestrian Grand Program for Richmond Road Path

Todd explained this time we are applying for two segments and have addressed the comments received from our last application which was denied. The cost for two segments could run from $400,000 to $600,000 for the local match. In the application we noted we would be willing to receive less funds and if we did would only do the first segment.

Discussed a few ideas on cost saving options if we are awarded the grant.

Mike asked when we would expect to hear a decision on the grant and what the vision is for the local match. Todd said sometime in August we could expect to hear, as far as the local match we would look at capital, ARPA funds or just borrow the funds.

Dennis said he is leery as the estimates seem low. Todd said the estimates are increased in the application and include a contingency.

Merrily moved to approve applying for the Bicycle and Pedestrian Program Grant for segments A and B of the Richmond Road pedestrian path. Seconded by Mike. Dennis asked what happens if we get the grant and can't come up with the money. Todd said if you agree to the project once awarded you would have to pay the money back. When awarded the grant there is still the opportunity to change your mind.

Andrea noted this is a very lengthy process part of which is getting right of way and easements. The Board should understand sometimes the process of eminent domain needs to be used.

Richmond Road
Pedestrian and Bicycle Scoping Study

Hinesburg, Vermont

Chittenden County RPC

Hinesburg

Hinesburg 1762 2012 250th anniversary

Toole Design Group

August 2016

CHITTENDEN COUNTY RPC
Communities Planning Together

110 West Canal Street, Suite 202
Winooski, VT 05404
P 802.846.4490
F 802.846.4494
www.ccrpcvt.org

Submitted by:
Toole Design Group
33 Broad Street, 4th Floor
Boston, MA 02109

Project Steering Committee

Peter Keating, Chittenden County Regional Planning Commission
Alex Weinhagen, Hinesburg Director of Planning and Zoning
Andrea Morgante, Hinesburg Trail Committee
Lenore Budd, Hinesburg Trail Committee
Jane Sheldon, Hinesburg Trail Committee
Jason DeGray, Toole Design Group
John Dempsey, Toole Design Group

This scoping study was a collaborative effort of the Town staff, CCRPC, and Toole Design Group, who possessed a wealth of combined knowledge and expertise regarding project background, history, local insight, and existing conditions. Their valuable insight and assistance was instrumental in developing the implementation strategy.

The preparation of this report has been financed in part through a grant from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code, as well as matching funds provided by Chittenden County's municipalities and the Vermont Agency of Transportation. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

Table of Contents

Appendices

1.0 Introduction

1.1 Background

The Chittenden County Regional Planning Commission (CCRPC) and the Town of Hinesburg (Town) initiated this scoping study to analyze and evaluate alternatives for improving walking and bicycling conditions for a 1.5 mile study area on Richmond Road. This section of Richmond Road from Champlain Valley Union/Pond Road/Richmond Road/Mechanicsville Road intersection; to the North Road/Texas Hill Road intersection has been identified with the highest population density in the Town. The western terminus of the study area connects to the village sidewalk system and Champlain Valley Union (CVU) High School.

This report summarizes the findings of the study through robust public participation and outreach during the scoping study process.

1.2 Purpose and Need

The **purpose** of the *Richmond Road Pedestrian/Bicycle Feasibility Study* is to develop and evaluate alternatives for improving walking and bicycling conditions on Richmond Road from Champlain Valley Union Road/Pond Road/Richmond Road/Mechanicsville Road intersection; to the North Road/Texas Hill Road intersection.

The **need** of this project is to:

1. Create a preferred alternative for walking and bicycling on Richmond Road from the Champlain Valley Road/Pond Road/Richmond Road/Mechanicsville Road intersection to the North Road/Texas Hill Road intersection, approximately 1.5 miles.
2. Maximize safety for all users walking and bicycling in this corridor.
3. Support future walking and bicycling connections in the Town of Hinesburg.
4. Provide an estimate of the probable construction costs of the preferred alternative to serve as a basis for the Town to apply for grant applications.

1.3 Project Study Area

The proposed project study site location is shown in **Figure 1**.

