RICHMOND GATEWAY SCOPING STUDY

DRAFT JUNE 17, 2024

There are many types of active transportation, such as biking, walking, using a wheelchair or other mobility device, using a scooter, skateboarding, and more.

The goal of this project is to provide a path that is safe and easy to use for all ages and abilities.

Table Of Contents - PENDING

Richmond VERMONT

CHITTENDEN COUNTY RPC
Communities Planning Together

DuBois & King inc.

INTRODUCTION

What is this study?

This Richmond Gateway Scoping Study is part of a multi-year effort to improve infrastructure within Richmond's western gateway area. To this end, this scoping study investigates possible biking, walking, and other active transportation links between Richmond Village center, the Richmond Elementary School and Camels Hump Middle School campus, the Riverview Commons neighborhood, and the Exit 11 Park and Ride.

A scoping study explores the technical feasibility, environmental impacts, and estimated cost of potential construction designs, through the lens of public feedback and engagement during public meetings and presentations.

As detailed further in this report, this Richmond Gateway Scoping Study featured two public surveys, three targeted focus group conversations, two project-focused public meetings, presentations and discussions during four meetings of the Richmond Transportation Committee, and numerous meetings of the project Steering Committee composed of town residents, staff, and leadership.

Project Funding

This report has been financed in part through grant[s] 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. The Town of Richmond provided the matching funds for the federal funding provided through the Chittenden County Regional Planning.

The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

Study Area

This scoping study is focused on VT Route 2 between Richmond Village and Riverview Commons manufactured home community including the interchange of Exit 11 of Interstate 89 (I-89).

This study considers the roadway corridor as well as the surrounding parcels. However, unlike the 2014 Route 2 Bicycle and Pedestrian Scoping Report, which examined a similar study area, this current study does not include the rail right-of-way, the land adjacent to the Winooski River, or the I-89 right-of-way itself. While alternatives to use those corridors were explored in depth in the past, the Town of Richmond has chosen to advance the Route 2 corridor for further study and design.

The 2014 Route 2 Bicycle and Pedestrian Scoping Report can be viewed at:

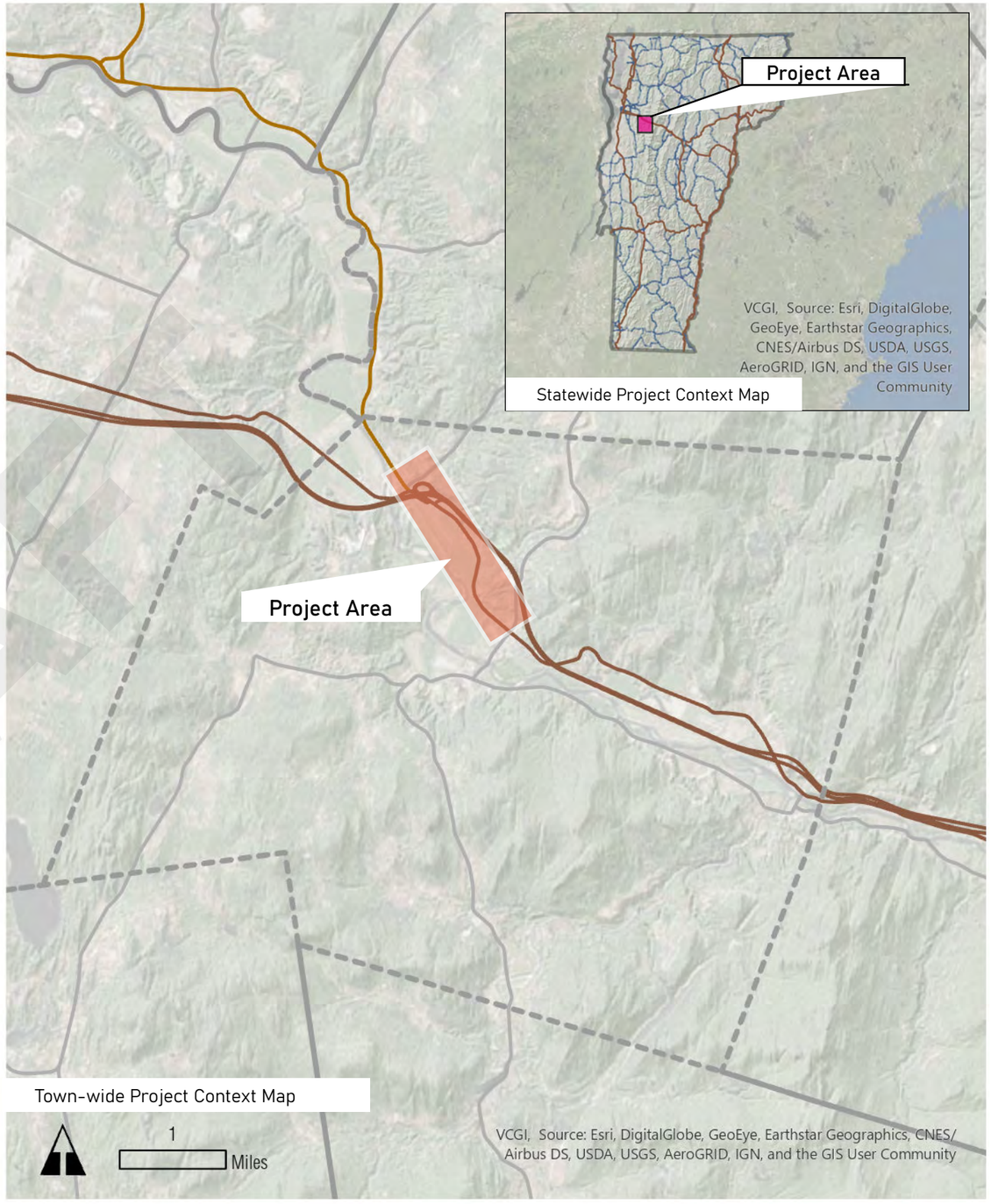
http://studiesandreports.ccrpcvt.org/wp-content/uploads/2017/01/Richmond_Rt_2_Path_FINAL_ALL_DOCS_12-28-14.pdf

Study Document Content

This document includes the results of on-site and desktop analysis of relevant land uses, right- of-way, natural and cultural features.

Documentation of the thorough public input, offered via focus groups and surveys, is also included. These public outreach efforts sought to understand the needs of residents and visitors who may benefit from safer walking and cycling connections in the project area, as well as the interests and concerns of property owners who may be impacted by proposed pathway.

Finally, this document reports the conclusions of the study, specifically a "preferred design concept," with accompanying cost estimates and implementation recommendations.



Building on Prior Work

Previous studies and plans identify VT Route 2 as a desired active transportation corridor, and this study draws on ideas and input from past efforts to present conceptual designs to achieve the Town's vision. Prior work completed by Richmond over the past 10 years includes:

1) 2014 Route 2 Bicycle and Pedestrian Scoping Report (Stantec Consulting, Broadreach Planning & Design, Heritage Landscapes LLC)

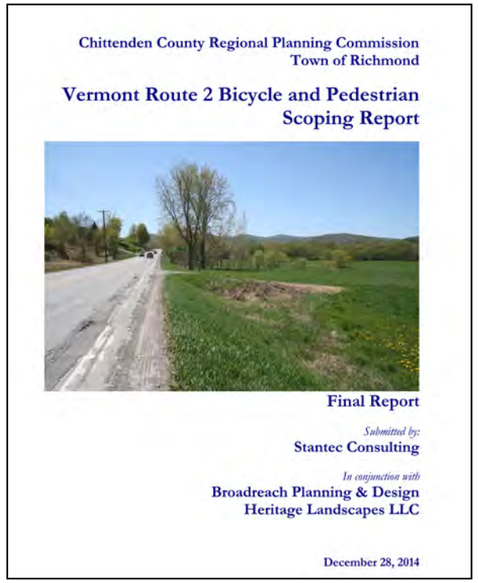
2) 2018 Richmond Town Plan (Richmond)

3+4) 2021/2022 Town of Richmond Bike, Walk, and Trails Plan, Phase 1 (Toole Design; DuBois & King)

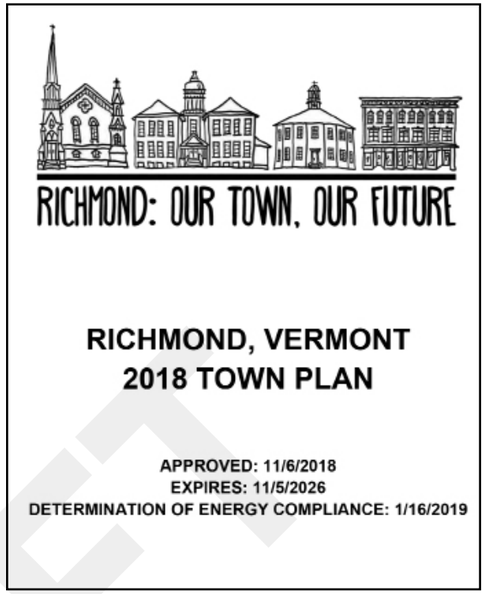
5) 2022 Chittenden County Active Transportation Plan Update (CCRPC)

6) 2022 Wetland Mapping by Arrowwood Environmental, 2022.

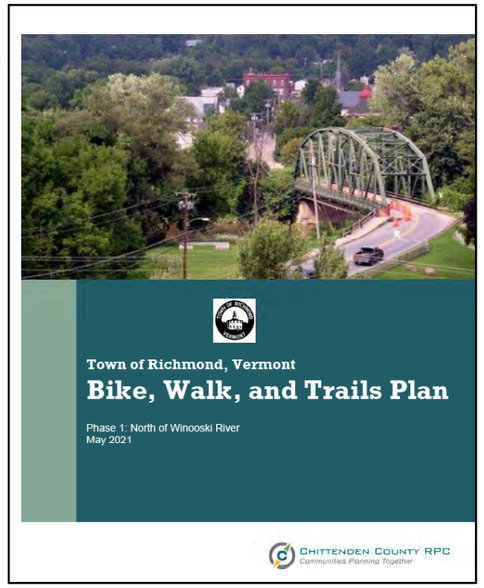
1



2

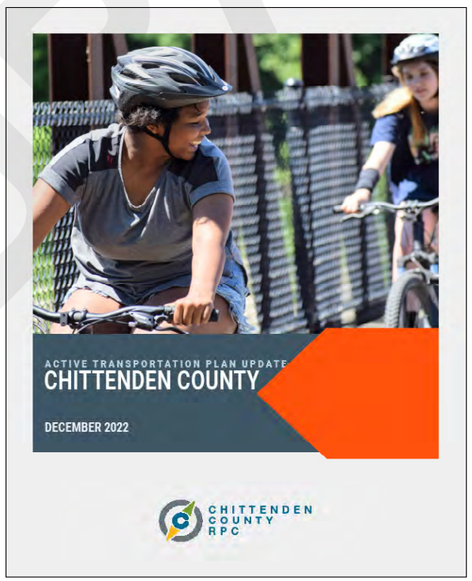


3

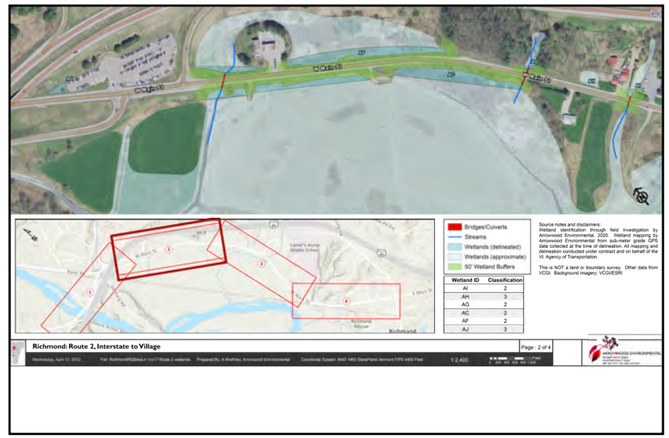


4

5



6



EXISTING CONDITIONS

Existing Conditions

This existing conditions chapter explores and illustrates relevant details of the project corridor, including natural and constructed landscape features that may influence the selection and construction of an active transportation connection.

This chapter also documents the public engagement process that was undertaken to provide insights into public perception and desire for walking and cycling improvements along the Route 2 corridor between Richmond Village, the Park and Ride, and the Riverview Commons neighborhood.

As an intent of this study is to build upon past work, some of the documentation of existing conditions in this report has been drawn from prior efforts, in particular the 2014 Route 2 Bicycle and Pedestrian Scoping Report and the Richmond Bike, Walk, and Trails Plan.

Adjacent Land Uses

The lands in and near the study area are in a variety of uses, as shown on the map to the right.

Residential Uses include single family dwellings on a variety of lot sizes, to apartments, to the Riverview Commons neighborhood itself.

Agricultural Uses are prevalent, particularly on the larger tracts to the south of Route 2.

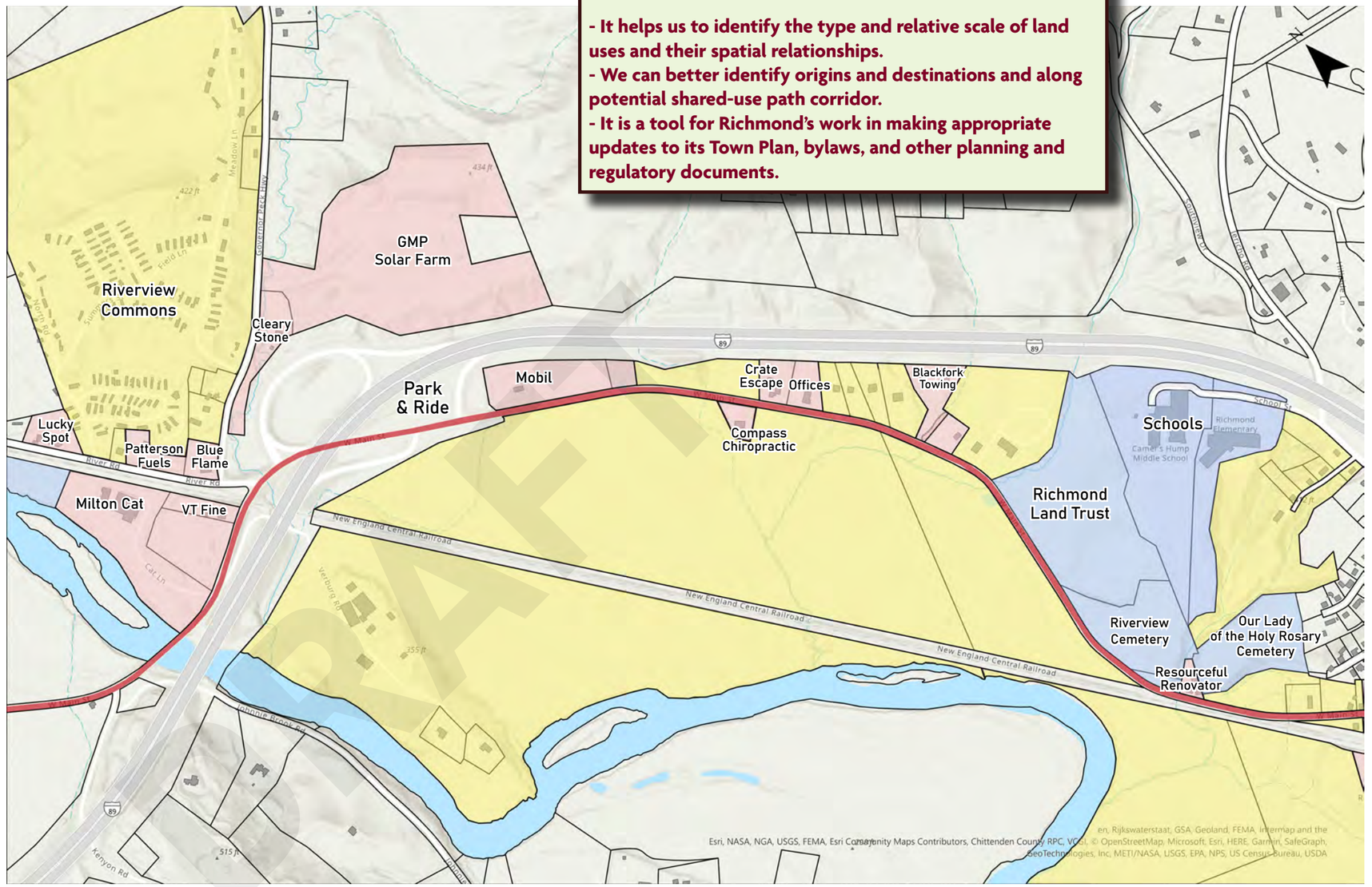
Commercial Uses are varied, including The Crate Escape, Mobil Station, and Lucky Spot Store. Cleary Stone and the GMP solar farm are also commercial uses near the project area.

Institutional and Civic Uses are schools and cemeteries, the Richmond Land Trust property.

The Park and Ride is located on VTrans lands contiguous with the Route 2 and I-89 corridors.

Why this Information Matters:

- It helps us to identify the type and relative scale of land uses and their spatial relationships.
- We can better identify origins and destinations and along potential shared-use path corridor.
- It is a tool for Richmond's work in making appropriate updates to its Town Plan, bylaws, and other planning and regulatory documents.



Legend

- Commercial
- Institutional / Civic
- Residential / Agricultural
- Route 2 / West Main Street

Topography

Along with public participation, balancing technical feasibility, environmental impacts, and potential cost is central to the selection of a “preferred alternative” for this scoping study.

The degree to which a design is practical, sensitive to natural features, and aligned with funding depends greatly on the topography, or ground slopes, in the project area. How an active transportation connection might traverse varied topography is central to user accessibility and comfort, and to route efficiency.

The topographic contour map at the right is from the Route 2 Bicycle and Pedestrian Scoping Report (2014), Figure D. The interchange and a portion of Riverview Commons is at the top of the map, and the schools toward the lower right. Contour lines on this map are in yellow. The closer these lines are together, the steeper the slopes.

Most of the steeper slopes in the project area are either upslope from the roadway, or downslope. Any bike/ped connection in these areas would be running parallel to contour lines.

This scenario can often be addressed with “cutting” or “filling” the slope, and using retaining walls to create a flat and wide area for a path. Absent physical constraints like utilities or wetlands, the technical ease of such work would largely depend on the steepness of the slope and the type of soil or rock material. Cost would then vary depending on the extent of work.

Why this Information Matters:

- Guides the feasibility of construction and maintenance, and their short and longer term costs
- Help engineers understand the structural stability of soils to make decisions about grading
- Topography is connected directly with other natural features such as streams, wetlands and rock outcroppings
- The ease at which a path is traveled has a great deal to do with topographic change

Notable upslope/downslope areas include:

- North side Rt 2, wooded upslopes between Mobil and The Crate Escape
- South side, Rt 2 down to farm fields
- North side Rt 2, up to cemeteries and schools

The ground under and around the I-89 interchange with Route 2 is also steeply sloped, per the construction of its bridges and ramps..

In addition to the noted upslope/downslope locations, a few tributaries to the Winooski River come down roughly perpendicular through the project area. This means any path would be generally perpendicular to these contour lines.

The closer contour lines at the lower right corner of the map, near the school buildings, shows where one of these tributaries meets Route 2. This is between Riverview Cemetery and the dwelling at Resourceful Renovator.

Generally, this scenario is addressed with some type of bridging and/or lengthening existing underground culvert systems to create a wider, flatter surface area for path construction. Particular attention is focused on preserving the physical and ecological integrity of the waterway.

Utilities

The maps at the right, north and south sections of the project area, present a through documentation of many utilities along Route 2 and a portion of River Road.

There are above-ground, or ground-anchored, utilities such as utility ("phone") poles, lights, hydrants and signs. Utilities that are at or below-ground level include catch basins, culverts, wells, water lines and water valve boxes.