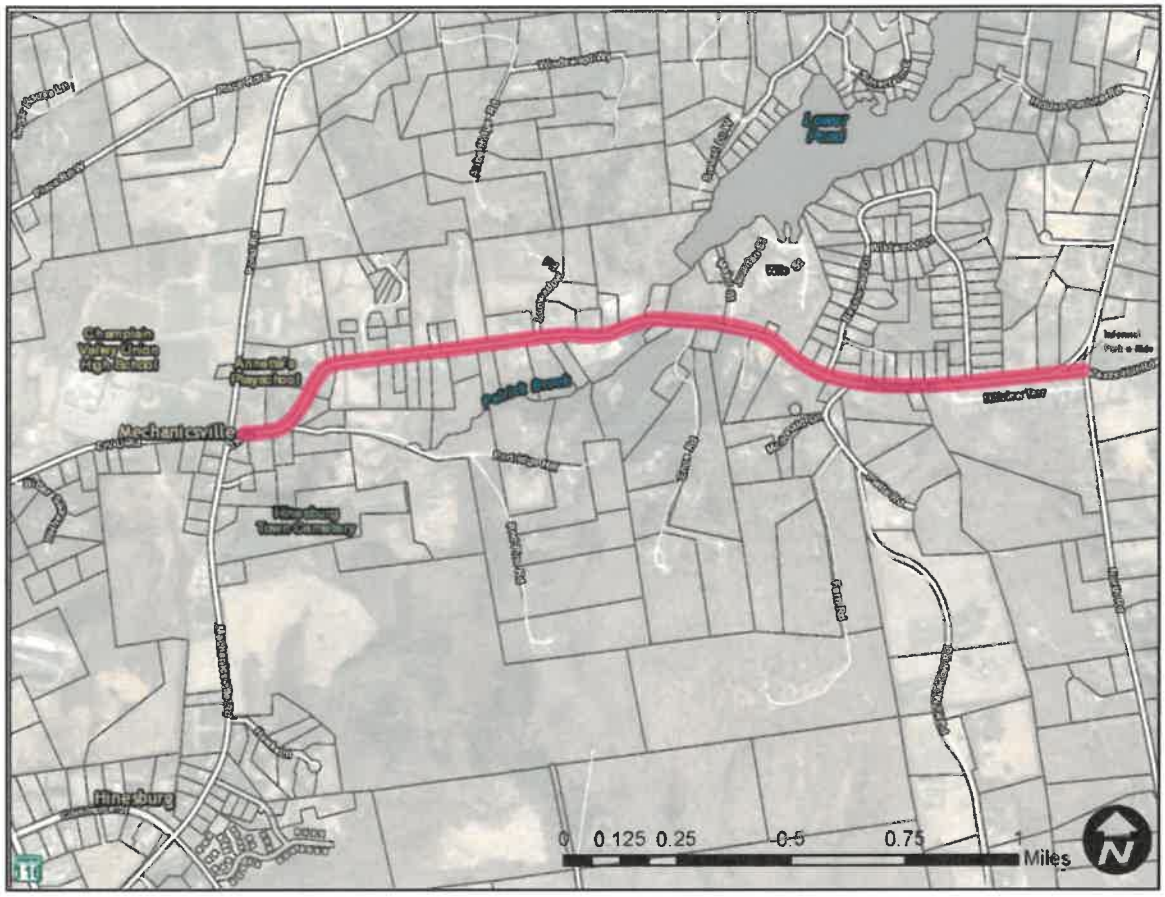

Figure 1: Study Area

1.4 Project Oversight

This scoping study project was conducted and coordinated with public involvement through workshops, presentations, and meetings.

Project meetings and public involvement included the following:

- **Kickoff Meeting:** September 17, 2015 – TDG staff and Steering Committee Members met to discuss project scope, study area limits, conduct a site field visit and review the schedule.
- **Local Concerns Meeting:** November 5, 2015 – TDG staff facilitated a local concerns meeting. As an outcome of the meeting and site fieldwork, TDG crafted a project purpose and need statement based on local input and understanding of existing conditions.
- **Alternatives Presentation:** April 20, 2016 – TDG staff presented project alternatives to members of the public.
- **Report Presentation:** June 23, 2016 – CCRPC staff presented the preferred alternative concept and the findings of the Scoping Study to members of the public and Hinesburg Selectboard.

2.0 Existing Conditions

2.1 Site Characteristics

All base mapping for this scoping study was compiled from Geographic Information System (GIS) and orthographic imagery data as available from the CCRPC, State of Vermont, and the Town. No field survey was performed. Site fieldwork was conducted to field verify all topographic features within the project study area and subsequent fieldwork findings were added to the original base mapping.

There are currently no formal walking or bicycling facilities along the Richmond Road corridor, but a safe route for walkers and bicyclists is a priority in the Hinesburg Town Plan. As shown in Figure 1, CVU, the western terminus of the village sidewalk system, and residents along the Richmond Road corridor would benefit from a designated walking and biking facility.

According to the Vermont Agency of Transportation (VTrans) *High Crash Locations Sections and Intersections* report from 2008-2012, a 0.3 mile section of Richmond Road from CVU Road to east of Partridge Hill Road has been identified as a high crash location (HCL). Subsequently, each year has seen an increase in crashes: four in 2013, six in 2014 with one injury and eight in 2015 with seven injuries to date. This is a known walking and biking route in the Town of Hinesburg despite the lack of facilities. It is estimated that up to 30-40 users walk this corridor on a daily basis.

There is an existing 10-foot wide shared use path on the north side of Shelburne Falls Road that crosses VT Route 116 and continues on the north side of CVU Road to the intersection of Mechanicsville Road, Pond Road and Richmond Road. The shared use path crosses CVU Road to the west of the intersection connecting with the village sidewalk network on Mechanicsville Road. The CVU Road, Mechanicsville Road, Pond Road and Richmond Road intersection has four-way stop control except for an existing slip lane from Mechanicsville Road onto Richmond Road.

The approximate 1.5 mile study area includes rolling topography with a posted speed limit of 35 MPH. Richmond Road generally runs in an east-west direction. Within the study area, Richmond Road consists of two travel lanes. As shown in **Table 1,** the existing pavement width is 24-feet. The existing pavement and pavement markings are generally in good condition.

The intersection of Richmond Road/North Road/Texas Hill Road has a large radius southbound right-turn slip lane onto Richmond Road. The triangle created by the awkward road geometry functions as an informal park and ride within the Town. The intersection is stop-controlled on Richmond Road and Texas Hill Road. A yield sign is located for vehicles traveling north on North Road onto Richmond Road.

The shoulder widths on Richmond Road currently do not meet the *VT State Design Standards* for a rural major collector. However, given the natural resource and topography constraints on either side of the corridor as shown in **Figure 2**, the potential for widening is likely costly and not feasible, so off-road bicycle and walking routes should be considered. A designated walking and bicycling facility, such as a shared use path, would provide a low stress environment for walking and bicycling that is separate from motor vehicle traffic.

Table 1: Roadway Characteristics (source: VTrans Route Log Data)

Richmond Road	
Functional classification	Rural Major Collector
Jurisdiction	Town
Right-of-way width (feet)	49.5'*
Roadway width (feet)	24' (11' travel lanes, 1' shoulders)
Widths recommended by *VT State Design Standards*	11' travel lanes, 3' shoulders (to accommodate bicycles)
2012 AADT**	3600
Posted speed limit	35 MPH

***Vermont Ancient Roads Database**
****AADT= Average Annual Daily Traffic**

Figure 2: Richmond Road approaching 695 Richmond Road looking west

2.2 Relevant Plans and Studies

The 2013 *Hinesburg Town Plan and the 2011 Highway Safety Improvement Program, Traffic Safety Section on Richmond Road* were consulted to ensure consistency with this study. There are a few noteworthy aspects in those plans specific to this study area:

- *Traffic Safety Section, Highway Safety Improvement Program Location Review*
    - The *Traffic Safety Section* report stated there were six crashes in the approximate location of Iroquois Manufacturing (695 Richmond Road) between 2007 and 2009. Recommendations from the report included the installation of warning signage in advance of the identified crash locations.