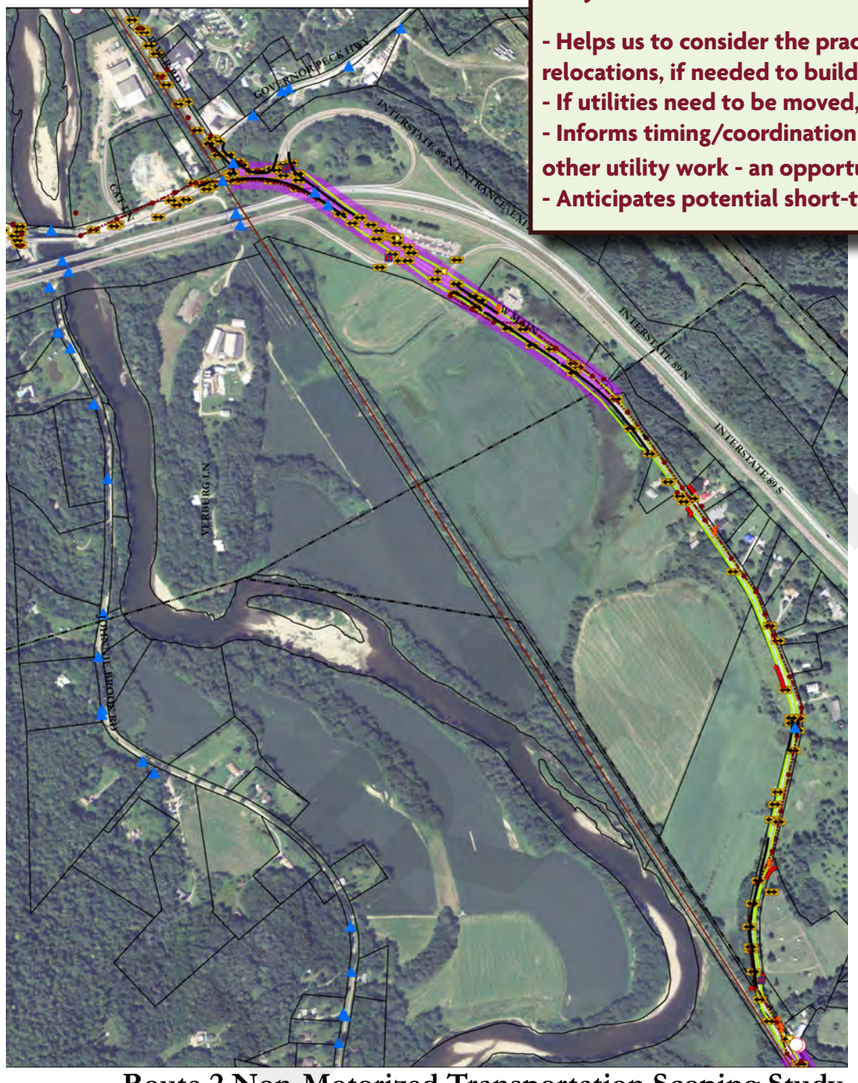
Several factors are balanced in determining a preferred design for this project. In working through design options that might impact utilities, it is more technically feasible, and less costly, to move the location of an above-ground rather than below-ground utility.

These maps are from the Route 2 Bicycle and Pedestrian Scoping Report (2014), Figures C-1 and C-2. They show that the location of particular types of utilities varies along the corridor. For example, the location of the utility poles switches sides of Route 2 several times.

This information is intended to be useful for planning purposes. After this scoping study, if additional funds were secured, the next step in any further project work would start with a precise field survey of all utilities, and other conditions along the path route. Construction plans would then locate the path to avoid the utility, or to specify where and how to move the utility.

Why this Information Matters:

- Helps us to consider the practicality and cost of utility relocations, if needed to build a path.
- If utilities need to be moved, guides us as to "where to?"
- Informs timing/coordination of pathway construction with other utility work - an opportunity!
- Anticipates potential short-term interruption of service



Route 2 Non-Motorized Transportation Scoping Study

Legend

Guard Rails
Light
Utility Pole
Curb & Sidewalk
Valve
Well
Fire Hydrant
Catch Basin
Railroad
Fence
Utility Line
Road Sign
Fib Op/Tel Line
High Crash Location
Transmission Line
Roads
Property Lines
Culverts

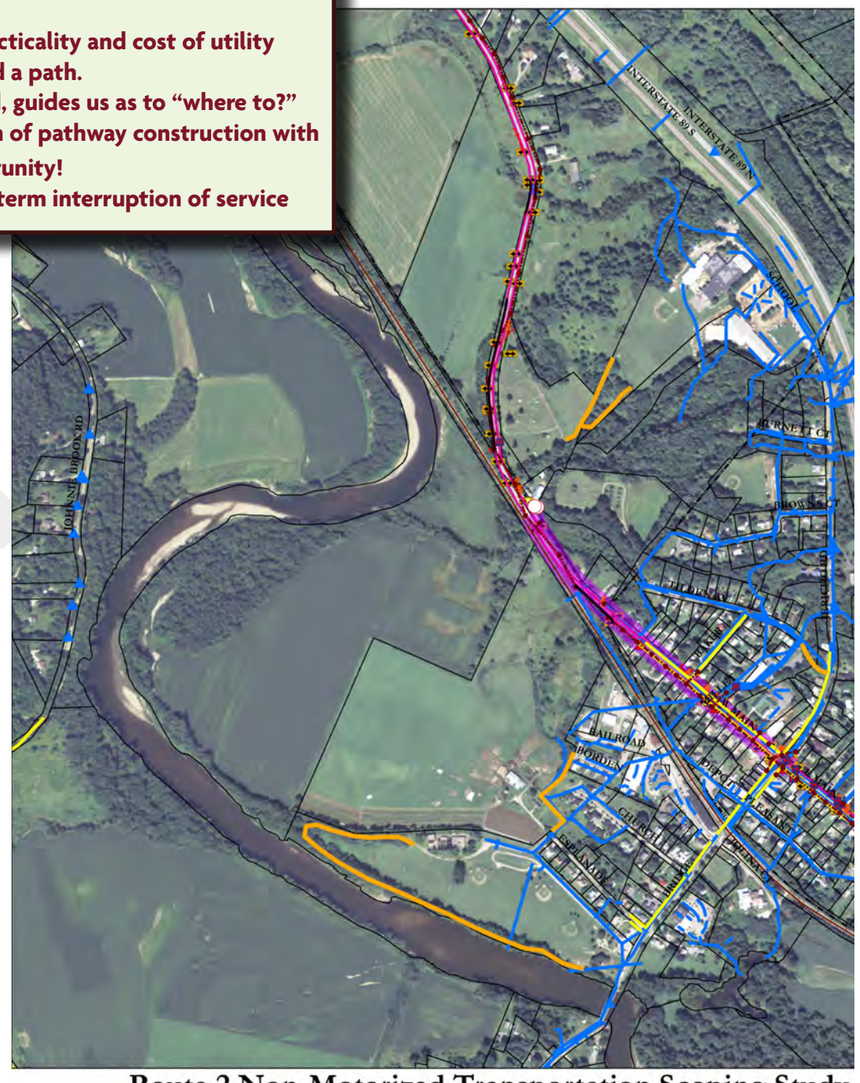
BROADREACH Planning & Design
Stantec
Heritage Landscapes

Chittenden County Regional Planning Commission
Town of Richmond, VT

0 125 250 500 750 1,000 Feet

Existing Conditions
Trans. & Utilities - North

Source: Vermont Gas Survey, CCRPC and Field Observation
April 16, 2013
Figure C1



Route 2 Non-Motorized Transportation Scoping Study

Legend

Curb/Sidewalk
Path
Guard Rails
Light
Utility Pole
Utility Line
Transmission Line
Catch Basin
Storm Sewer
Culverts
Valve
Fire Hydrant
well
Fence
High Crash Location
Road Sign
Railroad
Prop. Lines
Fib Op/Tel Line

BROADREACH Planning & Design
Stantec
Heritage Landscapes

Chittenden County Regional Planning Commission
Town of Richmond, VT

0 125 250 500 750 1,000 Feet

Existing Conditions
Trans. & Utilities - South

Source: Vermont Gas Survey, CCRPC and Field Observation
April 16, 2013
Figure C2

Natural Features

The maps at the right, north and south sections of the project area, illustrate many of the natural features in the project area, or conditions such as flood hazard areas.

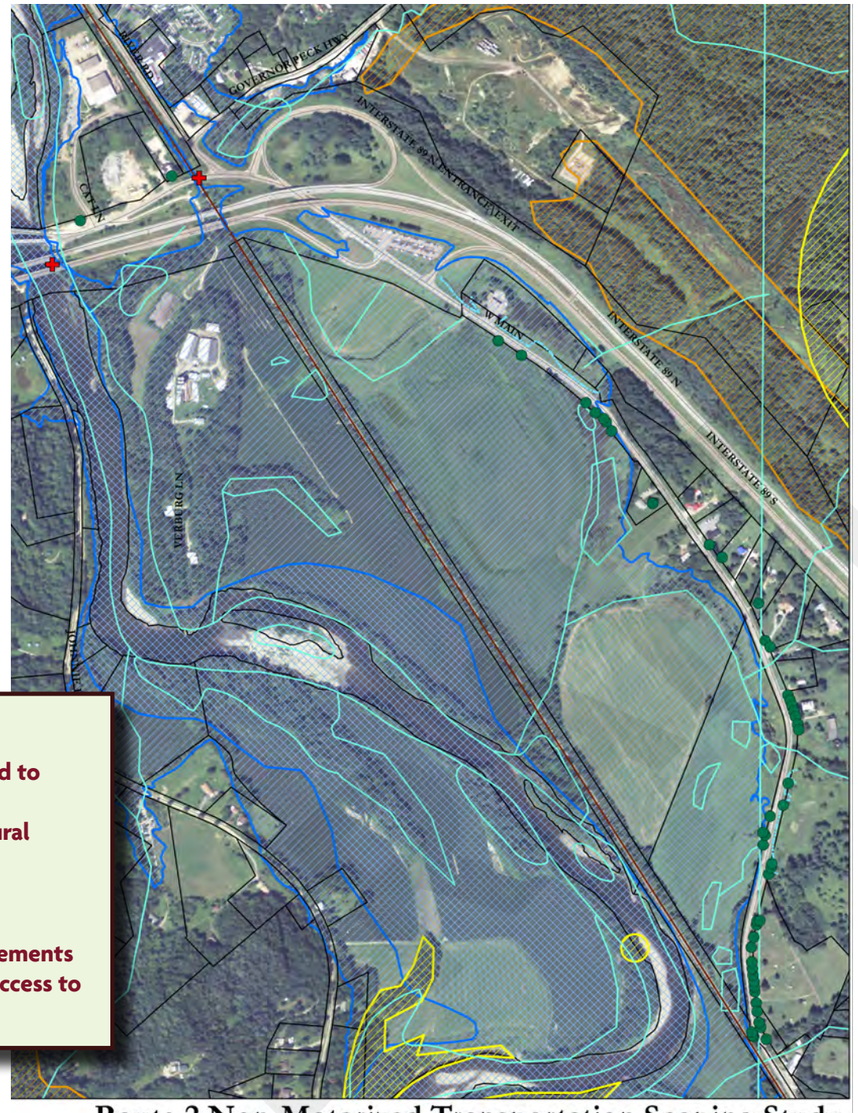
These map are from the Route 2 Bicycle and Pedestrian Scoping Report (2014), Figures E-1 and E-2 The tree locations and the wetlands locations on these maps are particularly notable, as they might impact the location and construction of a path connection.

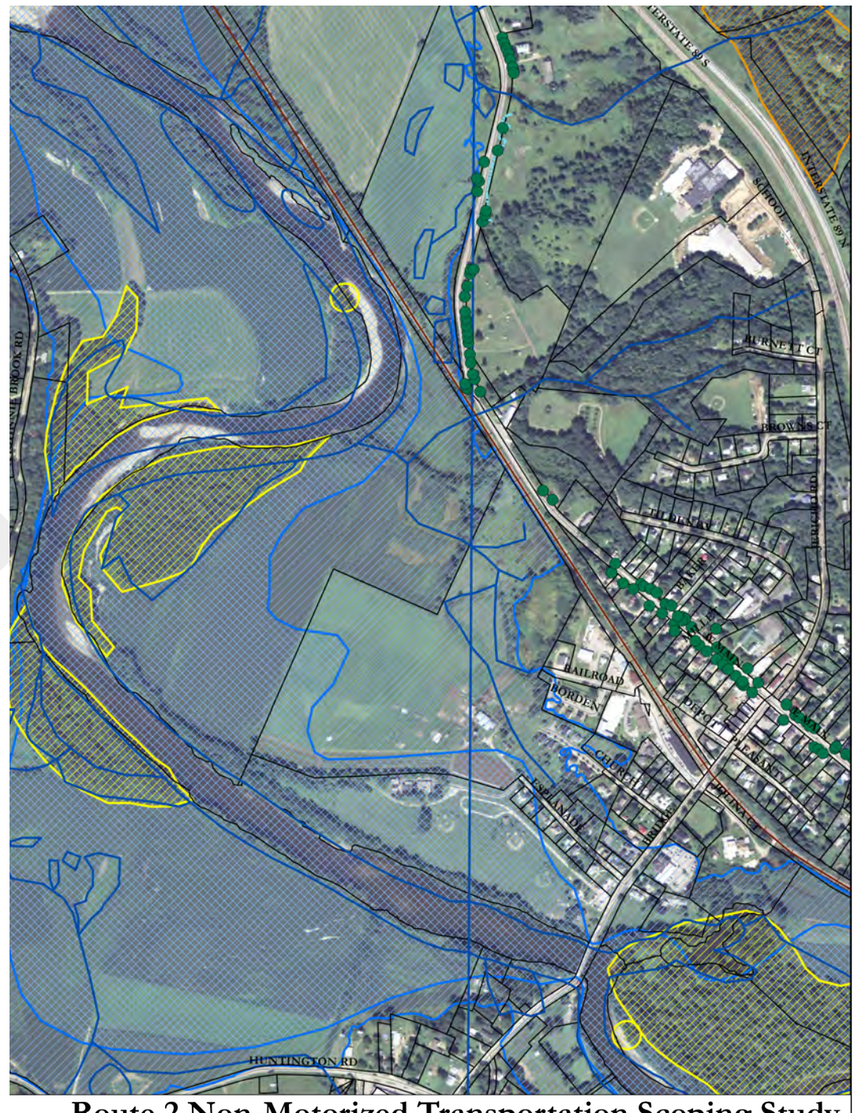
Additional wetland delineation was performed in 2022 by Arrowwood Consulting (see the next page).

The Vermont Agency of Natural Resources maintains a database of natural features information in its Natural Resources Atlas.

Why this Information Matters:

- Good information guides decisions related to design and construction methods
- Helps to reduce or eliminate adverse natural feature impacts
- Supports options to improve stormwater management
- Informs permitting needs and cost requirements
- There is the potential to increase public access to natural features as community amenities





Wetlands

Wetland delineation was performed in the vicinity of the project area in 2022, by Arrowwood Environmental. For the purpose of illustration, the mapping was divided into four sections. These four sections are included on this page, and can also be viewed here:

https://www.richmondvt.gov/fileadmin/files/Archive/2019/04/Wetlands-Maps-Arrowwood-Environmental.pdf

In addition, per the Route 2 Bicycle and Pedestrian Scoping Report (2014):

"There are several wetlands along the outer edges of the farm field, close to Route 2. These wetlands appear to be hydrologically connected to the Winooski River via small regular or intermittent streams."

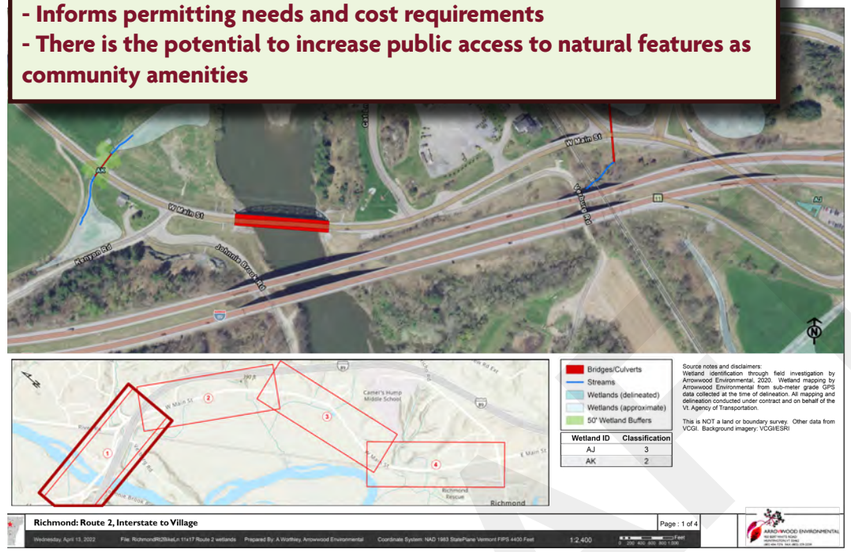
Wetlands serve a variety of functions, including water storage and groundwater recharge, water quality protection, soil erosion control, wildlife habitat, and habitat for sensitive plants and animals. The extent to which a particular wetland serves these functions varies, often dependent on how the wetland works in combination with other waterways, like the Winooski River, as part of an integrated system.

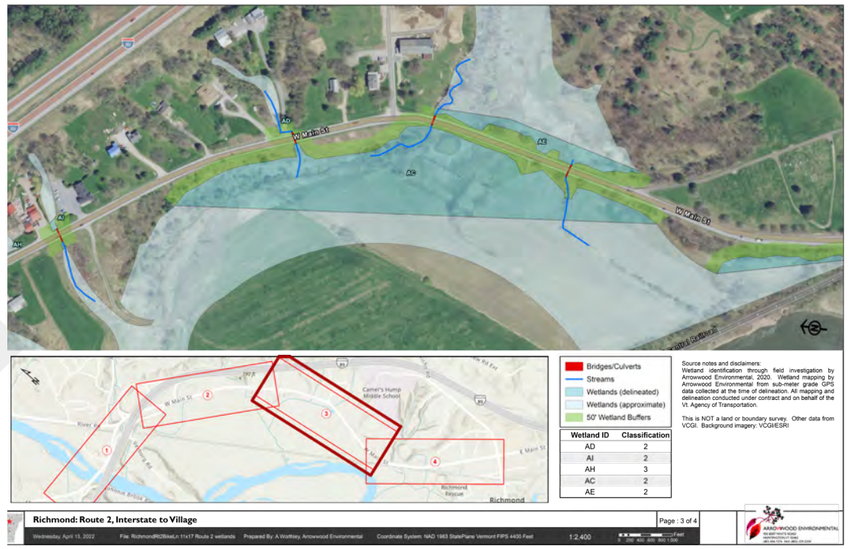
Per the VT Agency of Natural Resources, in order to obtain a permit for disturbance in a wetland, or near it in its "buffer zone," an applicant must show that it is unable to perform the activity outside of the wetland or buffer zone and that the project would not lower the quality of the wetland's protected functions and values.