- *Hinesburg Town Plan*
    - The transportation chapter of the town plan recommends developing a sidewalk or recreation path system from CVU to Richmond Road to connect high density residential areas to existing village infrastructure. This would provide a designated low stress facility from the most densely populated area in Town and connect to CVU High School.

2.3 Existing Resources

This section assess existing resources. Each of the resource types specified in the *VTrans Project Scoping Manual* are addressed below. The data referenced in this section was obtained from the Vermont Center of Geographic Information, the Vermont Agency of Natural Resources (ANR) Atlas and BioFinder mapping programs, as well as site fieldwork verification. The following is a summary considered to be potential impacts by the improvements proposed for the project study area.

2.3.1 Parcel Data and Property Ownership

The majority of the Richmond Road parcels in the study area are private lots with single family residential structures. The exceptions are Iroquois Manufacturing and the Hillview Terrace mobile home community.

2.3.2 Natural Resources

Lakes/Ponds/Streams/Rivers

As shown in **Figure 3**, Patrick Brook flows south from Lower Pond which is located approximately in the center of the study area.

Wetlands

As shown in **Figure 3**, there are identified Class 2 wetlands. This detailed mapping throughout the Town has been incorporated by the State as part of the wetland advisory layer. Many of these identified wetlands occur on private property and have not been ground-truthed. It is recommended to perform a wetland delineation by a certified professional to confirm Class 2 wetland locations and boundary data.

River Corridors

As shown in **Figure 3**, the lateral area around Patrick Brook has been identified as a river corridor. This area is necessary to achieve and maintain a stable condition of the brook.

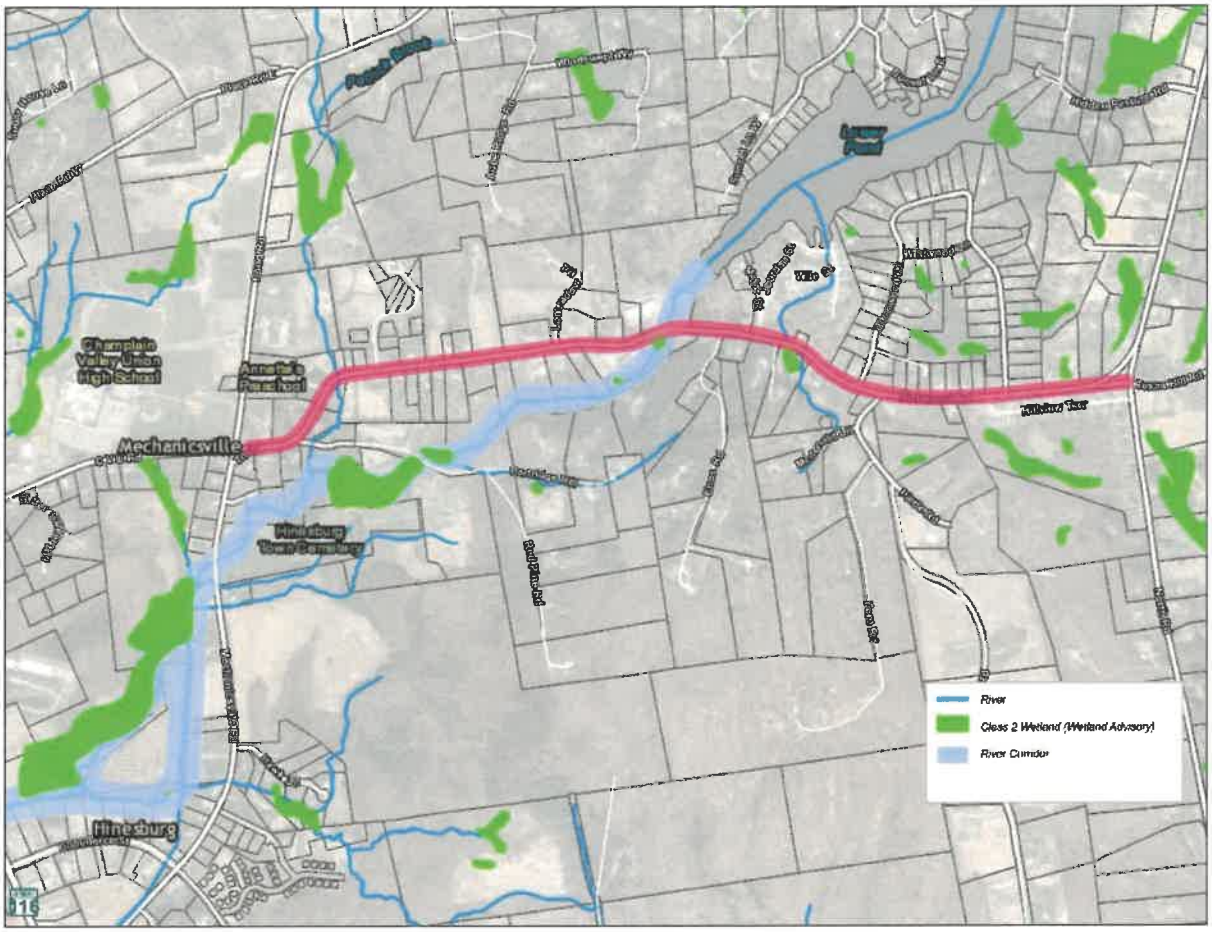

Figure 3: River Corridors, Streams, Wetlands

Agricultural Soils
As shown in **Figure 4**, much of the western portion of the study area is considered prime agricultural soil.

Forest Land
No forest lands have been identified within the study area.

Rare, Threatened, or Endangered Species
No rare, threatened or endangered species have been identified within the study area.

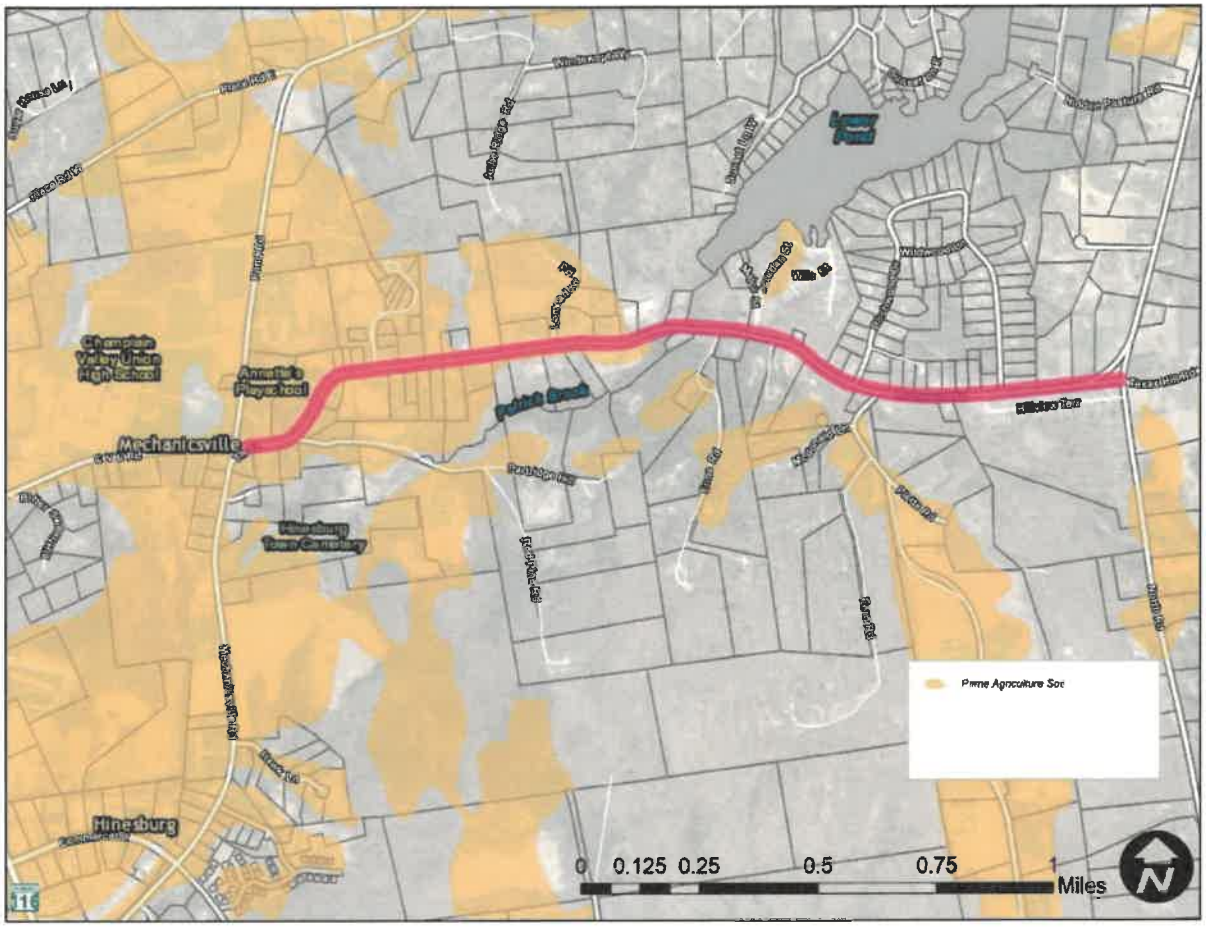

Figure 4: Prime Agricultural Soil

Habitat Zones

As shown in **Figure 5**, lower priority habitat blocks are identified on the north and south sides of the Richmond Road corridor study area. Within each habitat block area, core wildlife habitats have been identified, as well as wildlife corridors/linkage zones. A wildlife corridor/linkage area of importance in Hinesburg has been identified within the study area south of Lower Pond. These corridor and linkage areas provide connections between patches of significant wildlife habitats.