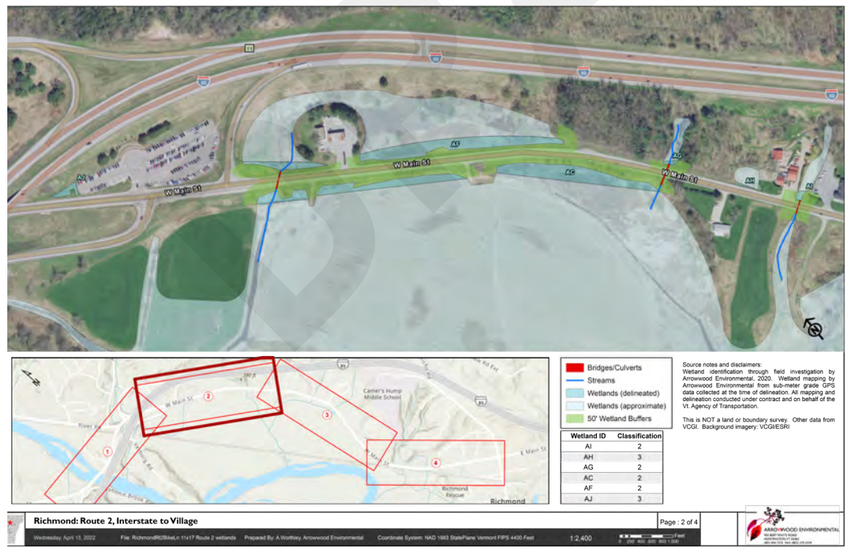
Depending on the timing, extent, and precise location of any path connection work, additional field delineation of wetlands may be required for permitting. Information about wetland permitting is available at the VT Agency of Natural Resources website.

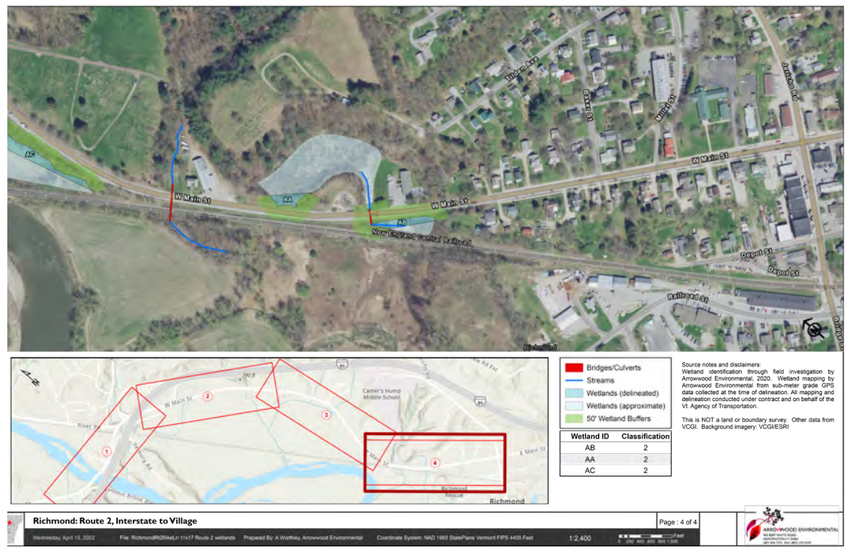
Why this Information Matters:

- Good information guides decisions related to design and construction methods
- Helps to reduce or eliminate adverse natural feature impacts
- Supports options to improve stormwater management
- Informs permitting needs and cost requirements
- There is the potential to increase public access to natural features as community amenities









Wetland Mapping by Arrowwood Environmental, 2022.

Roadway Characteristics

Route 2

The Route 2 Bicycle and Pedestrian Scoping Report (2014) includes information about roadway characteristics and useful information such as traffic volume and crash data.

Takeaways from that document for the current project include:

- Route 2 in Richmond is functionally classified by VTrans as a Minor Arterial on a State Highway.
- The posted speed is 40 miles per hour along the rural portion of the corridor and drops to 30 mph through the Village.
- After repaving by VTrans in 2023, Route 2 has two 11-foot travel lanes with varying shoulder widths but generally 5-feet wide. The 2023 US 2 Pinch Points study examined the feasibility of widening Route 2 at 11 areas to create shoulders at least 5-feet wide. This study is described further in the report.
- By the Park & Ride and extending southerly to just past the first curve in the road, the pavement width varies from 34 to 36 feet. From that point on, the roadway width varies from 28 to 30 feet to the Village where the road widens for on-street parking.
- Two intersections along the corridor are signalized: Route 2 at VT Route 117 at the northwestern end of the project area and Route 2 at Jericho Road and Bridge Street in Richmond Village center.

Right-of-Way

A right-of-way is the easement area where public infrastructure improvements can be made, such as installing a bike/ped pathway, without legally requiring agreement of property owners for the use of their land.

The right-of-way is the area between the property line boundaries, shown on the mapping at the right.

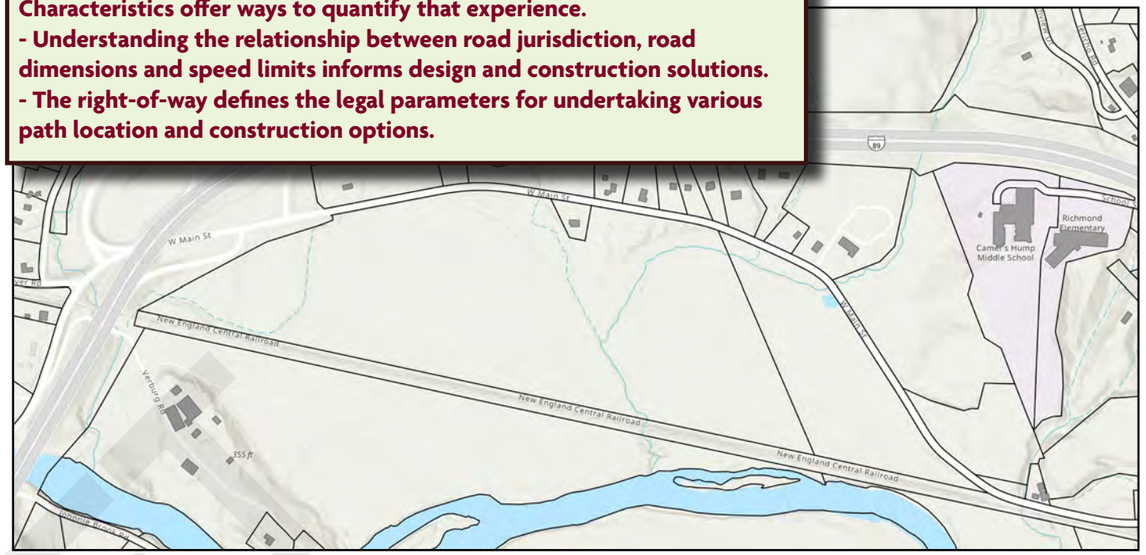
The typical right-of-way width along Route 2 in the project area is 33 feet from the centerline, or 66-feet total. This typical width begins approximately 650 feet south of the Mobil.

Depending on the type and potential location of project work, these right-of-way limits would be field-surveyed to confirm their locations.

Any project work that would entail the shifting of private property features that are located in the right-of-way, such as mailboxes, would be included in the project budgeting and work sequence. In other words, a private property owner would not be responsible for such work.

Why this Information Matters:

- Most people experience the study area via motor vehicle; the Roadway Characteristics offer ways to quantify that experience.
- Understanding the relationship between road jurisdiction, road dimensions and speed limits informs design and construction solutions.
- The right-of-way defines the legal parameters for undertaking various path location and construction options.



Above: Mapping from the Vermont Center for Geographic Information. The lines adjacent to the roadways delineate the edges of the right-of-way.

Below: As described in the Route 2 Bicycle and Pedestrian Scoping Report (2014), the New England Central Railroad rail line runs through the project area to the south of Route 2. For a short section just west of the Village, Route 2 and the railroad lie close to each other. The photograph below shows a portion of the railroad where it lies close to Route 2.

Roadway Data

Prior Planning Work has explored the traffic volumes and crash data within the project area. Portions of this prior work are reproduced on this page.

This data is useful in supporting the need for safe bicycle and pedestrian connections in the project area. It is likely that since the time that this data was generated, traffic volumes and other indicators have increased along with the town and regional populations. (Chittenden County's population grew 7.5% between 2010 and 2020.)

Therefore, the public safety need for such connections will have increased accordingly, in conjunction with other desired project goals such as improved public health and reduced motor vehicle emissions.

Park and Ride

For the past few decades, the Town of Richmond has documented a need for better pedestrian and bike connectivity to the Exit 11 Park and Ride facility located approximately 1.5 miles to the northwest of the Village center. The Park and Ride is both a common meeting location for carpooling, and the location of Richmond's only bus stop, with about 10 trips in each direction connecting to Burlington and Montpelier.

Park & Ride. Image source: Google Earth

Traffic Volumes on Route 2

Traffic counts available from VTrans, based on 2020 data, indicate that there are 4,100 eastward Average Annual Daily Trips (AADTs) on Route 2, and 8,300 westward trips.

(AADTs are measured in various ways, and for various durations, using sensors in or next to the road. Data is extrapolated to a full year, then divided by 365 to achieve the AADT figure.)

The illustration at the right, from the recently completed "bike.walk.trails" plan, indicates via the darker road color the relatively high number for AADTs along Route 2 in the project area.

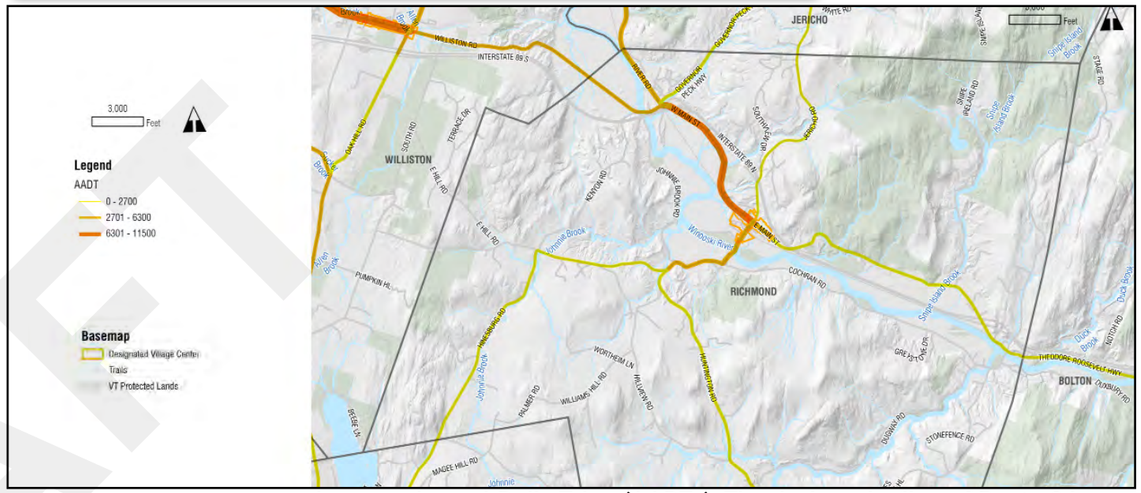
Safety and Crash Data

The "heat map" at the right from the 2022 "bike. walk.trails" Plan at right illustrates historic crash patterns throughout Richmond's road network. When reviewing this data, it is important to remember that it is presented in aggregate,rather than any percentage of total traffic. Higher volumes of traffic (AADT) on any roadway segment will naturally lead to higher rates of crashes.

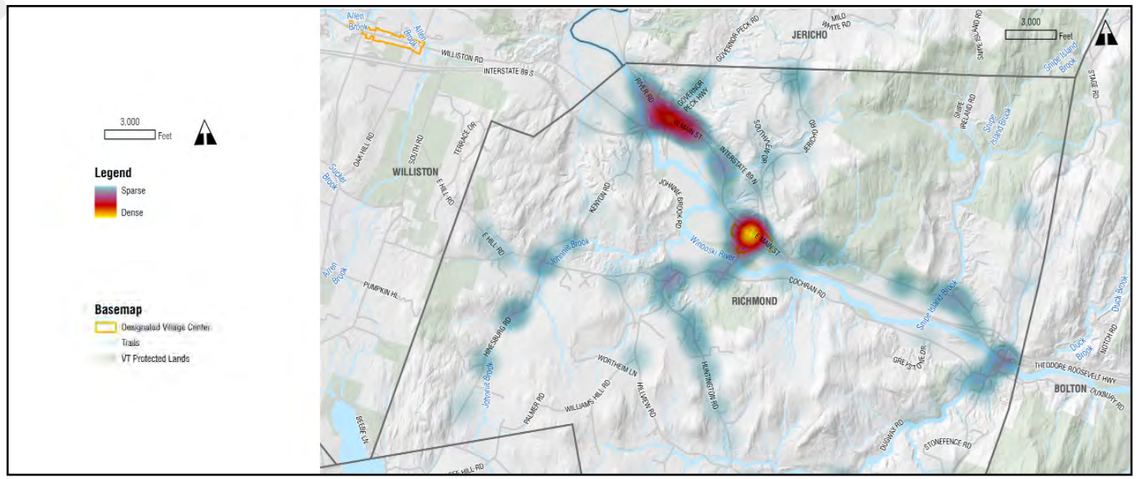
Any designs that impact visibility or transportation movements along the Route 2 corridor should seek to improve all road user visibility and offer additional protection to vulnerable users while improving overall predictability for drivers navigating the area. The selection of an effective design that encourages predictable, safe travel is particularly important in the case of this pathway design as it may increase the number of vulnerable road users along the route.

Why this Information Matters:

- Understanding longer-term trends in population and traffic volumes helps us understand overall travel needs, and in turn guides the discussion around alternative transportation options.
- Data regarding traffic volume, safety, and crashes can help to support funding for various project recommendations in the study area.
- Quantitative information helps us compare the study area to other roads and communities, which may then offer Richmond examples of already-successful improvements.



Average Annual Daily Trips (AADTs). The darker shading of Route 2 in the project area indicates higher traffic volumes.



Crash Data "Heat Map." Historic patterns indicate the most crashes near the I-89 interchange and in Richmond Village.

Community Input

This scoping study included multiple tracks of engagement, the success of which measured by the direct connections between public input and the design concepts, and the acceptance of the proposed plans during stakeholder meetings. The following pages summarize the results of the focus group sessions (this page) surveys, and the input that the project team received during public meetings.

- **Three targeted focus group sessions:**
  a) Residents who live along Route 2
  b) Representatives of Richmond's schools
  c) Members of the Richmond Cemetery Commission
- **Two online public surveys**
  a) Local Concerns Survey, March 8th to May 15th, 2023.
  b) Design Concepts Survey, July 1st to August 15th, 2023.
- **Seven public meeting presentations:**
  a) A study-specific "Local Concerns" Meeting held on April 10, 2023
  b) A study-specific "Design Concepts" Meeting held on August 10, 2023
  c) Presentation and discussion during public meetings of the Richmond Transportation Committee and Selectboard

Richmond used Front Porch Forum and Times Ink articles to share information about the study and advertise opportunities to participate in the surveys and meetings. In addition, flyers were hand-delivered to all houses in the Riverview Commons neighborhood.

Richmond also hosted a project website for the duration of the study: https://www.richmondvt.gov/boards-meetings/richmond-western-gateway-scoping-study

Focus Group Invitation

Join us in a meeting and help shape the future of a new pathway that will make it safer to walk or bike to the Park and Ride, the schools, and Richmond Village.

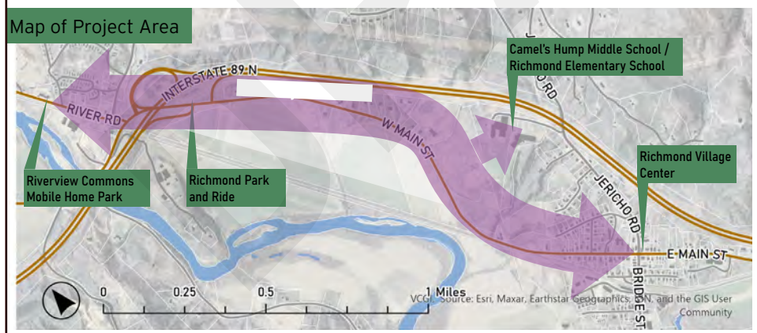
The Town of Richmond is leading a study to plan and design a safe and comfortable walking and bicycling connection between Riverview Commons and the Village Center. Before any design concepts are proposed, the Town wants to hear from representatives from three major institutional stakeholders nearby- School administration, Riverview Cemetery and Our Lady of the Holy Rosary Cemetery.

The focus group meeting will be no more than 1 hour, limited to 10 participants, and be held in February at Richmond Free Library. Stipends of $50 are available for participants, and light refreshments will be served. If you are a representative from the schools or the cemeteries and would like to lend your voice to this study, please call 802-861-0129 or email **bdavis@ccrpcvt.org** by January 27th, 2023. A member of the study team will reach out to schedule a time for the focus group.

If you don't have time for a focus group, but would like to provide input on this project, we'd still love to hear from you. Learn more about the project and look for more opportunities to chime in by following along on the project website:

www.richmondvt.gov/western-gateway

Map of Project Area



CHITTENDEN COUNTY RPC Communities Planning Together

Richmond VERMONT

DuBois & King

Summary of Focus Group Feedback

Cemetery Commission Focus Group: February 8, 2023

- Concern that a path adjacent to Riverview Cemetery may lead to property damage or increased maintenance needs.
- If a public route through Riverview Cemetery were explored, Richmond would have to address the legal bases and protocols for this route, as governed by state statute.
- Construction challenges due to slopes and the locations of trees and burial plots along Route 2.

Schools Staff Focus Group: March 9, 2023

- An alternative transportation route Potential benefits to students, particularly those from Riverview Commons.
- Another access point to the schools would have to satisfactorily address issues of safety and security.
- Accessibility for all students is vital; the existing paths within Willis Hill Preserve are not particularly accessible for many students.

Study Area Residents Focus Group: March 16, 2023

- Explore all routes for town-wide connectivity and enjoyment.
- Make sure that we connect into Village sidewalks in a way that is safe and minimizes disturbance to front yards.
- Make sure that we reach as many people as possible throughout the scoping study, including residents of Riverview Commons would may benefit from a connection between their homes and the Park & Ride, schools, and the Village.

Local Concerns Survey

"Local Concerns" are the foundational, often townwide issues of importance that will be applied through the lens of a particular project.

Because they form the foundation of community interests, these issues, such as around safety, transportation patterns, natural feature conditions, accessibility, cost feasibility, should be explored at the outset of the Scoping Study.

Therefore, the Local Concerns Survey was the first of two surveys, and was open from March 23 through May 8, 2023. It garnered 139 responses. The survey was available online, as well as in paper format (with drop boxes) at the Town Center Building and the Richmond Library.

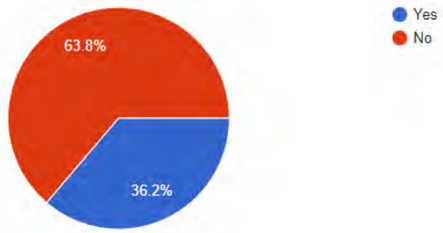
As the first of two surveys, it sought general information about modes of travel, destinations, and general priorities that would inform the creation of the Design Concepts.

Answers to specific quantitative questions are graphed on this page. In addition, we received 71 open-ended text responses. The major themes that emerged through these 71 responses are:

- It would be wonderful if a multi-use path could connect into the larger network of local trails and to the schools.
- Public safety should be the priority.
- There is concern for the aesthetic impacts of any potential solutions.
- There is concern about the costs and maintenance challenges.
- It may be more useful to spend money for bicycle and pedestrian improvements elsewhere in town.
- We must recognize the rights and concerns of property owners.

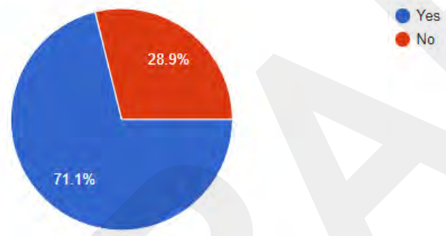
1. Do you currently walk, bike, use a wheelchair, etc. along any portion of the route between Richmond Village and Riverview Commons or the Park and Ride?

149 responses



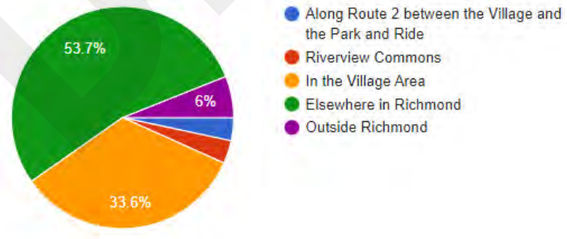
2. If there were a safe and easy active transportation route (for walking, biking, wheelchair use, etc.) along any portion of the route between Richmond Village and Riverview Commons or the Park and Ride, would you use it?

149 responses



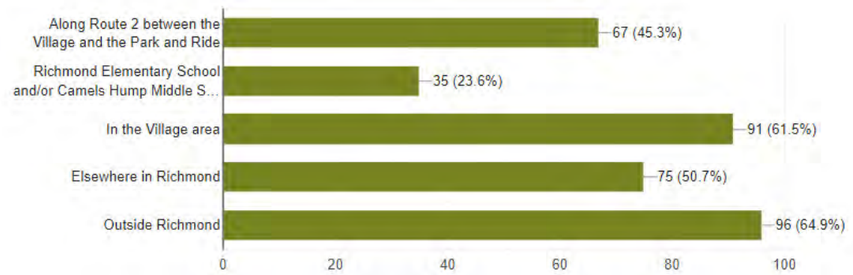
3. Where do you live?

149 responses



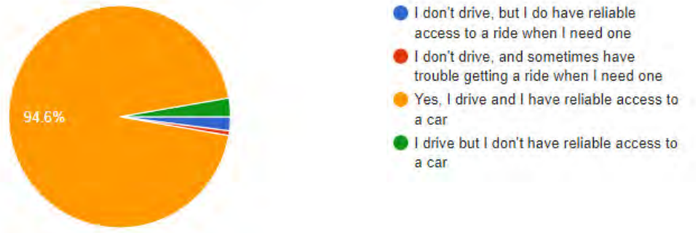
4. Where do you work/volunteer/attend school or regularly travel? OK to choose more than one.

148 responses

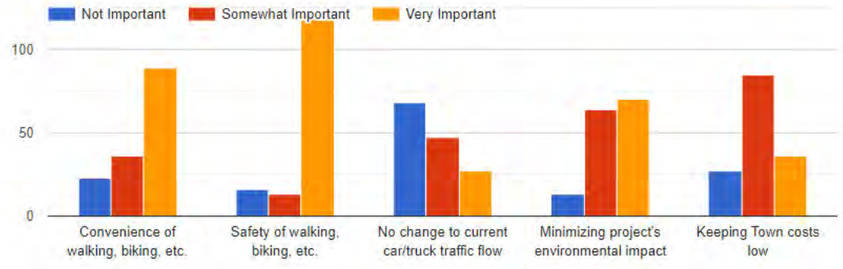


5. Do you drive and have reliable access to a car?

147 responses



6. Please rank how important each project goal is to you:



Design Concepts Survey

The “Design Concepts” phase of the scoping study features draft design ideas based on what the project team had learned about the study area and from background research, and heard “to-date” from the Richmond community.

The Design Concepts Survey gauged the level of public support for various draft plan alternatives. It was open from July 1 through August 15, 2023, and garnered 94 responses.

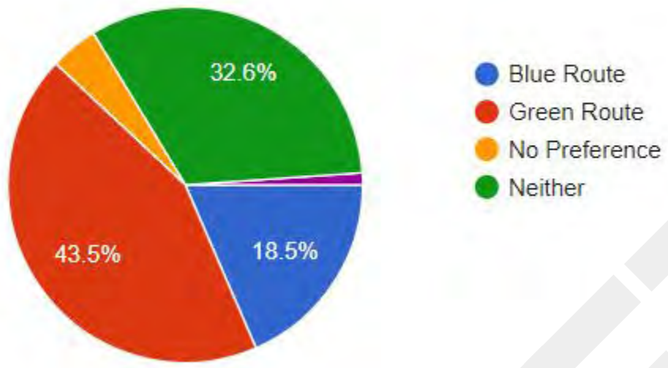
This second Survey gauged public support for two path layouts, the Blue Route and Green Route initial Design Concepts that are discussed in greater detail later in this report as the “North Side Straight” and “Gateway Trail” concepts.

Essentially, the Blue Route (North Side Straight) would follow the Route 2 frontage from the village to just west of the interchange, then on to Riverview Commons via Route 117/River Road. The Green Route would also follow the Route 2 frontage from the Village, but to the west of the cemetery move away from the road frontage for significant stretches via two underpasses, to the Governor Peck Road entrance of Riverview Commons.

We received 57 open-ended text responses, having themes such as:

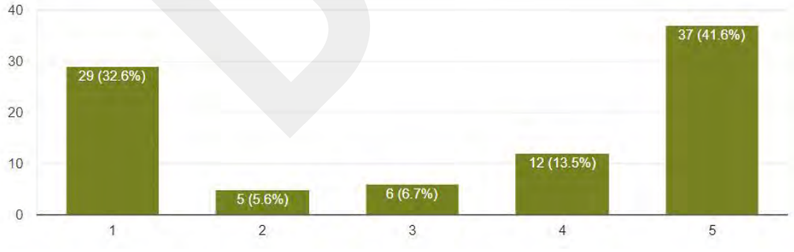
- Paths like this should connect among park areas.
- The reasonably expected usage does not justify the cost.
- Hope that this will make it easier to get to Park & Ride and to use the bus.
- It makes sense to encourage pedestrian use and pedestrian safety.
- There are more worthy infrastructure projects elsewhere in Richmond.
- Include a path to the middle and elementary schools.

Which, if either, Route do you prefer?

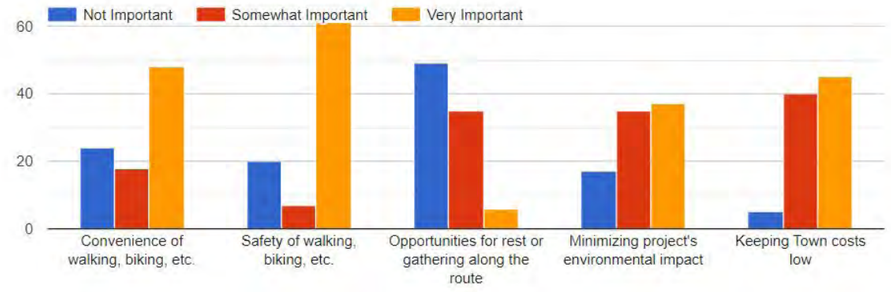


3. The Green Route features two underpasses (shown in purple on the above illustration) that would be constructed beneath portions of the Interstate. Depending on their locations and designs, these underpasses could be between 75 and 100 feet in length. An example is shown below. They would have lighting for safety and security. How would you feel about using this feature from the standpoint of personal safety? In other words, how comfortable do you think you would be traveling (walking, biking, etc.) through such an underpass?

89 responses



4. Please rank how important each project goal is to you:



Local Concerns Meeting

The project team hosted a Local Concerns meeting on Monday, April 10, 2023. The meeting was held in a hybrid format, with both virtual and in-person (at Town Center) attendance options. There were 17 attendees, including members of the project team.

During the meeting, D&K presented many of the findings from the Existing Conditions analysis that are in this report, including natural features and potential site constraints, and traffic characteristics.

We also offered an overview of design considerations for constructing a shared-use path: width, materials, slopes, clearance, separation from the roadway, and the like.

Following the presentation, there was a round-robin style discussion, in which meeting attendees were asked to consider questions about how they use this study area corridor, where it may be important to be able to travel via active transportation, and any other considerations for supporting safe travel options in and around the study area.

Design Concepts Meeting

The project team hosted a Design Concepts meeting on Thursday, August 10, 2023. The meeting was held in a hybrid format, with both virtual and in-person (at Town Center) attendance options. There were 14 attendees, including the project team.

During the meeting, D&K presented the emerging design concepts, particularly the Blue Route and the Green Route concepts, and also "stepped through" the entire study area corridor via street-view imagery in order to discuss the various topographical, utility, road condition, property ownership and right-of-way conditions that would inform the final concept designs.

Following the presentation, there was an open discussion about road conditions, various options to connect with other town amenities, the use of the Park & Ride, and local transportation generally, such as the potential for a public (bus) transit connection between the Park & Ride and Richmond Village.

What We Heard	What We Did	What We Heard	What We Did
A big priority for this community is connecting the elementary schools to the Village and Riverview Commons, so that children and staff can more safely and efficiently walk from home, or to the library and recreation facilities.	Safe and efficient school access via an active transportation route was an important topic during the Focus Group held with school staff. The study team also talked with the School District Superintendent about access and safety.	It is useful to understand the on-the-ground implications of designing and constructing a shared-use path in the study area. It helps to identify viable solutions, and helps to engage in discussions with property owners.	The study team prepared a set of 39 slides showing the needs for retaining walls and other infrastructure, the potential relocation of above ground utilities and signs, and tree removal (these slides are included in report).
People in Richmond are proud of the various trails and recreation options throughout town, and viewed this transportation project as an opportunity to increase connectivity among these amenities.	While not explicitly within the study area, the study team considered options to connect with the Johnnie Brook Trail on the south side of the Winooski River. The study team also explored options for bicycle facilities and lockers at the Park & Ride, to make it a hub for local trail use.	Cost of design and construction is a concern, one which may not be fully alleviated by public grant funding. The cost and logistics of ongoing maintenance of an alternative transportation facility is also a concern.	It is important to recognize how all project lifetime costs are addressed practically, and as primary concern of residents. This scoping study report includes a detailed Opinion of Probable Construction Costs, and lists several sources for project funding.
It's important that a shared-use path fits into the aesthetic feel of the town, in a manner that can also be maintained by town staff.	The study team participated in meetings with the Richmond Transportation Committee, in order to better understand the on-the-ground Richmond-specific priorities and potential design solutions.	Richmond should consider installing portions of the shared-use path in phases, so that it offers the greatest utility to the most people, and then earn support for additional construction.	The opportunity to phase portions of the project with "independent utility" are explored in this report, as well as the possibility to phase the path surface material (e.g., from gravel to asphalt).

Purpose & Need

In a Scoping Study, the Purpose and Need statements set the framework for the project. They clearly state the concerns within the project area, and the goals for any improvements.

The Purpose and Need statements for the Richmond Gateway Scoping Study are as follows, as based on prior community planning work, input from the project steering committee, and through public input.

Purpose
To support an active transportation connection between Richmond's Village Center, the Park & Ride, and the Riverview Commons neighborhood.

Need
There is a need improve road safety for pedestrians and bicyclists and other active transportation users of all ages and abilities between Richmond Village and Riverview Commons community, and Richmond's sole transit stop at the Richmond Park & Ride.

Currently, the Route 2 corridor between Richmond Village and the Park & Ride, and the road connections past the Interstate 89 interchange to Riverview Commons, do not accommodate bicycle and pedestrian traffic in a manner that is sufficiently safe or separate from the vehicle travel lane.

In addition, there is a specific critical need to address iniquities for disadvantaged communities by improving transportation connections between the center of town, the transit stop at the Park & Ride, and the Riverview Commons manufactured home community— a historically underserved community that was geographically isolated from Richmond Village, its schools and its recreation opportunities, by the construction of Interstate 89 and the Exit 11 interchange.

DESIGN DEVELOPMENT

Design Principles: Shared-Use Path

A shared-use path is intended to be a two-way paved pathway along, or physically separated from the roadway. Shared-use paths offer a high-quality experience for users of all ages and abilities when compared to on-street bike lanes.

Since shared-use paths are designed to accommodate pedestrians, cyclists and other non-motorized users, it must be sufficiently wide to accommodate simultaneous use by two or more people in either directions. Eight feet of pavement, with sufficient horizontal clearance from obstacles on each side, is the absolute minimum width for shared-use paths but 10 is the preferred minimum. In the case of the design concepts for the Richmond Gateway shared-use path, 10 feet is the desired width throughout the corridor.

An 10 foot pathway with generous separation space from traffic is obviously ideal, but the Route 2 corridor presents many spatial and technical constraints such as existing privately owned buildings in close proximity to the roadway, significant trees that may be desirable to preserve, and challenging topography that may be cost-prohibitive to build on. Trade offs are sometimes necessary and the design hierarchy outlined below summarizes the design options available in constrained areas of the corridor.

These design principles are applied to the cross section types explained on the next pages.

Least Constrained

Considerations:

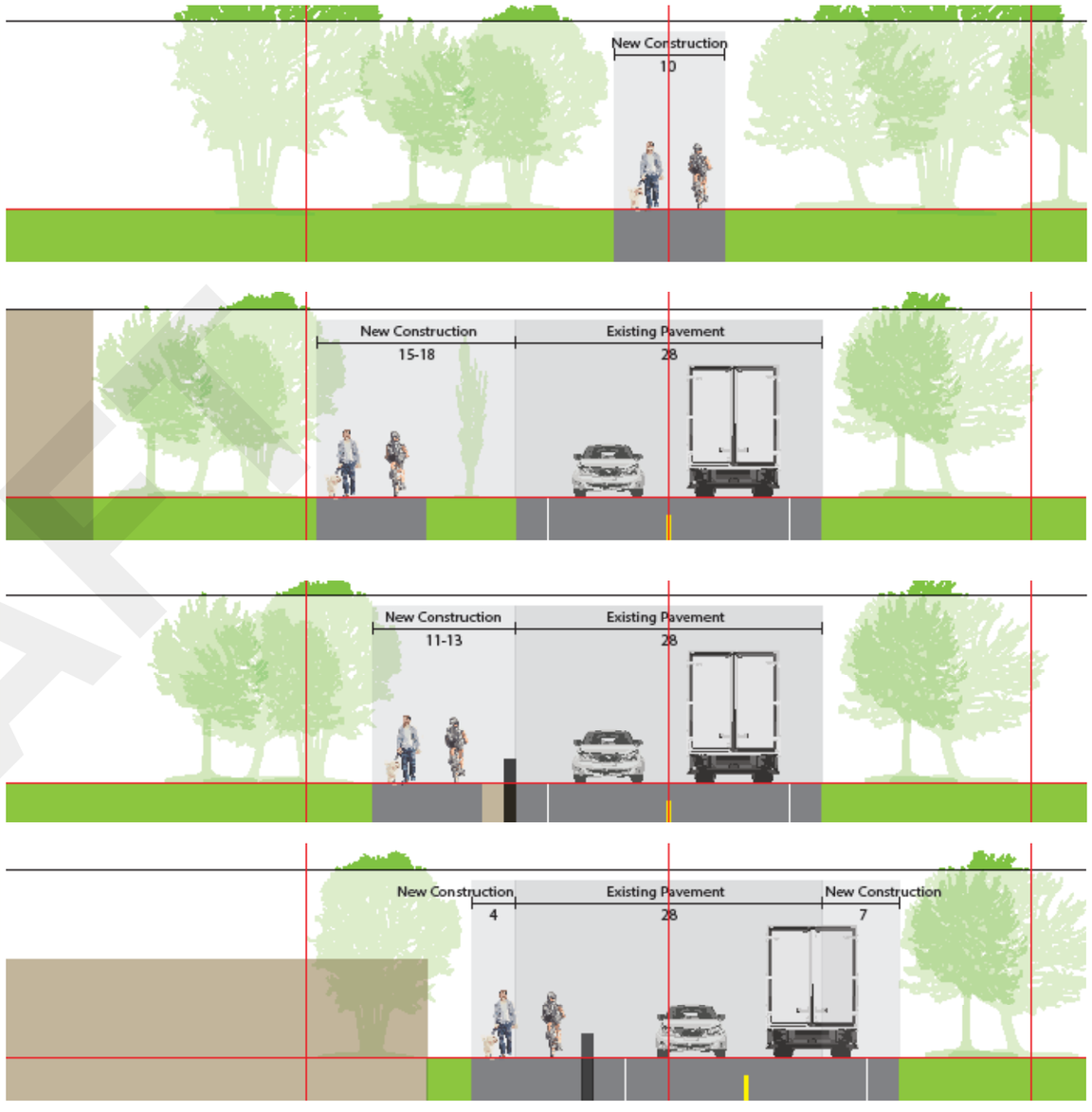
1. Create off-road route

2. Buffer from traffic where possible

3. Reduce separation from traffic and add curb or barrier for comfort and safety

4. Shift centerline and add pavement to allow for path

Most Constrained



Design Principles:
Shared-Use Path

This Shared-Use Path design and construction information has been made available by the Federal Highway Administration.

U.S. Department of Transportation
Federal Highway Administration

Shared Use Paths: Surface

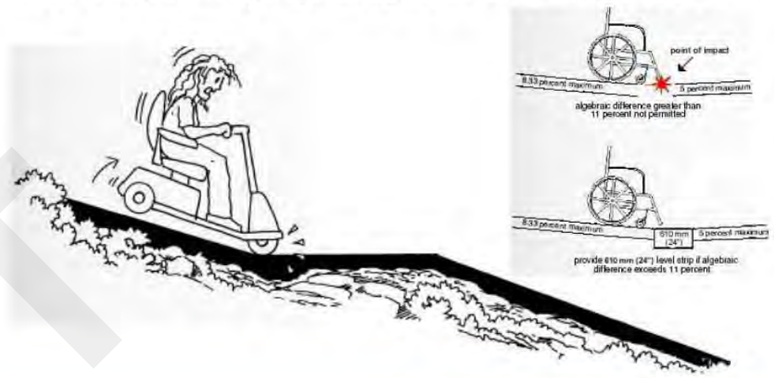
Pavement

- Asphalt or Concrete?
- Asphalt often cheaper to construct, but may suffer water, frost, and tree root damage.
- Concrete may be cheaper in the long run: may better withstand flooding, frost, roots, etc.
- Concrete: use “saw cut” for joints.
- Check for accessibility and a smooth surface.

U.S. Department of Transportation
Federal Highway Administration

Shared Use Paths: Slope

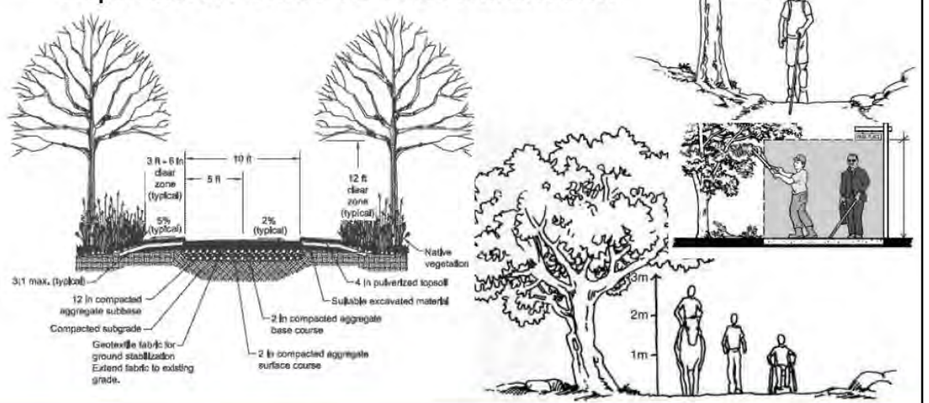
- Avoid abrupt grade changes:
  - Not only annoying, they can be dangerous.



U.S. Department of Transportation
Federal Highway Administration

Shared Use Paths: Vertical Clearance

- Accessibility: 80 inches minimum.
- Equestrian Use: 10 feet minimum.



The Rail/Route 2 Interface

A significant challenge in implementing the Preferred Alternative of the 2014 Route 2 Bicycle and Pedestrian Scoping Report, which offered a shared-use path on the south side of Route 2, was the interface between the Route 2 right-of-way and the rail corridor easement.

This issue is also manifest in the challenge of modifying Route 2 in order to reduce or eliminate the "Pinch Points" discussed at the right, such as along the Riverview Cemetery frontage.

The project team reached out to the Vermont Agency of Transportation during this scoping study in order to receive greater clarity on the legal and technical aspects of the Route 2 and rail easement interface, and received the following feedback on May 4, 2023:

"AOT conducted a statutory survey and concluded the right-of-way is at least the 4 rods wide [66 feet] for Route 2 within the project bounds in Richmond. The survey has been completed and recorded in the Richmond Land Record.