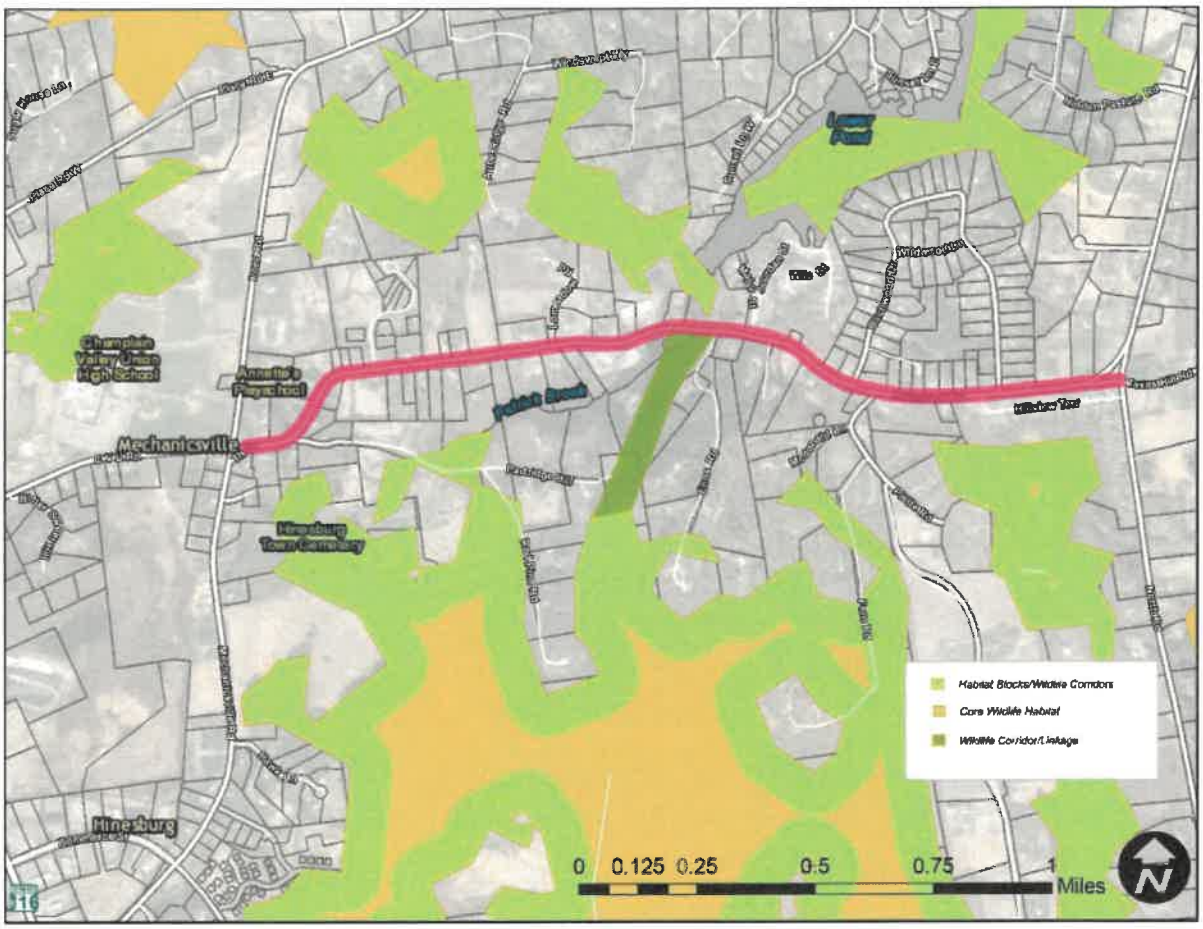

Figure 5: Habitat Zones

2.3.3 Built Environment

Hazardous Wastes
As shown in **Figure 6**, parcels containing Iroquois Manufacturing and several residential parcels are noted as hazardous waste sites by the Agency of Natural Resources.

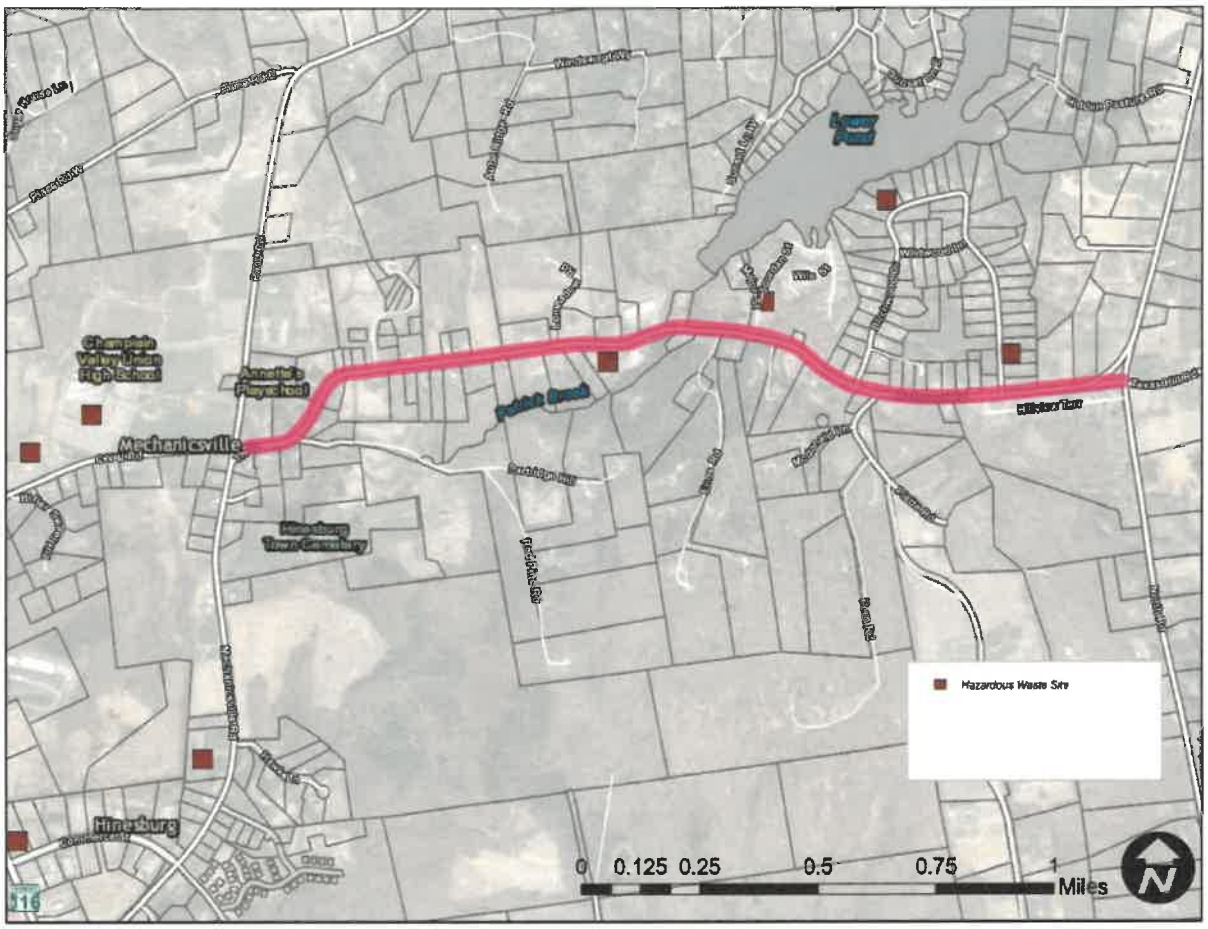

Figure 6: Hazardous Waste Sites

2.3.4 Cultural Resources

Historic

The term 'historic sites' includes prehistoric and historic districts, sites, buildings, structures, or objects listed in, or eligible for, the National Register of Historic Places[1]. There are no historic sites identified within the study area.

Archeological

An Archaeological Resources Assessment (ARA) is not being conducted as part of this study. Since the area is already developed and has been previously disturbed, it is not considered to have historic or pre-contact sensitivity.