You may wish to review to the recorded survey to see if it answers your question regarding the railroad tracks and Route 2 (see sheets 8-9).

We will caveat that some landowners have appealed aspects of the survey to Chittenden Superior Court... At this stage, the appeal is ongoing and may be decided on the papers or may go to trial for oral argument. Both parties prepared summary judgment motions and are awaiting the Court's decision."

-Mark Seltzer

Assistant Attorney General
General Counsel and Administrative Law
Transportation Legal Unit

"Pinch Point" Study

With the Chittenden County Regional Planning Commission and Stantec Consulting, Richmond has recently explored the reduction of "pinch points" where the shoulder width along Route 2 narrows to less than even a standard 5-foot wide bicycle lane width. In this study, 11 such locations were identified where a 5-foot shoulder could not be achieved.

The report dated August 17, 2023 was a "high-level feasibility report" that identified the cause of the 11 identified pinch points, and offered "order of magnitude" cost estimates to widen the roadway to achieve 5-foot shoulders in both directions of travel.

Information from the then-ongoing Richmond-Bolton paving project were used. The study offered ways to extend the roadway width on the south side of Route 2.

On of the pinch points that directly impacts the implementation of a shared-uses path between Richmond Village and the Park & Ride is at Riverview Cemetery. This portion of Route 2 was explored as Location 8 of the August 2023 Pinch Point Study. Reproduced at the right is the relevant Location 8 page from the August 17, 2023 document prepared Stantec.

This, in turn, could offer greater shoulder width on the north side of Route 2 adjacent to Riverview Cemetery; the Design Concepts illustrated in this Richmond Gateway Scoping Study would utilize that shoulder, which is currently only about 4 feet in width.

August 17, 2023
CCRPC
Page 7 of 11

Reference: **Technical Feasibility Memo**

LOCATION 8

Location: STA 115+25 – 117+50, RT. **Proposed Shoulder Width:** RT – 3'6"

With the steep fill slope behind the existing guardrail, the most appropriate and most cost-effective solution would be sheet piling. Being only 1'6" short of 5' removing the offset blocks from the existing guardrail would allow for an additional 6". In addition to the results of the paving project going through the corridor, if lane widths change at all the results could be very close to 5' on the Eastbound Lane after removal of offset blocks.

Assumptions:

- Limits of construction activity will remain within the existing ROW.
- Assume Categorical Exclusion (NEPA) is applicable for all work.
- No utility or historical/archeological impacts.
- Roadway impacts will be negligible.
- Required embedment for sheet pile would be met.

Figure 6: Embankment on US-2 facing west.

Order of Magnitude Estimate

Location 8	Sheet Piling	Offset Blocks
Construction Solution	$675,000	$2,250
Utility Coordination	$75,000	$5,000
Geotechnical Analysis	$50,000	$0
Preliminary Engineering	$100,000	$5,000
Contingency (50%)	$450,000	$6,125
Approximate Total	**$1,350,000**	**$18,375**

Interchange Ideas: Path Under the Interstate

The study team explored two strategies for a safer active transportation route in the vicinity of the Interstate 89 Exit 11 interchange.

Precedents are illustrated on this page and the next, using examples from other roadways in Vermont: the Interstate 89 Exit 12 interchange with Route 2A in Williston, and the Interstate 91 interchange with Route 5 in Hartford (White River Junction).

In our study area, a shared-use path could be constructed beneath the Interstate.

Precedent: At the Exit 12 interchange with Interstate 89 in Williston (above right), a shared-use path has been constructed along Route 2A under the interstate, by building into the supporting slope. This requires a short retaining wall, but accommodates an 8-foot wide shared-use path to connect the new Williston Park & Ride to the amenities and shopping in Taft Corners.

Below: the existing condition along Route 2 in Richmond under Interstate 89, and a photosimulation of a possible shared-use path using Williston as a model.

Precedent: Shared-use Path under I-89 in Williston, VT

Existing condition under the Interstate at Exit 11 in Richmond.

Photosimulation of new shared-use path, using Williston as an example.

Interchange Ideas: Removing a Slip Ramp

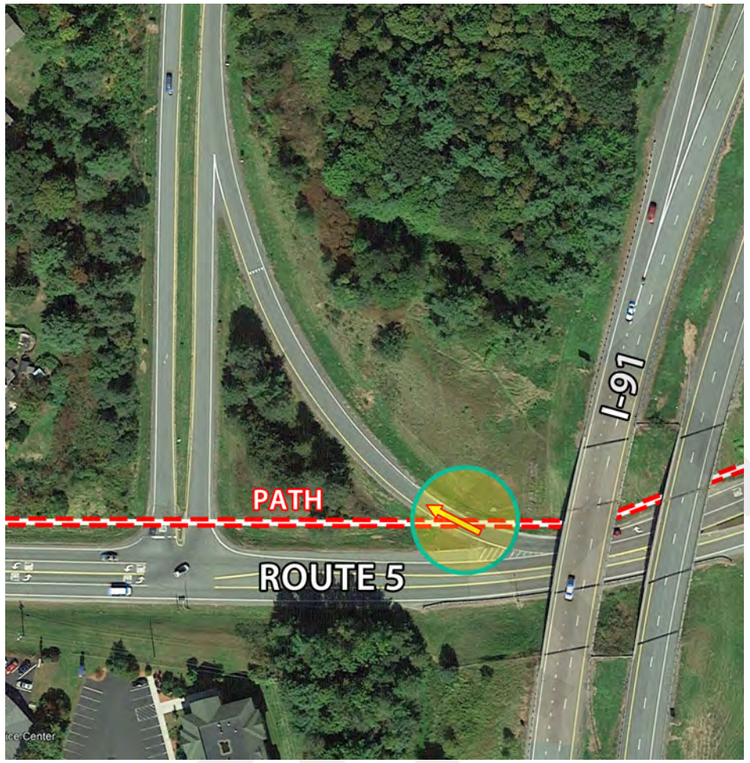
In our study area, a shared-use path crosses the on- and off-ramps of I-89 northbound, which includes a slip lane from Route 2.

Precedent: A shared-use path is planned along the north side of Route 5 (dashed line) in Hartford (White River Junction) Vermont, in order to connect the Veterans Administration Medical facility and other amenities such as hotels on the west side of Interstate 91 with the shopping, residences, train station and other destinations on the east side of the interstate.

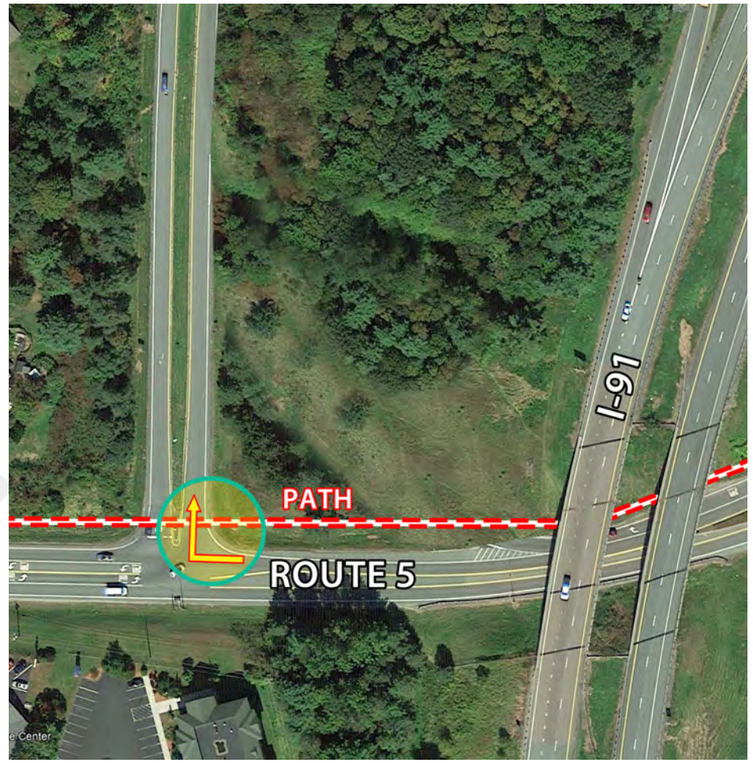
However, the slip lane entrance to the interstate presents a hazard to crossing, because motor vehicles enter this slip lane at a high rate of speed. Therefore, the slip lane has been removed, which requires motorists to slow down significantly to make the subsequent 90-degree turn onto the I-91 on-ramp.

In our study area, removal of the I-89 northbound slip lane could be considered to enhance active transportation user safety.

Before: With Slip Ramp at I-91 Exit 11 in Hartford, VT

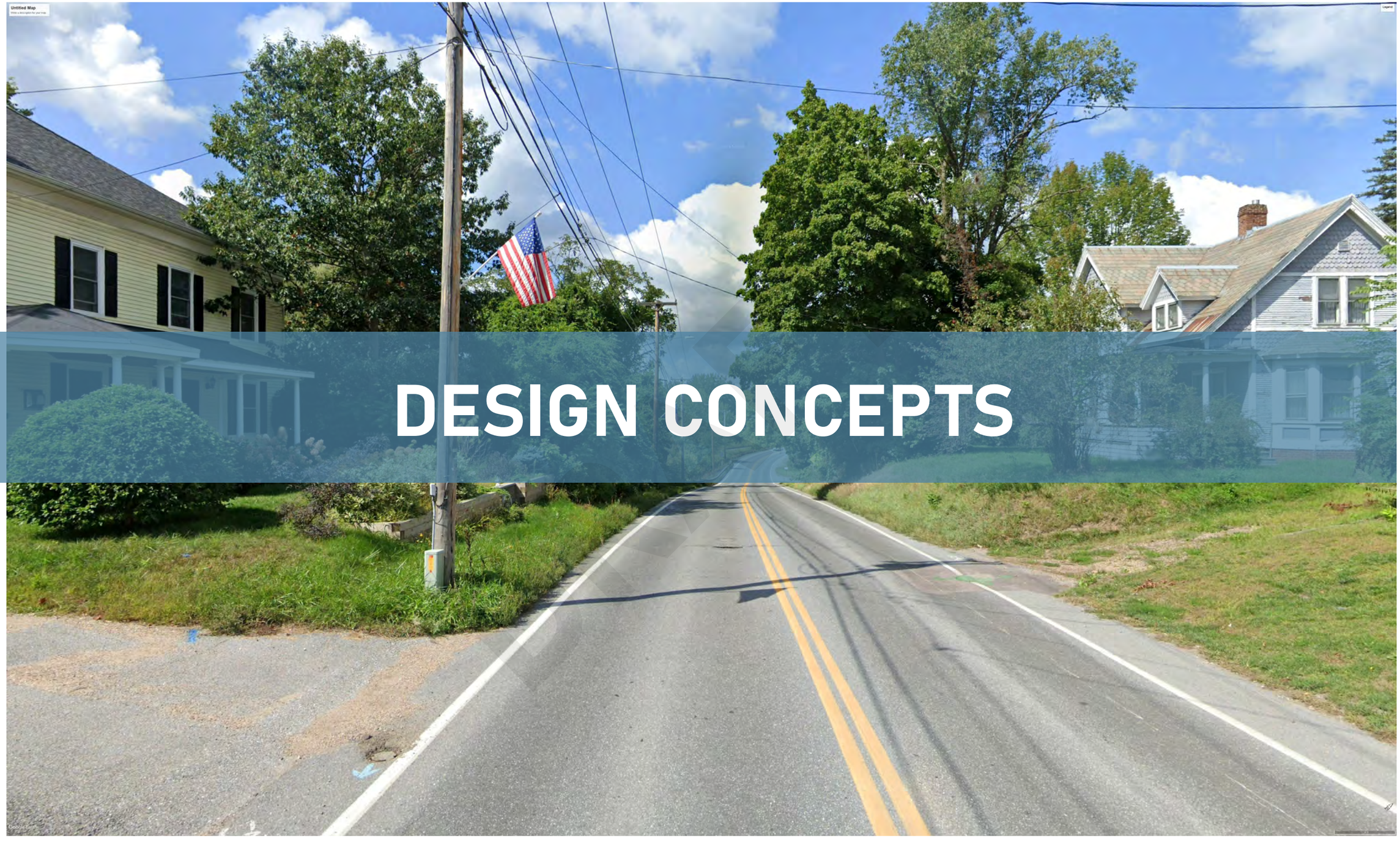


After: Without Slip Ramp (photo edit simulation)



After:
Ground-level view with slip ramp removed (at center of photograph).

Image source: Google Earth Street View September 2021



DESIGN CONCEPTS

DuBois & King inc.

Design Concepts Overview

Several routes between Richmond Village and the Park & Ride that were considered in the 2014 Route 2 Bicycle and Pedestrian Scoping Report. However, the design concepts in that study, including the "Preferred Alternative," have since been deemed unfeasible for a few specific factors:

1) Jurisdictional conflicts with the New England Central Railroad corridor on the south side of Route 2, and/or

2) Adverse impacts on natural features, and/or

3) Lesser direct route efficiency as a transportation route.

In addition, the 2014 Route 2 Bicycle and Pedestrian Scoping Report did not seek to make a complete connection to the Riverview Commons neighborhood, which is a fundamental objective of this current study.

Methodology

As a result of some route options being taken "off the table" per the above factors, and the additional important objective to connect to Riverview Commons, the study team developed two new Design Concepts to go along with the standard scoping study inclusion of a "No Build" Design Concept.

Following the Local Concerns phase survey and meeting, and the three community focus groups, these Design Concepts were developed to explore how future alternative transportation improvements could make traveling between Richmond Village, and the Park & Ride, and Riverview Commons, safer and more welcoming.

Thee two new Design Concepts are illustrated on the following pages. Notably, they share the same route between Richmond Village and the west side of Riverview Cemetery, where they diverge in several sections as they continue their route to Riverview Commons.

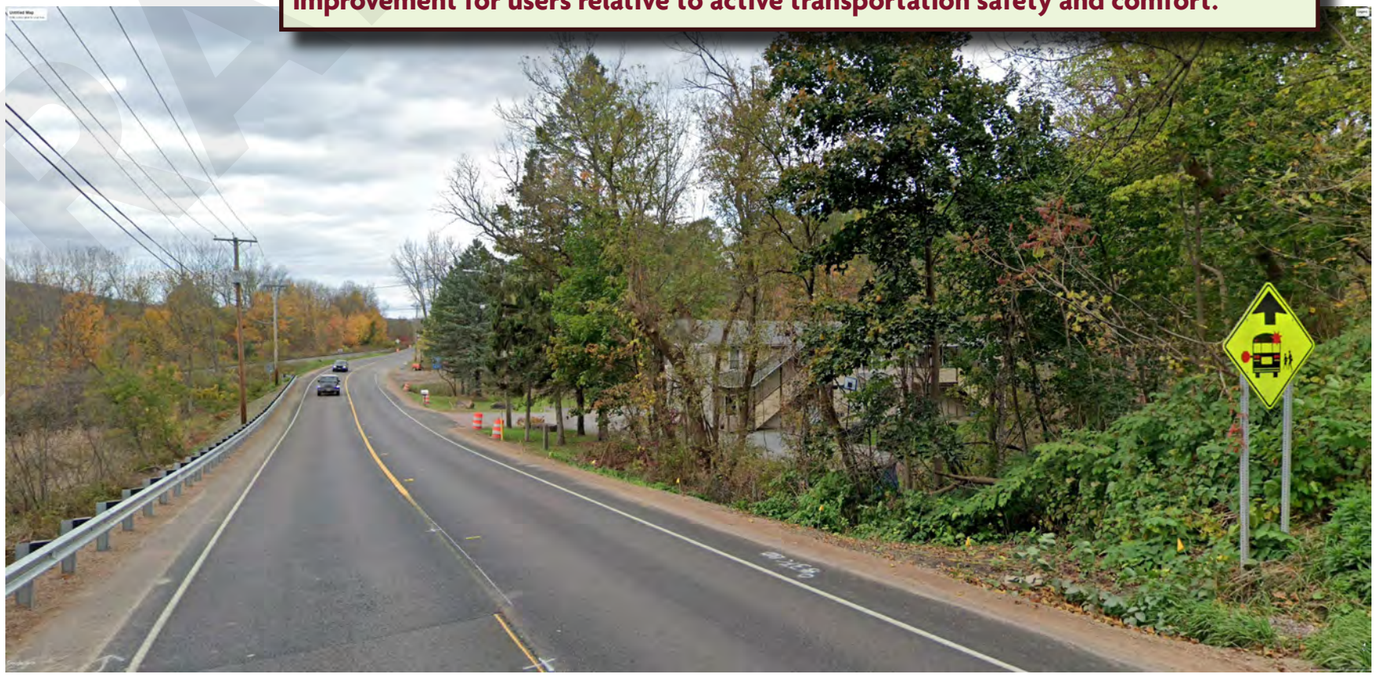
These Design Concepts were then presented in detail to the public at the Design Concepts Meeting and via the Design Concepts Survey, and at public meetings of the Richmond Transportation Committee, in order weigh opportunities and costs of each.

During its public meeting of February 27, 2024, the Richmond Transportation Committee voted in support of the Gateway Trail being the Preferred Design Concept to recommend to the Selectboard.

The "No Build" Design Concept

As standard for a scoping study, a "No Build Design Concept" was considered as part of this process and presented to the public. The No Build Design Concept would leave the study area corridor as it stands today, requiring users to share the road along Route 2, or find alternative means of connecting between Richmond Village and Riverview Commons, as has been reported to the study team.

While improvements to Route 2 (such as those recommended by the August 2023 Pinch Point Study prepared by Stantec) may improve conditions in certain locations, the No Build Design Concept would otherwise provide no separation or improvement for users relative to active transportation safety and comfort.



Design Concept 1: North Side Straight

The North Side Straight Design Concept is similar to “Alternative B5” illustrated in the 2014 Route 2 Bicycle and Pedestrian Scoping Report. It would be mostly inside the existing right-of-way of Route 2, on its north side.

Starting at its east end, this route would connect into the existing sidewalk on the north side of Main Street in Richmond Village. It would remain at the same 5-foot sidewalk width until it passed the last home at the west end of Main Street, to minimize disturbance to front yards. Then, it would widen to a 10 foot wide shared-use path buffered from the road with a green strip of varying width.

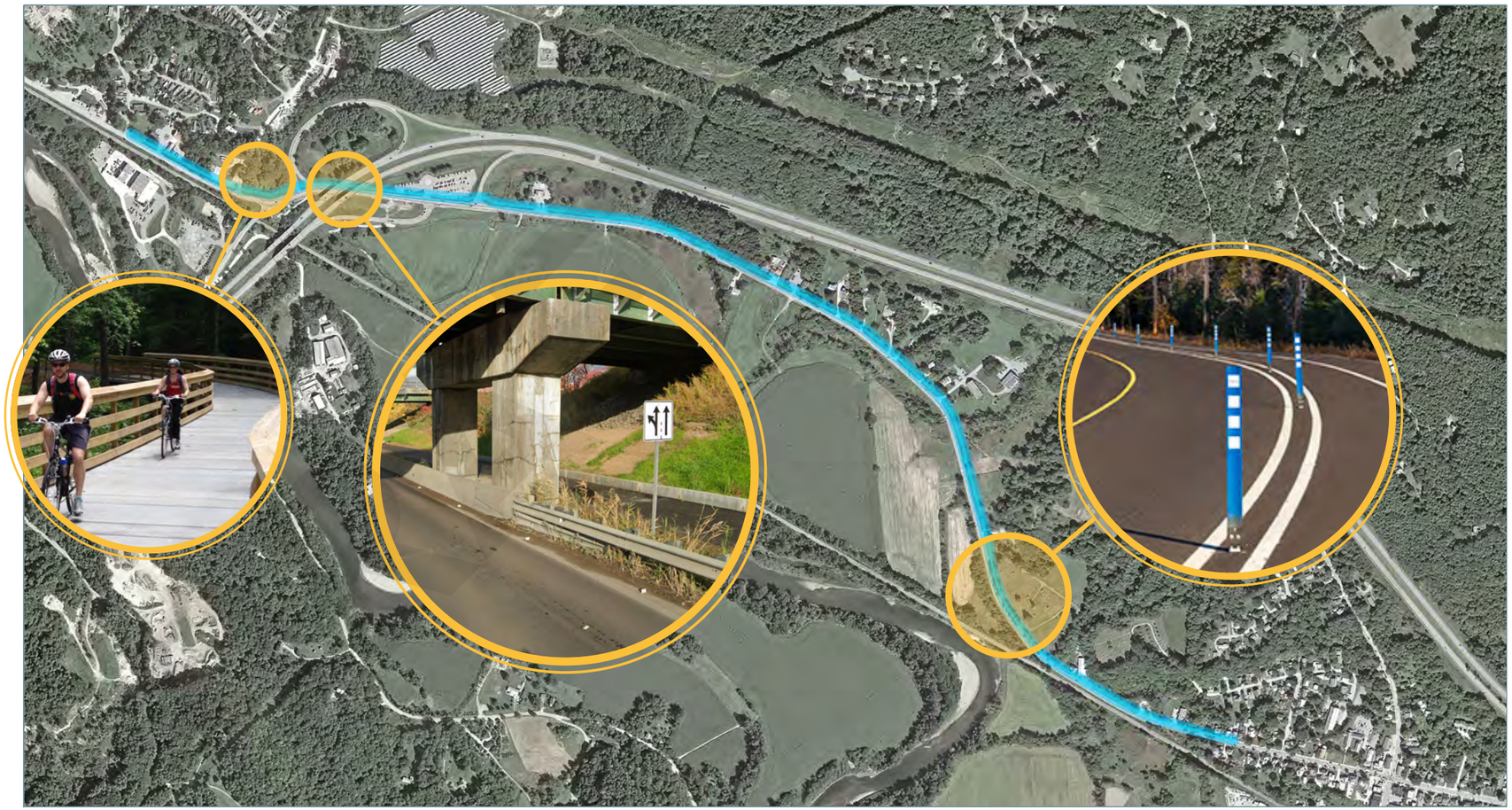
In the constrained location in front of Riverview Cemetery, this Design Concept would then transition to ±700 feet of paved shoulder along Route 2, with a wide painted stripe and flexible delineator separation. There is more discussion of the potential to use flexible delineators in the Implementation chapter.

Moving west, the path would then pass in front of the homes and businesses along Route 2, including the Mobil Station. To the west of the Mobil Station, this route would cross the on-ramp entrance to Interstate 89 southbound, then along the frontage of the Park & Ride.

To the west of the Park & Ride, this route would pass under Interstate 89. The slip ramp from Route 2 westbound onto I-89 South would be eliminated, and this route would cross at the entrance/exit to the other on-and-off I-89 North ramps. Refer to examples of these concepts in the Design Development chapter.

Concept 1: North Side Straight

The more efficient route, with the greatest technical feasibility and lowest cost, but closest to Route 2 traffic.



Finally, this route would continue onto Route 117/ River Road, across the intersection of Governor Peck Road, and then to the Riverview Commons. entrance.

Design Concept 2: Gateway Trail

The Gateway Trail Design Concept follows the same route as the North Side Straight Design Concept out of Richmond Village, until after the until after the wooded property to the west of the residential/commercial development. Depending on discussions with this and other property owners, including the Richmond Land Trust, Inc. at Willis Hill Preserve, there may be additional opportunities to install portions of the shared-use path, up to this point, further from Route 2.

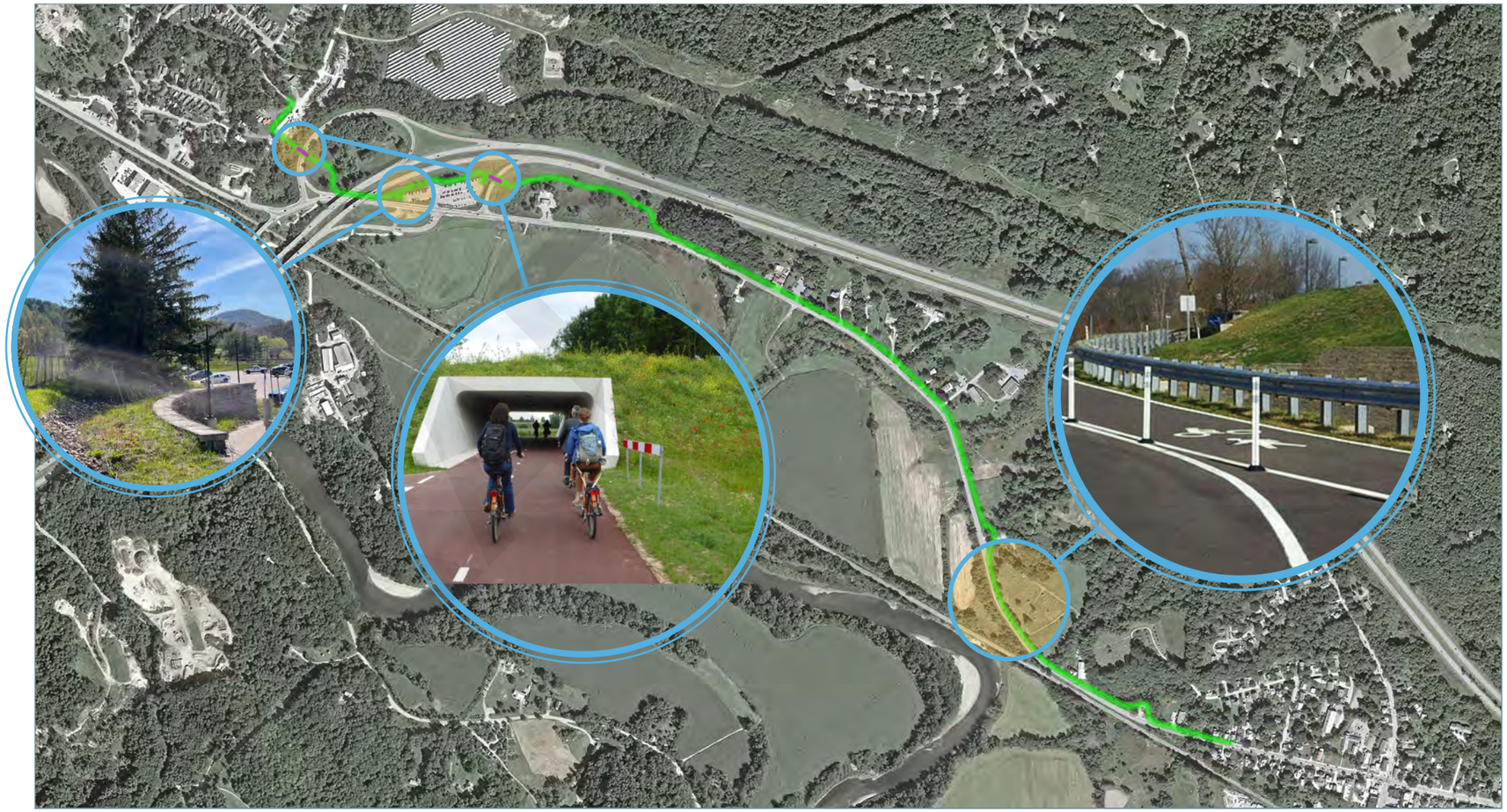
To the west of the wooded property, the Gateway Trail would move "overland" away from Route 2 on the Vermont Electric Cooperative and Mobil properties. Some of this route would be through or near mapped wetlands, in which case the path would be constructed in accordance with the Vermont Department of Environmental Conservation permitting and construction requirements governing boardwalks.

At the west of the Mobil property, the Gateway Trail would pass under the on-ramp to I-89 southbound, via the first of two underpasses. It would emerge within the Park & Ride property, and traverse the upper edge of that property, adjacent to the fence separating the Park & Ride from the Interstate corridor.

This Design Concept would also travel under the Interstate like the previous North Side Straight concept, then move away from the road edge again into the large oval area in the middle of the interchange. Some of the path through this area would likely require a boardwalk through wetlands. There is also great potential for meandering paths and stop-off gathering areas.

Concept 2: Gateway Trail

A unique route for safer and pleasant segments further from Route 2, but with added costs and technical challenges.



Leaving this oval via the second of two underpasses, this Design Concept would emerge at Cleary Stone, cross that property to Governor Peck Road, and then to Riverview Commons.

This description is conceptual in nature and conversations with all property owners would occur prior to more detailed planning.
See Appendix A for photo imagery of the Gateway Trail conceptual alignment.

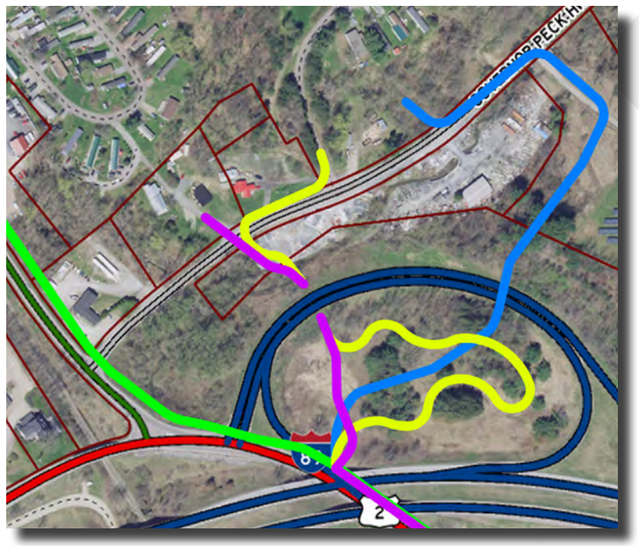
Design Concept 2:
Route Options at the Interchange

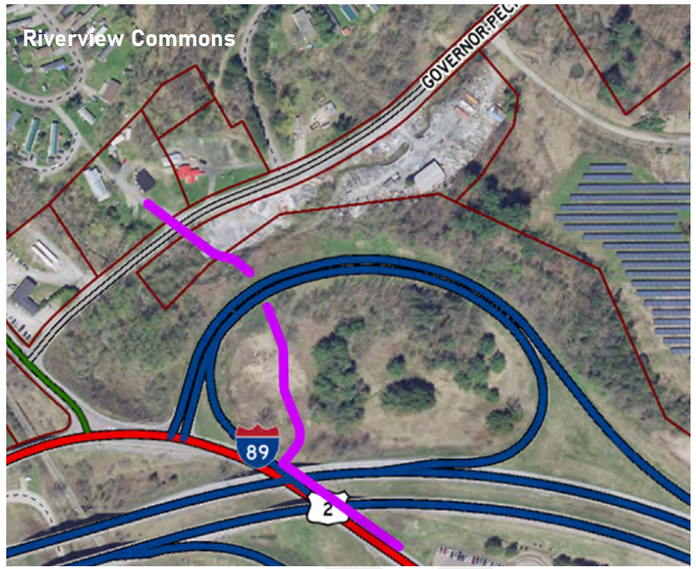
After passing beneath the Interstate bridges along Route 2, the Gateway Trail would enter the "oval" made by the on- and off-ramps of I-89 North. The path would continue toward Riverview Commons via an underpass to Cleary Stone. However, there are numerous options for just how the path could traverse this oval.

Portions of this area consist of wetlands, and may therefore require the use of boardwalks. Otherwise, one or more routes within this oval would be designed to offer route efficiency and/or aesthetic interest, in concert with conservation of the natural features.

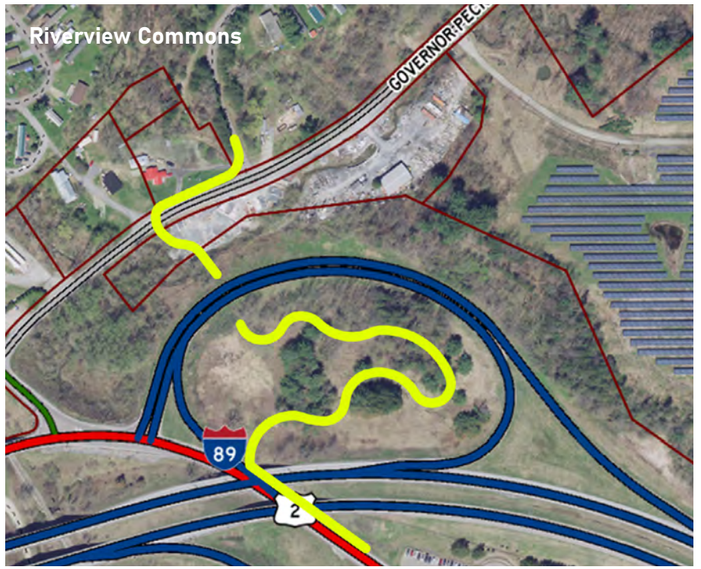
The images on this page show three options for routes within the oval, as well as a fourth option (in green) that would, based on construction feasibility or other considerations, bypass the oval entirely and reach Riverview Commons via Route 117/River Road at the Lucky Spot Variety. These options are conceptual in nature and conversations with landowners would occur as part of more detailed planning.

Below is a composite of all four of these options.

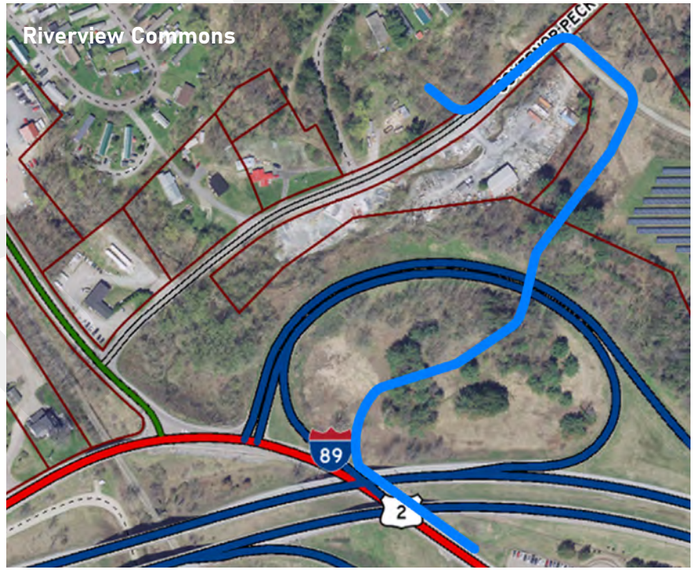




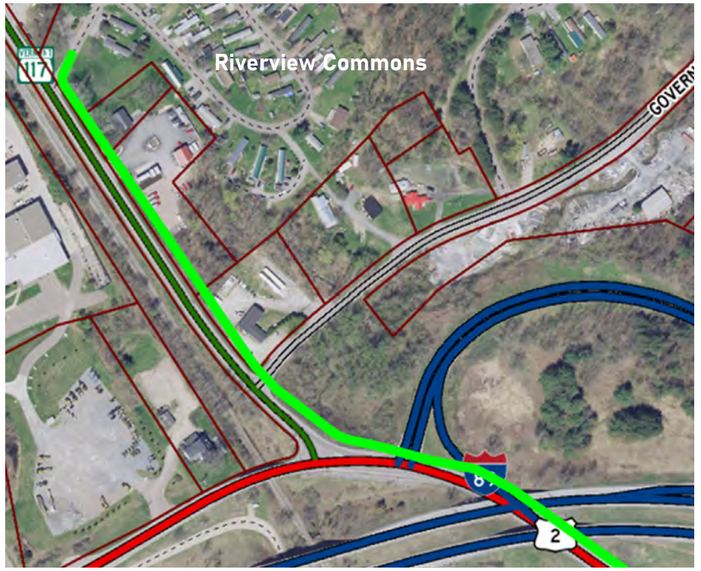
Efficient route to an underpass to Cleary Stone toward Governor Peck Road and Riverview Commons.



Meandering route through the oval, then via an underpass to Cleary Stone.



Route with an underpass toward the Green Mountain Power property and its entrance drive, exiting onto Governor Peck Road uphill from the Riverview Commons entrance.



Route that would bypass the oval to reach Riverview Commons via Route 117/River Road, entering near Lucky Spot Variety.

Richmond Gateway Scoping Study

Concepts Evaluation Matrix

Based on public feedback and Town direction, all alternatives were analyzed as to their ability to meet three key goals:

1. Improve the safety and comfort for all active transportation users;
2. Identify a solution that is implementable and cost effective; and
3. Move forward consistent with public support.

This Concepts Evaluation Matrix was developed to weigh multiple facets of the Design Concepts under consideration. It is intended to be used as a tool in the broader planning process, as an aid in Scoping Study decision-making, but not the sole factor in its outcome.

The average scores are indicated in the green columns for User Safety & Comfort, Implementation Impact & Cost Effective Effort, and Community Support and Recreation. The Total Score for each alternative, in the far-right column, is the sum of these three averages.

Scores are 0 through 3:

- In the User Safety and Comfort columns, a higher score means greater user safety (separation from motor vehicles) or comfort (largely a function of steepness) for active transportation between Richmond Village, the Park & Ride, and Riverview Commons.
- In the Implementation Impact & Cost Effective Effort columns, a higher score means lower impacts, cost or difficulty.
- In the Community Support and Recreation columns, a higher score means greater public survey support or recreation benefit.

	User Safety & Comfort				Implementation Impact & Cost Effective Effort							Community Support and Recreation				TOTAL SCORE
Concept	User Safety	Value to User Transport	User Comfort	SAFETY & COMFORT AVERAGE	Property and Front Yard Impacts		Conceptual Cost		Environmental Impact Score		Construction Difficulty	IMPACT & EFFORT AVERAGE	Survey Scores		Rec. Benefit	SUPPORT & REC AVERAGE	
	Separation from motor vehicles	Improve access for pedestrians, bicyclists, other users	slope difficulty/ change		Adjacent Property Count		Conceptual Cost $ - $$$		Vegetation and Wetland Impacts		considerations include grading, retaining walls, underpasses, boardwalks		% of Preference Responses				
1: No Build	0	0	0	**0**	0	3	$	3	None	3	None	3	**3.0**	33%	1.5	0	.75	**3.75**
2: North Side Straight	1	1.5	2	**1.5**	13	1	$$	2	- Remove 6 Trees - Wetland edge impacts	1.5	Grading, retaining walls	2	**1.625**	21%	1	1	1.0	**4.125**
3: Gateway Trail	2	2	1.5	**1.83**	10	1.5	$$$	1	Remove 8 Trees -Through wetlands	1	Significant grading, walls, underpasses, boardwalks	1	**1.125**	46%	2	**2**	2.0	**4.96**

The Gateway Trail concept received the highest resulting Total Score of this matrix (4.96), above the North Side Straight concept (4.125), and the No Build option (3.75). While a useful guide toward understanding the variables, this result does not mean that Richmond has an obligation to move forward with the Gateway Trail concept.

DuBois & King inc.

Implementation

Based on public input and assessments of safety, comfort, and more.

The Richmond Selectboard has selected the [PENDING ..... Design Concept] as the Preferred Design Concept of this scoping study.

This Implementation section offers guidance to Richmond in planning, budgeting, and fundraising for this transformational project. Information in this section pertains to:

- Discussion of next steps "Beyond the Scoping Study" and Potential Phasing.
- A series of Labeled Route Photographs showing the path of the Gateway Trail between Richmond Village and Riverview Commons, with the identification of design considerations pertaining to retaining walls, utility and sign relocation, tree removal and culvert crossings.
- Options for paths within the interchange "oval."
- An potential option for future consideration that would provide an off-road route around Riverview Cemetery.
- An potential option for future consideration that would provide a connection to the schools.
- Guidance pertaining to the use of flexible road delineators (for along the Riverview Cemetery frontage).
- Guidance pertaining to the conceptual design of the underpasses.
- Guidance pertaining to the conceptual design of the boardwalks.
- Potential permitting needs.
- Opinion of Probable Construction Costs for the Gateway Trail Preferred Design Concept.
- Grant funding opportunities.