[1] FHWA Section 4(f) Tutorial. http://www.environment.fhwa.dot.gov/section4f/properties.aspx. Accessed December 2015.

Architectural
Mechanicsville and the Village center contain the highest concentration of historically significant buildings. Outside of these areas, buildings and structures can be dated from the 19th century and early 20th century. The 2013 *Hinesburg Town Plan* encourages the development, preservation and enhancement of the town's village and rural areas, and its walkability.

Section 4(f) and 6(f) properties
Section 4(f) properties include publicly owned park and recreation areas that are open to the general public, publicly owned wildlife and waterfowl refuges, and public or privately owned historic sites.

Section 6(f) properties are properties acquired with Land and Water Conservation Act funds be coordinated with the Department of Interior. Usually replacement in kind is required.[2]

There are no 4(f) properties within the study area.

There are no 6(f) properties within the study area

[2] Section 6(f) Land and Water Conservation Act. http://www.fhwa.dot.gov/wadiv/envir/section6f.cfm. Accessed November 2015.

3.0 Concept Alternatives

3.1 Improvement Recommendations

This section describes the concept alternatives developed for the Richmond Road Pedestrian and Bicycle Scoping Study. Alternatives were developed to meet the project purpose and need, and to respond to public input summarized in **Appendix A**. The conceptual alternative plans are provided in **Appendix B**.

Whether traveling by foot or wheel, well design shared use paths can provide direct and comfortable routes to places of employment, recreation, education, and other desired destinations. The term shared use path refers to a low-stress bikeway that is physically separated from motorized vehicular traffic by an open space or barrier. These facilities are typically found within an existing roadway right-of-way or within an independent right-of-way. Research has shown many people are interested in traveling by walking or bicycling for transportation purposes, however are dissuaded by stressful interactions with motor vehicles.

Designing with these principles in mind, a shared use path facility was considered as a design alternative for the Richmond Road corridor. In addition to a shared use path, the core improvement recommendations below, are included in each alternative;

- Provide ADA- compliant ramps and high-visibility crosswalk pavement markings across all intersecting roadways;
- Provide centerline pavement markings on the proposed shared use path to indicate directional separation;
    - Additional compliant warning signage to alert users of changes in slope. Refer to **Figure 7;**
    - Additional signage reminding users of proper path etiquette, such as announcing when engaging in a passing maneuver may further assist in reducing conflicts;
- Provide a bridge structure over Patrick Brook;
- Provide and identify stormwater management treatment areas;
- Provide landscape tree plantings as approved by the Town (outside the existing right-of-way); and
- Reconstruct all driveway aprons to accommodate the shared use path crossings.

Figure 7: W7-5 Bicycle hill warning signage

3.2 Alternative 1

The proposed Alternative 1 includes an 8 foot wide bituminous concrete shared use path with a 2-5 foot wide buffer on the northside of Richmond Road. Refer to **Figure 8** for the proposed Alternative 1 cross section. Additional improvements for consideration along this segment would include;

- Providing an enhanced crossing with a Rectangular Rapid Flashing Beacon, signage, and pavement marking improvements from the proposed northside path for users to access the informal park and ride at the eastern terminus of the study area; and
- Study the intersection of Richmond Road and North Road to identify the potential for removing the slip lane onto Richmond Road traveling west (Long Term).

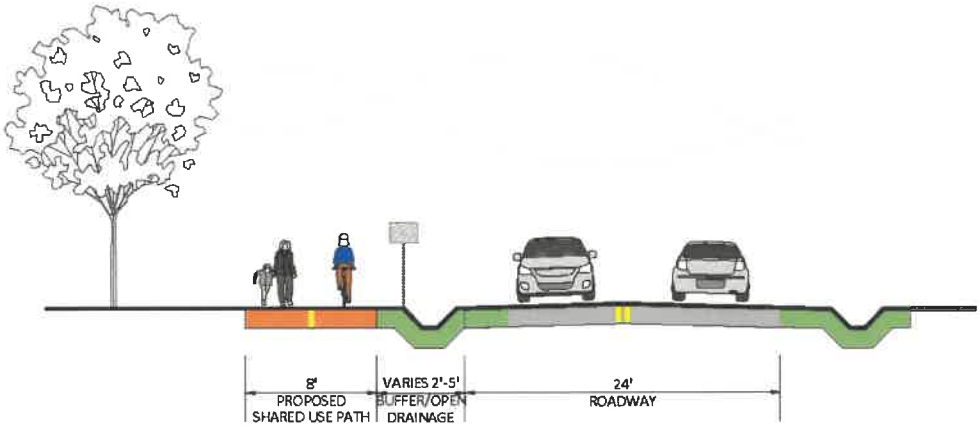

Figure 8: Alternative 1 cross section

The general path alignment would be contained within the existing right-of-way along the northern edge of Richmond Road. Key impacts with the Alternative 1 alignment include;

- In the proximity of 56 Pond Road (CVU Road/Mechanicsville Road/Richmond Road/Pond Road intersection), the proposed path alignment may require subsurface drainage systems, site

grading, and potentially a small retaining wall due to an existing open swale system and challenging site grades in this location;

- In the proximity of 129 Richmond Road, the proposed path alignment would be approximately 9 feet from the existing building structure;
- In the proximity of 175 Richmond Road, the proposed path alignment would be approximately 11 feet from the existing building structure;
- In the proximity of 225 Richmond Road, a new culvert will be needed to accommodate the shared use path and buffer width;
- A total of 14 utility poles may need to be relocated to accommodate the shared use path and buffer width;
- A total of 1 hydrant may need to be relocated to accommodate the shared use path and buffer width;
- In the proximity of 884 Richmond Road, a new culvert will be needed to accommodate the shared use path and buffer width;
- In the proximity of 695 Richmond Road, the existing rock outcropping will need to excavated to accommodate the shared use path and buffer width; and
- Throughout the study area, a combination of closed and open drainage systems may be needed to treat the new impervious facility according to the Vermont Agency of Natural Resources (ANR) Stormwater Management Manual, latest edition.