Beyond the Scoping Study

This section outlines the general steps needed to move this report towards an funding an investment in alternative transportation between Richmond Village and Riverview Commons.

- Step 1 - Selectboard Approval
- Step 2 - Find a Champion
- Step 3 - VTrans Coordination
- Step 4 - Fundraising and Grant Writing
- Step 5 - Survey, Design & Permitting
- Step 6 - Construction & Maintenance

Step 2 - Selectboard Approval

There are different paths forward available for the components of this project. Whether the Town chooses to construct any components on their own, or decides to wait until a further VTrans project on Route 2 happens, or sewer service is extended along Route 2, this plan's recommended Preferred Design Concept should be endorsed by the Richmond Selectboard. However, Richmond is not under any obligation to move forward with the Preferred Design Concept.

Step 12- Find a Champion

Town staff or engaged resident, every plan needs a champion. Human resources are needed to use this plan as a tool to communicate public need, project cost, and design intent to federal, state and regional partners. Ongoing conversations and multiple design and permitting projects are a part of bringing any infrastructure project to life, and a local champion plays an out-sized role in making sure projects can be approved, funded, and developed in a timely fashion. The regional planning commission may be able to offer some assistance to the Local Champion.

Step 3 - VTrans Coordination

Because Route 2 is a State road, and significant components of the Gateway Trail Design Concept are at the Park & Ride or within the I-89 Interchange right-of-way, VTrans coordination is a fundamental aspect of the implementation of this study's recommendations. A large piece of this coordination will involve the Town advocating for the Preferred Design Concept or elements thereof to be built. For instance, the connection between Riverview Commons and the Park & Ride could become an agreed upon starting point to build towards the a completed Gateway Trail.

Step 4 - Fundraising & Grant Writing

Funding the final design and construction of the Gateway Trail will require town commitment to grant funding. The Grant Resources table outlines some of the common funding resources for Vermont towns that are seeking to develop active transportation facilities.

Projects of this nature and cost are often funded through federal resources. Such resources come with requirements that must be followed throughout the project development and implementation process.

Step 5 - Survey, Design & Permitting

Once Select Board approval is in place, VTrans has been consulted, and agreements or grant awards are in hand, the Town can then move towards contracting an engineering firm to conduct a pre-construction survey and develop construction documents.

An overview of the permits needed for the sidewalk and streetscape components of the preferred alternative is provided in the Permit Overview section. Because it is anticipated that bike lanes will be installed as part of a larger VTrans managed paving project, Permitting for installing bike lanes alone is not included as part of this study

Step 6 - Construction & Maintenance

Construction is the final step towards a new facility. As the community plans towards this goal, long term (25 year) maintenance and repair, and regular winter maintenance must also be considered.

Potential Phasing

Portions of this project could be phased. Phasing need, or opportunity, would depend on the availability of funding, and the Town's ability to realize construction efficiencies by coordinating improvements that of utility installation or upgrades, or with VTrans projects.

However, any individual project phase shall have "independent utility," in that it has the ability to offer standalone transportation function.

For example, a connection between Riverview Commons and the Park & Ride would have "independent utility" and would be a suitable first phase to the project. Vitally, this initial phase would support this project's explicit intent to expand mobility options, thereby increasing economic opportunities, for those living in Riverview Commons, a historically disadvantaged community that was geographically isolated from Richmond Village by the construction of Interstate 89.

It may also be possible to phase the path surfacing. For example, the possible future sewer extension between the Village and the Mobil station has been discussed. An alternative transportation route could be built above portions of the sewer extension's path; at first, the path portion could be gravel, but later it could be asphalt paved.

Additional Connections

Navigating the curve on Route 2 at Riverview Cemetery for active transportation is a challenge, as there are significant constraints to building into the existing slope along the cemetery frontage. As discussed with the Cemetery Commission and the Richmond Transportation Committee, these constraints include:

- potential slope instability or soil erosion;
- the known presence of (unmarked) interments near to this slope; and
- the sensitive, in some cases exposed, roots systems of the sugar maple trees growing along the cemetery frontage.

Due to these constraints, both of this scoping study's initial concepts, the "Northern Straight" route and preferred "Gateway Trail" route, would utilize the existing Route 2 paved shoulder at the base of this cemetery frontage slope as a section of the two-way path.

This scoping study has further recommended the use of flexible delineators to separate the paved shoulder from the adjacent motor vehicle travel lane along this section of roadway. These flexible delineators would be installed along the solid white painted "fog line;" and a pilot project should explore the technical feasibility of this strategy in cooperation with VTrans.

However, the approximately 3 to 4.5 foot wide existing shoulder along the Route 2 cemetery frontage is not sufficient for two cyclists to pass each other without requiring one of the cyclists to enter the adjacent motor vehicle travel lane. A minimum width of 6 feet would be preferable.

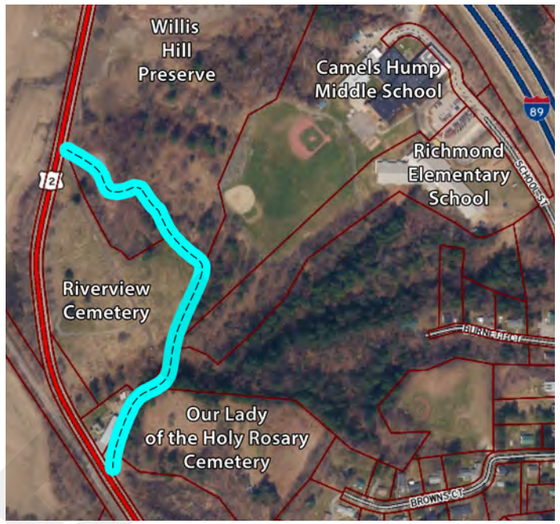
The 2023 "US-2 Pinch Points" study discusses the potential shifting of Route 2 to accommodate a wider shoulder in this location. Pending that work, were it to occur, and the findings of the above-noted flexible delineator pilot project, the study team has also explored the creation of an "overland" route that would, instead, bypass this on-road route along the cemetery frontage.

This conceptual overland route could follow parcel lines of the properties as generally indicated on the illustration to the right.

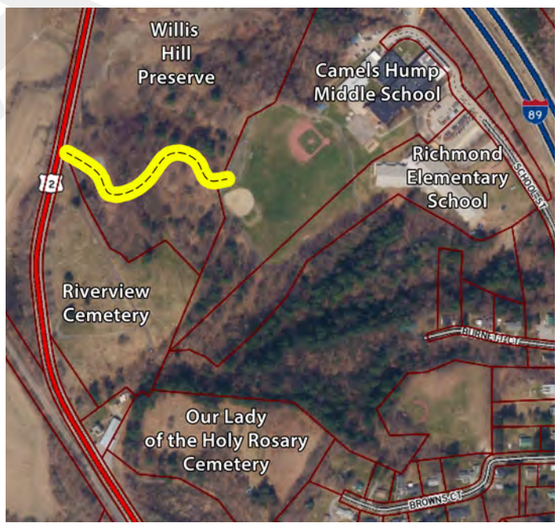
There is a deep drainage gully along this overland route that would have to be crossed. Working with property owners, this crossing would be at a location that is technically suitable for soil and hydrological stability. This crossing would also have to be viable for active transportation use, with approaches that themselves are not too steep. Should such an overland route move forward, the crossing location, and the design of the infrastructure, would be finalized during the preparation of engineered construction drawings.

An overland route alternative would also support active transportation access via Route 2 to the school property. Specifically, if facilitated in accordance with the school's safety and security protocols around campus access control, and with a focus on accessibility, a direct route between Route 2 and the school, such as via the Willis Hill Preserve, would promote greater foot or bike accessibility for some students, such as those who live in the Riverview Commons neighborhood.

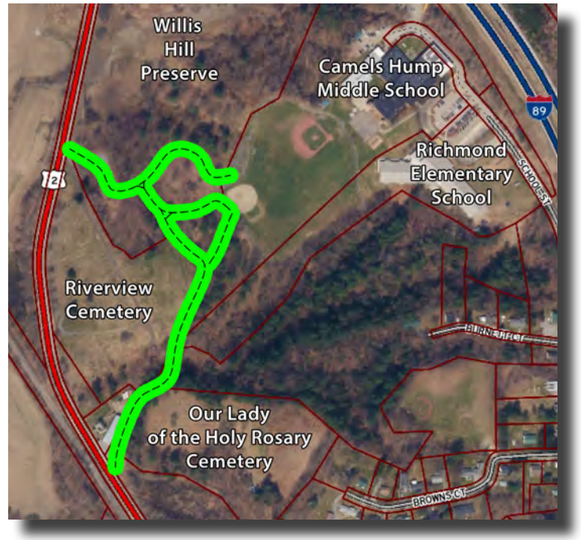
This overland route is technically feasible but did not receive further study as part of this project due to the objections heard during outreach to interested and affected parties. As a viable alternative to using the roadway shoulder, it should be considered as a potential option as the Town advances the path project in the future.



A potential "overland" route around Riverview Cemetery that would bypass the Route 2 frontage.



A potential connection to the schools via the Willis Hill Preserve.



A potential combined "buildout" of the overland route bypass of Route 2 as well as school connections.

Flexible Delineators

Both Design Concepts developed for this scoping study include an approximately 700 foot segment along the Riverview Cemetery frontage that would entail travel in the shoulder of Route 2, separated from the motor vehicle lanes by flexible delineators.

Flexible delineators are relatively inexpensive to install. Therefore, they can be tested for a defined period of time, as a demonstration project to gauge their effectiveness and extent public support.

These flexible delineators could be installed as a demonstration project along the solid white painted "fog line" that could also be painted to be wider. A short term demonstration project would explore the technical and logistical feasibility of this delineated strategy, and gather the opinions of public users of the delineated route.

While not optimal in creating a safe and comfortable shared-use path, this has been deemed the only viable solution absent further agreement with property owners to offer a reasonably efficient active transportation facility to destinations to the west of Richmond Village.

The Vermont Agency of Transportation has expressed concerns with the use of flexible delineators, as they may:

- Limit an already limited shoulder
- Offer a false notion of protection
- Need to be replaced often
- Conflict with winter maintenance (if not removed and replaced in the spring)
- Conflict with wide or oversize loads

The information at the right is intended to help Richmond learn more about flexible delineators and plan for a potential demonstration project.

VTrans/FHWA resources for Bicycle & Pedestrian Design:

https://vtrans.vermont.gov/highway/local-projects/bike-ped/resources

VTrans Guidance Document: Demonstration Projects in State Highway Right Of Way: https://vtrans.vermont.gov/sites/aot/files/planning/documents/planning/Demonstration%20Project%20Guidance%202022.pdf

A presentation about the Spear Street Bike Lane Demonstration project, conducted by Local Motion along 2,000 foot segment of Spear Street in Shelburne, VT. Included wide stripe painting and flexible delineators:

https://drive.google.com/file/d/1PLc7m9IN9ZViumxXrq0lh4XMIYmXRtmW/view

Local Motion would be an excellent resource for conducting a flexible delineator demonstration project in Richmond. Learn about their technical services here:

https://www.localmotion.org/technical_assistance_services

A 2023 news video describing the Moncton, New Brunswick's experience with flexible delineators:

https://atlantic.ctvnews.ca/video/c2761872-new-bike-lanes-in-moncton-spark-debate

An article about Moncton's winter post removal process:

https://www.cbc.ca/news/canada/new-brunswick/moncton-bike-lane-bollards-1.7018249

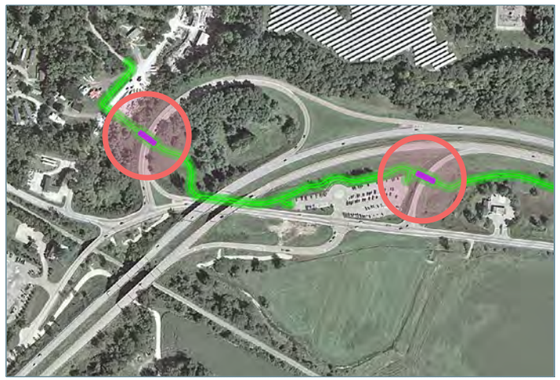
On-Road Multi-Use Path - City of Thunder Bay, Ontario, Canada (delevotech.com)

Two-Way Bicycle Lane - Parlee Beach Provincial Park - Shediac, New Brunswick, Canada (delevotech.com)

Underpasses

While still maintaining relatively efficient travel between Richmond Village, the Park & Ride, and Riverview Commons, the Gateway Trail concept has segments with a substantially larger buffer from Route 2. The intent would be for greater safety and visual interest, and lesser road noise.

This separation from Route 2 would be facilitated by the construction of two underpasses. Their conceptual locations are circled below.



One underpass would be constructed under the I-89 southbound on-ramp, and one underpass would be constructed under the abutting on- and off- ramps of Interstate 89 northbound.

Design Considerations

Underpasses should fully accessible, and be of sufficient height and width to accommodate the passage of cyclists traveling side by side or passing each other.

In addition, they need to be open and bright enough to maintain visibility, whether illuminated via natural daylight, artificial lighting, or a combination of both.

Safety-related design factors support obstacle avoidance or collision reduction. To support safety, underpass illumination is recommended. The use of light-colored materials on the walls and ceiling of the underpasses will aid in visual contrast and illumination by reflecting light.

Security in a design context relates to the potential, or perceived potential, for intentional harm from others, or harm to one's property.

Security was a concern, specific to the underpasses, that was raised by members of the public during the Design Concepts public meeting in August 2023 and by the Richmond Transportation Committee.

Some design features address both safety and security: an open feeling, illumination and visibility/contrast. Security may also be addressed by:

- Keeping the path on both sides of the underpasses clear of visual barriers such as trees, shrubs or sculpture.
- Additional underpass width may allow users to see more clearly what, or who, may be on the other side of the underpass.
- Uniform lighting, without "hot spots" or shadows is critical for safety and security.

The underpass under the Interstate 89 Southbound On-Ramp

West side of the on-ramp, at the Park & Ride.

East side of the on-ramp, east of the Mobil.

Safe Routes for Schools provides good underpass (and bridge) planning and design guidance:

http://guide.saferoutesinfo.org/engineering/pedestrian_and_bicycle_bridges_and_tunnels.cfm

A news article about an underpass project completed in 2021 in Whitefish, Montana: https://www.kpax.com/news/local-news/flathead-county/pedestrian-underpass-in-whitefish-officially-opens-to-the-public

Whitefish, Montana

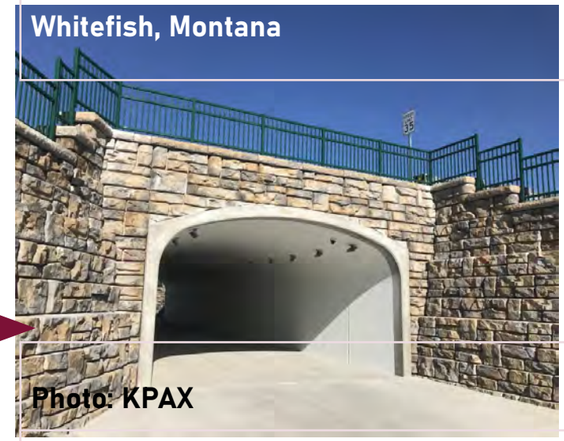


Photo: KPAX

A news article about an underpass under a railway in Windsor, Ontario, Canada:

https://windsorstar.com/news/local-news/dougall-avenue-death-trap-no-more-cyclist-and-pedestrian-underpass-opens-in-south-windsor

Additional project photos at the construction company's website (AMICO):

https://amico.build/projects/dougall-pedestrian-underpass-and-multi-use-trail/

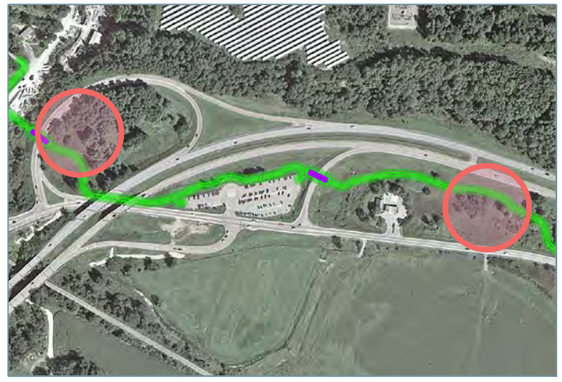
Windsor, Ontario, Canada

Photo: AMICO

Boardwalks

There are mapped wetlands and wetland buffers along the Gateway Trail. Wetlands are sensitive natural features that perform critical functions of flood risk management, the provision of specialized habitat, water quality improvement, and more. Therefore, they require specialized care if constructing an active transportation facility through or near them.

Their locations of the two primary wetland areas along the Gateway Trail are circled below.



Planning and Design Considerations

The VT Department of Environmental Conservation has standards for the construction and permitting of boardwalks for transportation through wetlands and wetland buffers.

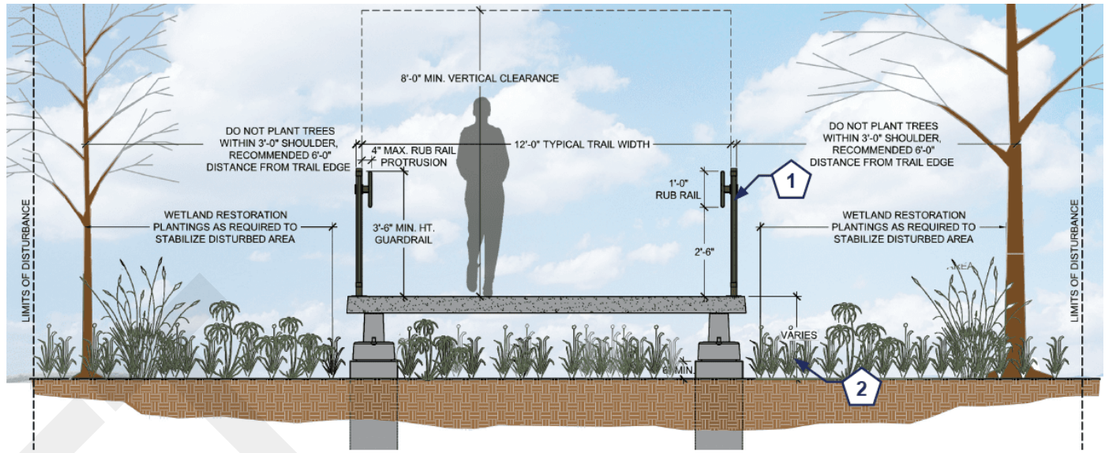
Overall, the project must have a valid project purpose and must demonstrate either meeting the Allowed Use criteria or if a permit is needed, demonstrate avoidance and minimization.

The type of wetland involved (wet meadow, vernal pools, etc.) is considered for permitting, and in determining potential path construction options, such as how the path may impact the wetland's "functions and values."

Specific VT DEC design criteria relate to boardwalk width, underside clearance, plank spacing, and support structures.

The materials chosen for the boardwalk are vital to cost and maintenance considerations. On this project, either hardwood (such as black locust) or concrete surfacing may be most appropriate.

The funding source is <u>not</u> a factor in the Department of Conservation's review regarding the issuance of a wetland permit.



Above: Typical cross section provided by Great Rivers Greenway, which is working "to make the St. Louis region a more vibrant place to live, work and play by developing a network of greenways."
https://greatriversgreenway.org/design-guidelines/trail-design/boardwalk/

Richmond would work with Vermont's Agency of Transportation and Department of Environmental Conservation regarding the potential location, design, permitting and construction of project boardwalks and other site elements in or near wetlands.

Vermont's Department of Conservation (DEC) has many resources regarding the design and permitting of various path features through wetlands, including boardwalks.