3.2.1 Alternative 1A

Based on steering committee input and public feedback, a variation of Alternative 1 was evaluated. Alternative 1A includes a 6 foot wide concrete sidewalk with a 7 foot buffer on the northside of the corridor and shared lane pavement markings including signage improvements. Alternative 1A would include many of the core improvement recommendations documented in Alternative 1 and would also have similar construction impacts and permitting requirements. Refer to **Table 2** Evaluation Matrix.

3.2.2 Evaluation Matrix

All of the anticipated costs, resource impacts, and permit requirements for Alternative 1 and 1A have been summarized in the evaluation matrices below in **Table 2.**

Table 2: Evaluation Matrix; Alternative I and Alternative IA

Item	Shared-Use Path Alternative 1 (North)	Sidewalk, Markings & Signage Alternative 1A (North)
Construction Characteristics		
Facility Length	7,200 LF	7,200 LF
Facility Width	8 FT	6 FT
Buffer Width	Varies 2-5 FT	Varies 5-7 FT
Proposed Surface	Bituminous Concrete	Concrete
Terrain	Rolling natural slopes	Rolling natural slopes
Shared Use Bridge	Yes	Yes
Potential Impacts		
Agricultural Lands	None, Previously Disturbed	None, Previously Disturbed
Archeological Impacts	None	None
Class 2 Wetland Impacts	Potentially (Need delineation)	Potentially (Need delineation)
Floodplain	None	None
Historic Property Impacts	None	None
Rare, Threatened, Endangered	None	None
Right-of-Way Impacts	Easements Required	Easements Required
Trees- Removed/Replaced	Yes	Yes
Utility Impacts- Aerial	None	None
Utility Impacts- Underground	None	None
Permits		
ACT 250	No	No
401 Water Quality	No	No
NEPA	Categorical Exclusion	Categorical Exclusion
404 Corps of Engineer Permit	Yes	Yes
ANR Wetlands	No	No
Stream Alteration	Yes, bridge construction	Yes, bridge construction
Conditional Use Determination	Yes	Yes
Stormwater Discharge	Yes, construction >1 acre	Yes, construction >1 acre
Shoreland Encroachment	No	No
Archeological- Phase 1B	No	No
Section 106 / Historic	No	No
VTRANS Access Permit	No	No
Opinion of Probable Construction Costs		
Conceptual Cost Estimate	$2,485,000	$2,250,000

3.2.3 Opinion of Probable Construction Costs

The opinion of probable construction costs for Alternative I is approximately $2,485,000. The opinion of probable construction costs for Alternative IA is approximately $2,250,000. The cost estimates were developed from the concept alternative plans and account for the anticipated construction costs which

include engineering, construction, construction administration, annual maintenance costs, and a 25% contingency. The table of unit costs associated with developing a sidewalk or shared use path facility does not account for construction administration or permitting requirements. The detailed itemized opinion of probable construction costs are provided in **Appendix C**. The unit cost data was applied from VTrans 5 year average price list.

3.3 Alternative 2

The proposed Alternative 2 includes an 8 foot wide bituminous concrete shared use path with a 2-5 foot wide buffer on the southside of Richmond Road. Refer to **Figure 9** for the proposed Alternative 2 cross section. Additional improvements for consideration along this segment would include;

- Study the intersection of Mechanicsville Road and Richmond Road to identify the potential for removing the right turn slip lane onto Richmond Road (Long Term); and
- Providing curb radii reductions at the existing driveways of the Iroquois Manufacturing property.

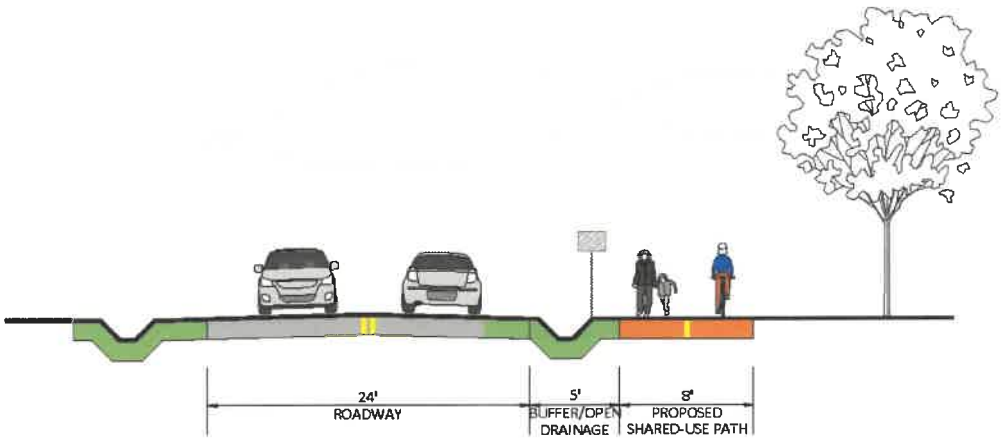

Figure 9: Alternative 2 cross section

Alternative 2 would provide increased access and a dedicated facility for both pedestrian and bicycle users. The general path alignment would be contained within the existing right-of-way along the southern edge of Richmond Road. Key impacts with the Alternative 2 alignment include;

- In the proximity of 114 Richmond Road, the proposed path alignment would be approximately 7 feet from the existing building structure;
- In the proximity of 178 Richmond Road, the proposed path alignment would be approximately 5 feet from the existing building structure;
- In the proximity of 496 Richmond Road, the proposed path alignment would be approximately 4 feet from the existing building structure;
- In the proximity of Hillview Terrace, the proposed path alignment would range 3-12 feet from the existing building structures;
- The southside path alignment would impact the current staging area adjacent to Richmond Road for the Iroquois Manufacturing Company;
- In the proximity of 178 and 274 Richmond Road, a new culvert will be needed to accommodate the shared use path and buffer width;

- In the proximity of 884 Richmond Road, a new culvert will be needed to accommodate the shared use path and buffer width;
- A total of 3 utility poles may need to be relocated to accommodate the shared use path and buffer width; and
- Throughout the study area, a combination of closed and open drainage systems may be needed to treat the new impervious facility according to the Vermont Agency of Natural Resources (ANR) Stormwater Management Manual, latest edition.

3.3.1 Alternative 2A

Based on steering committee input and public feedback, a variation of Alternative 2 was evaluated. Alternative 2A includes a 6 foot wide concrete sidewalk with a 7 foot buffer on the southside of the corridor and shared lane pavement markings including signage improvements. Alternative 2A would include many of the core improvement recommendations documented in Alternative 2 and would also have similar construction impacts and permitting requirements. Refer to **Table 3** Evaluation Matrix.

3.3.2 Evaluation Matrix

All of the anticipated costs, resource impacts, and permit requirements for Alternative 2 and 2A have been summarized in the evaluation matrices below in **Table 3**.

Table 3: Evaluation Matrix; Alternative 2 and Alternative 2A

Item	Shared-Use Path Alternative 2 (South)	Sidewalk, Markings & Signage Alternative 2A (South)
Construction Characteristics		
Facility Length	7,050 LF	7,050 LF
Facility Width	8 FT	6 FT
Buffer Width	Varies 2-5 FT	Varies 5-7 FT
Proposed Surface	Bituminous Concrete	Concrete
Terrain	Rolling natural slopes	Rolling natural slopes
Shared Use Bridge	Yes	Yes
Potential Impacts		
Agricultural Lands	None, Previously Disturbed	None, Previously Disturbed
Archeological Impacts	None	None
Class 2 Wetland Impacts	Yes	Yes
Floodplain	None	None
Historic Property Impacts	None	None
Rare, Threatened, Endangered	None	None
Right-of-Way Impacts	Easements Required	Easements Required
Trees- Removed/Replaced	Yes	Yes
Utility Impacts- Aerial	None	None
Utility Impacts- Underground	Yes	Yes
Permits		
ACT 250	No	No
401 Water Quality	No	No
NEPA	Categorical Exclusion	Categorical Exclusion
404 Corps of Engineer Permit	Yes	Yes
ANR Wetlands	No	No
Stream Alteration	Yes, bridge construction	Yes, bridge construction
Conditional Use Determination	Yes	Yes
Stormwater Discharge	Yes, construction >1 acre	Yes, construction >1 acre
Shoreland Encroachment	No	No
Archeological- Phase 1B	No	No
Section 106 / Historic	No	No
VTRANS Access Permit	No	No
Opinion of Probable Construction Costs		
Conceptual Cost Estimate	$2,273,000	$2,100,000

3.3.3 Opinion of Probable Construction Costs

The opinion of probable construction costs for Alternative 2 is approximately $2,273,000. The opinion of probable construction costs for Alternative 2A is approximately $2,100,000. The cost estimate was developed from the concept alternative plans and account for the anticipated construction costs which include engineering, construction, construction administration, annual maintenance costs, and a 25%

contingency. The table of unit costs associated with developing a sidewalk or shared use path facility does not account for construction administration or permitting requirements. The detailed itemized opinion of probable construction costs are provided in **Appendix C**. The unit cost data was applied from VTrans 5 year average price list.

3.4 Additional Alternative

An additional alternative was studied based on steering committee input and public feedback. A hybrid variation was evaluated using the shared use path alignments from Alternative 1 and Alternative 2. Applying the key impacts identified in Alternative 1 and Alternative 2, a hybrid path option was considered using the northside path alignment from the CVU Road/Mechanicsville Road/Pond Road/Richmond Road intersection until approximately the Iroquois Manufacturing property. A proposed crosswalk would cross Richmond Road and continue with the southside pathway alignment until the North Road/Texas Hill Road intersection. Approximate crossing sight distances were taken in the field to identify the need for the proposed crossing location. Based on field measurements, horizontal, and vertical curvature of Richmond Road, the only locations where a crossing would be feasible between Orchard Commons Road to Lomeadow Road. Based on this designated crossing location, the hybrid alternative would not lessen the impacts identified in Alternative 1 or Alternative 2. The hybrid alternative does add a new impact of a proposed uncontrolled crossing of Richmond Road. Therefore, based on observed motor vehicle speeds and general topography, the viability of this hybrid alternative was removed from consideration.

3.5 Maintenance

Pedestrian and bicycle facilities require routine maintenance to ensure they provide safe walking and bicycling conditions. In addition to current maintenance needs, there are two other maintenance activities that are essential to maintain walking and bicycling facilities. These activities include general maintenance of snow removal, sweeping, mowing/pruning/trimming vegetation, and pavement preservation maintenance activities such as pavement sealing or patching. Maintenance activities are broken out below to document anticipated summer and winter activities.

Summer Maintenance Activities:

- Striping Pavement Markings
- Pavement Repairs (Crack sealing, Patching)
- Culvert/Drainage Maintenance
- Sweeping
- Signage
- Bridge maintenance
- Mowing

Winter Maintenance Activities:

- Plowing
- Sanding/Salting

The Town would need to determine whether or not to remove snow from the path and a formal maintenance agreement is recommended.

4.0 Project Summary

4.1 Conclusion

The Richmond Road Pedestrian and Bicycle Scoping Study was prepared at the request of the CCRPC and the Town of Hinesburg to analyze and evaluate all concept alternatives for pedestrian and bicycle improvements for the Richmond Road project study area. This report presents existing conditions data, conceptual design alternatives, a preferred conceptual design alternative, and opinion of probable construction costs for the project study area.

Evaluating design impacts, input from public involvement through workshops, presentations, and meetings; Alternative 1 has been identified as the recommended preferred alternative. At the conclusion of the public participation and outreach process, in which the findings of this report were presented and reviewed, the Hinesburg Selectboard also identified Alternative 1 preferred design alternative for the project study area.

The proposed recommendations alternative align with the transportation goals in the Hinesburg Town Plan, 2013 and will continue to develop walking and bicycling infrastructure within the community.