You Tube video by State Wetlands Ecologist Zapata Courage:

https://www.youtube.com/watch?v=npjTvXml3RY

Trail Guidance documents for wetlands:

https://dec.vermont.gov/sites/dec/files/wsm/wetlands/docs/WTLD_TrailGuidance.pdf

Trail Guidance document for catwalks, boardwalks, and docks:

https://dec.vermont.gov/sites/dec/files/wsm/wetlands/docs/wl_catwalk_bmp.pdf

Information from American Trails about the effects of boardwalks on vegetation and wildlife:

https://www.americantrails.org/resources/faq-vegetation-under-boardwalks

More information about Vermont wetlands:

https://anr.vermont.gov/sites/anr/files/Vermont%20Wetlands%20Program.pdf

https://www.epa.gov/system/files/documents/2023-04/VT%20WPP%202023-2027.pdf

https://vnrc.org/clean-water/wetlands/

Wetlands along the Emerald Trail

Within the oval of the interchange
(photo by Garry Bressor)

To the east of the Mobil station
(photo by Garry Bressor)

Additional Study Suggestions

Several additional ideas were suggested during the scoping study that may help to achieve its overarching goal for a safer active transportation corridor that also offers:

- cost efficiencies;
- enhanced recreation benefit in addition to transportation utility;
- greater user enjoyment; and
- broader multimodal transportation function.

Coordinating Sewer + Path Projects

Richmond has been considering whether to extend public sewer service to the west of the Village, such as to the Mobil station.

If this were done, it may be possible and useful to coordinate the construction of an alternative transportation shared-use path at the same time, such as for elements of the Gateway Trail.

Vegetation clearing to install the sewer would likewise support the construction of a shared-use path. In addition, maintaining a clear area along the sewer line will offer access for maintenance of the system.

Two examples of where planning or construction of a shared-use path was coordinated with sewer infrastructure are from Wilsonville, Oregon and Chapel Hill, North Carolina:

https://www.ci.wilsonville.or.us/engineering/page/boeckman-creek-interceptor-and-trail-project

https://efc.web.unc.edu/2016/11/01/walking-the-line/

Connecting with other Trails

This particular scoping study project is focused on active transportation between Richmond Village, the Park & Ride, and Riverview Commons. However, during the public engagement meetings and surveys, many Richmond residents noted that this transportation connection could also be a vital segment within the broader local and regional active transportation and recreation network.

Specifically, many suggested that a connection could be made to the Johnnie Brook Trail access via Route 2. Connecting the Johnnie Brook Trail directly with this scoping study's project area would require a bridge over the Winooski River, or cantilevered pathways connected to existing Route 2 infrastructure.

Therefore, while further considering an undertaking of that extent was not considered to be within the scope of this study, the larger goal of connectivity for active transportation and recreation is of great interest to the community.

Richmond's prior town-wide studies exploring active transportation networks offer additional recommendations:

https://www.richmondvt.gov/fileadmin/files/Departments/Planning_Zoning/Richmond_Bike_Walk_Trails_Plan_2021-06-17.pdf

https://www.ccrpcvt.org/our-work/transportation/current-projects/walk-bike/richmond-bike-walk-and-trails-plan/

Bike Hub at Park & Ride

Many users of the regional bicycle trails park at the Park & Ride. This is preferable to parking informally along the edge of roads, or for many hours in front of businesses in Richmond Village.

To encourage further use of the Park & Ride by cyclists, whether they are using regional trails or taking the bus, "bicycle hub" facilities could be installed at the Park & Ride.

A bicycle hub could include:

- Covered bicycle racks
- Day-use lockers
- Bicycle repair tower (tools, air pump)
- Potable water
- Maps of regional trails
- Information about local business and services

A bicycle hub could be located at the rear/northeast corner of the Park & Ride, near where the underpass access would be located in the Gateway Trail Design Concept:

is to also improve transit access generally. Therefore, while this study is focused on active transportation connections, additional strategies should continue to be explored relative to the larger goal of improving transit access.

To this end, it was noted during the public engagement process that there is not currently public transit connecting Richmond Village to the Park & Ride.

Steadman Hill Consulting prepared a study in 2023 exploring the potential demand and options for transit service in Richmond:

https://www.richmondvt.gov/fileadmin/files/Selectboard/Meetings/2023/06/3c_Memo_Regarding_Transit_Service_In_Richmond.pdf

- that goal in a relatively efficient way.
- However, the low population density may results in a relatively high cost per passenger, based on forecasts.
- The proposed route could be operated as a pilot project for a year or two.
- A large commitment of local funds would likely be necessary.
- If the market does prove sufficient to make the route viable, it could be funded through regular mechanisms, with Richmond joining Green Mountain Transit as a member municipality.

Permit Overview

Described below are the permits reviewed for the Gateway Trail preferred alternative. The table at the right includes a summary. Given the varied and changing permitting structure, future project work should evaluate permitting needs at the outset of the planning and design process, and throughout.

- State Highway Access (1111). This permit is required when a project is within the state highway right-of-way. This permit would be required for work adjacent to Route 2.
- ACT 250. There are several jurisdiction categories that trigger the need for an Act 250 permit. They are listed by the State of Vermont Natural Resources Board here. Note that while a given project may not require an Act 250 permit for the specific project work, entities (e.g., businesses) located within the project area that already have an Act 250 permit may need that permit to be amended to reflect the changed site condition.
- National Environmental Policy Act (NEPA). The NEPA process needs to be followed if federal funding is involved. Based on this study's review of natural resources in the project area, including wetlands, the NEPA process will be triggered if there is Federal funding for the project. A shorter Categorical Exclusion may be warranted, but NEPA review determinations will guide the level of documentation needed.
- Construction Stormwater General (3-9020 or INDC). This permit is triggered when a project exceeds one (1) acre in disturbance.
- Operational Stormwater General Permit (3-9050 or INDS). As of June 2022, the threshold for this permit will be a half (0.5) acres of newly constructed impervious material.
- Stream Alteration. The Stream Alteration Rule regulates activities that take place in or along streams. A permit is required for movement, excavation, or fills involving 10 or more cubic yards annually in any perennial stream.
- The United States Army Corps of Engineers (USACOE). USACOE regulates all wetlands and fill below the Ordinary High Water (OHW).
- VT Individual Wetland Permit. A permit would be required if the project impacts any type of wetland, or encroaches on a class I or II 50 foot buffer. The level of state wetland permitting is determined by review process criteria.

Potential Permit Requirements for the Gateway Trail Design Concept

Permit	Permit Needed?	Explanation
State Highway Access (1111)	Yes	Required for project working intersecting with the Route 2 right-of-way
ACT 250	No	Based on our review of the jurisdiction categories, an Act 250 permit will not be required unless the total project area exceeds 10 acres. However, entities in the project area may need to amend existing Act 250 permits.
NEPA	Maybe	If federally funded, NEPA will be required. Richmond should explore the option for a "categorical exclusion" to forgo an extensive process.
Construction Stormwater General	Yes	Implementing the Gateway Trail design concept will likely exceed the one acre disturbance threshold for this permit.
Construction Stormwater Operational	Yes	Implementing the Gateway Trail design concept will likely exceed the one-half acre disturbance threshold for this permit.
Stream Alteration	Maybe	This project may require 10 cubic yards or more of earthworks in or along streams.
USACOE General	No	This project will not disturb any lands below the ordinary high water line.
Individual Wetland	Yes	This project will impact mapped wetlands or buffers.

Opinion of Probable Construction Costs

In this Implementation chapter, cost estimates, permitting review, and implementation guidance are provided to support Richmond in planning, budgeting, and fundraising for this transformational project.

Each design concept presented below from least to most cost or build requirements, with relevant cost estimates. A more detailed cost estimate is at the right for the preferred Gateway Trail Design Concept.

Cost estimates are calculated in 2024 dollars. Inflation over time will drive these costs higher. Cost reductions or efficiencies may also be realized via coordination with other infrastructure work.

No Build Design Concept

Planning-Level Cost Estimate: $0

A “No Build” scenario would not make any of the specific active transportation improvements discussed in this document. However, Richmond, VTrans, and other allied entities, would still work toward improving the condition and safety of existing facilities.

North Side Straight Design Concept

Planning-Level Cost Estimate: $4.75 million

This cost includes 8,250 linear feet of 8-foot wide asphalt path, slip lane removal, s well as retaining walls and other supporting infrastructure. It also includes local project management, design and construction engineering.

Gateway Trail Design Concept

Planning-Level Cost Estimate: $10.75 million

This cost includes 6,330 linear feet of 8-foot wide asphalt path, two underpasses, 1,620 feet of concrete surface boardwalk, as well as retaining walls and other supporting infrastructure. It also includes local project management, design and construction engineering. A more detailed Opinion of Probable Construction Cost is included at the right.

Opinion of Probable Construction Costs
Richmond Gateway Scoping Study - Gateway Trail

Prepared by DuBois & King, Inc: June 2, 2024

1. Path Surface Bituminous. 10 feet wide, total 6,330 feet long.
   Cost including excavation, grading and drainage, grass margin planting etc.
   $1,266,000.00
2. Concrete Boardwalk.. 5 feet wide, total 1,620 feet long, including helical metal footings.
   $1,822,500.00
3. Two Underpasses. Each 75 to 100 feet long, 12 feet wide, with lighting and signage.
   $1,700,000 x 2 = **$3,400,000.00**
4. Retaining Walls. 475 square yards
   $950,000.00
5. Culvert Extensions. 5 Culverts
   $37,500.00
6. Flexible Delineators. 70 total: 10 foot spacing over 700 linear feet.
   $18,000.00
7. Moving 5 utility poles
   $25,000
8. Crosswalks. Quantity: 2 (entrance to I-89 southbound, and across Governor Peck Road)
   $4,000.00
9. Rectangular Rapid Flashing Beacons (mid-block crossing of Governor Peck Road)
   $10,000.00
10. Move Mailboxes. Quantity: 4
    $2,000.00
11. Move Signs. Quantity: 4
    $2,000.00
12. Benches. Quantity: 10
    $20,000.00
13. New Trail/Info/Wayfinding Signage
    $10,000.00
14. Tree and Vegetation Removal/Grubbing
    $20,000.00
15. Soil Erosion & Sedimentation Control
    $25,000.00
16. New Planting
    $20,000.00
17. Traffic Control
    $50,000.00

SUBTOTAL: $7,682,000.00

Design 15%	$1,152,300.00
Project Management 15%	$1,152,300.00
Inspection 15%	$1,152,300.00

TOTAL: $11,400,000.00

Funding Resources

These tables contain information for numerous grant resources that can help Richmond plan, design, and develop active transportation infrastructure. If you are viewing this document as a digital pdf, click on any of the grant titles to navigate to online resources to learn more about that grant.

Two tables are provided here - one for smaller scale projects (this page) that will cost approximately $100,000 or less, and another for larger projects that will cost significantly more (next page). Planning studies or temporary demonstration projects would all fit into the small-project category.

An additional funding resource not listed in this table is the Chittenden County Regional Planning Commission's Unified Planning Work Program (UPWP). The CCRPC's Unified Planning Work Program (UPWP) is a federally mandated document serving as the annual work plan for local and regional transportation planning projects and through which this study was funded.

Through an open, annual process the CCRPC solicits project requests from municipalities and the public. Updated annually, the UPWP summarizes the transportation and land use planning activities of CCRPC staff, its member agencies, and other transportation and planning agencies conducting work in the Chittenden County region.

In addition to the UPWP, the Regional Planning Commission's has a separate Transportation Improvement Program (TIP). The TIP is a prioritized, fiscally-constrained, and multi-year list of federally-funded, multimodal transportation projects and operations in the CCRPC region.

Sub $100k Grant Resources

Grant Category	Grant Title	Maximum Fund Amount	Match	Federal Funding	What does it fund?	Application Deadline	Direct Contact
Pop Up Projects	VNRC - Small Grants for Smart Growth	$1,500	None	No	Pop up projects, natural resource inventories, public outreach campaigns, design & planning.	Ongoing	Kati Gallagher, kgallagher@vnrc.org
Pop Up Projects	AARP Community Challenge Grants	$20,000	None	No	Infrastructure, programs, events, and organizations supporting livable communities and smart growth objectives	March	Kelly Stoddard Poor - kstoddardpoor@aarp.org 802-951-1313
Planning & Design	VT ACCD - Municipal Planning Grants	$35,000	10%	No	Municipal planning projects of various shapes and sizes.	November	Jenni Lavoie - Jennifer.Lavoie@vermont.gov (802)828-1948.
Pop Up/ Demonstration Projects	Better Places Grant	$40,000	33%	No	COVID-19 Recovery, Community Revitalization, quick build projects, physical activity promotion.	January	Richard Amore richard.amore@vermont.gov 802-585-0061
Planning & Design	CDBG - Planning Grants	$60,000.00	10%	Yes	Feasibility studies, marketing plans, engineering & architectural plans, etc	Ongoing - grants awarded 3x a year	Cindy Blondin 802.828.5219 cindy.blondin@vermont.gov
Small Scale Construction	VTrans - Bicycle and Pedestrian Program Grants - Small Scale	$100,000.00	50%	No	Distinguished from Bike/ Ped program by smaller maximum funding amount and lack of federal requirements	June	Pete Pochop 802.477.3123 peter.pochop@vermont.gov

The CCRPC maintains a searchable database of grants and funding opportunities at https://www.ccrpcvt.org/funding-opportunities/

Funding Resources (continued)

The federal funding column in this table identifies federally funded sources that despite their larger grant totals, come with numerous requirements that can often drive costs up beyond what a locally funded project would cost.

Smaller infrastructure projects should examine local funding options before applying for federal grant resources.

$100-$300M Grant Resources

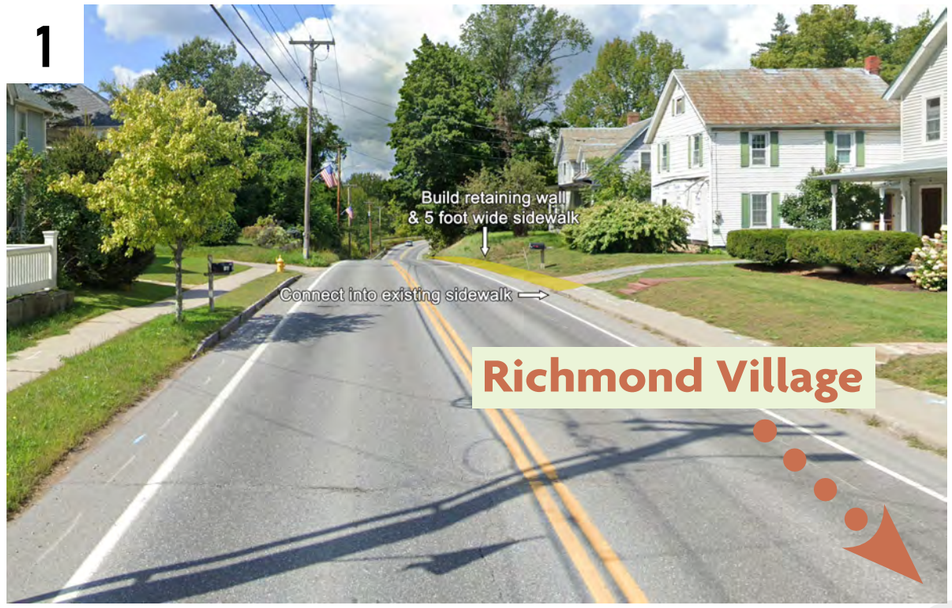
Grant Category	Grant Title	Maximum Fund Amount	Match	Federal Funding	What does it fund?	Application Deadline	Direct Contact
Planning, Design & Construction	VTrans - Transportation Alternatives Program (TAP)	$300,000.00	20%	Yes	Construction, planning & design of on and off roadway facilities for active transportation facilities	November	Scott Robertson - scott.robertson@vermont.gov 802-793-2395
Planning, Design & Construction	VTrans - Bicycle and Pedestrian Program Grants	$1,000,000.00	20%	Yes	Construction, planning & design of on and off roadway facilities for active transportation facilities	June 8 2022	Pete Pochop 802.477.3123 peter.pochop@vermont.gov
Design & Construction	CDBG - Implementation Grants	$1,000,000.00	10%	Yes	Create or retain jobs, create or rehabilitate housing units, build infrastructure, create or assist childcare and senior centers etc.	Ongoing - grants awarded 3x a year	Cindy Blondin 802.828.5219 cindy.blondin@vermont.gov
Design & Construction	Northern Border Regional Commission - State Economic & Infrastructure Development (SEID) program	$1,000,000.00	50%		Large scale - multi agency projects that support: Innovation and technology that supports forest economies, workforce & economic development	April (Letter of Interest)	Andrea Smith, asmith@nbrc.gov (603) 369-3001
Active Transportation Planning and Construction	Safe Streets and Roads for All (SF4A)	$30M Implementation, $200k Planning	20%	Yes	Developing or updating a comprehensive safety action plan. Planning, design, and implementation efforts supported by the Action Plan.	September	Paul Teicher Grantor 202.366.4114
Active Transportation Planning and Construction	Reconnecting Communities	$2M - Planning $100M - Construction	50%-construct. 80% - Planning	Yes	Projects that reconnect communities by removing, retrofitting, or mitigating transportation facilities that create barriers to community connectivity.	October	Faith Hall 202.366.9055 reconnectingcommunities@dot.gov

APPENDICES

Labeled Route Photographs 1-4

These images, starting at the western edge of Richmond Village and ending at the Governor Peck Road entrance to Riverview Commons, show the feasible route of the Gateway Trail, and indicate specific needs for retaining walls, utility and sign relocation, tree removal and culvert crossings.

1



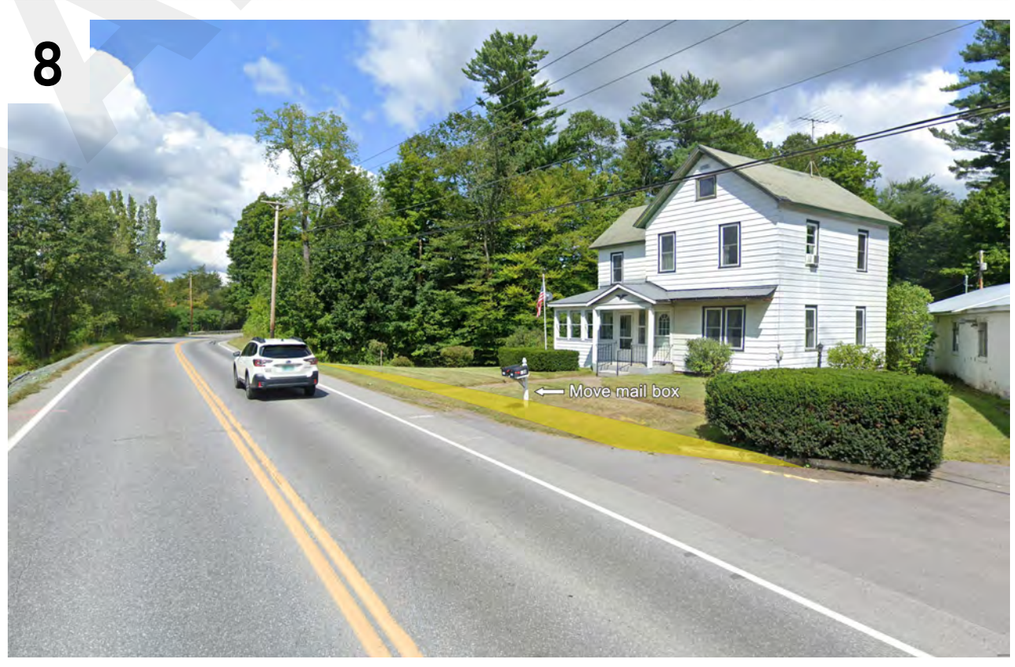
2

3

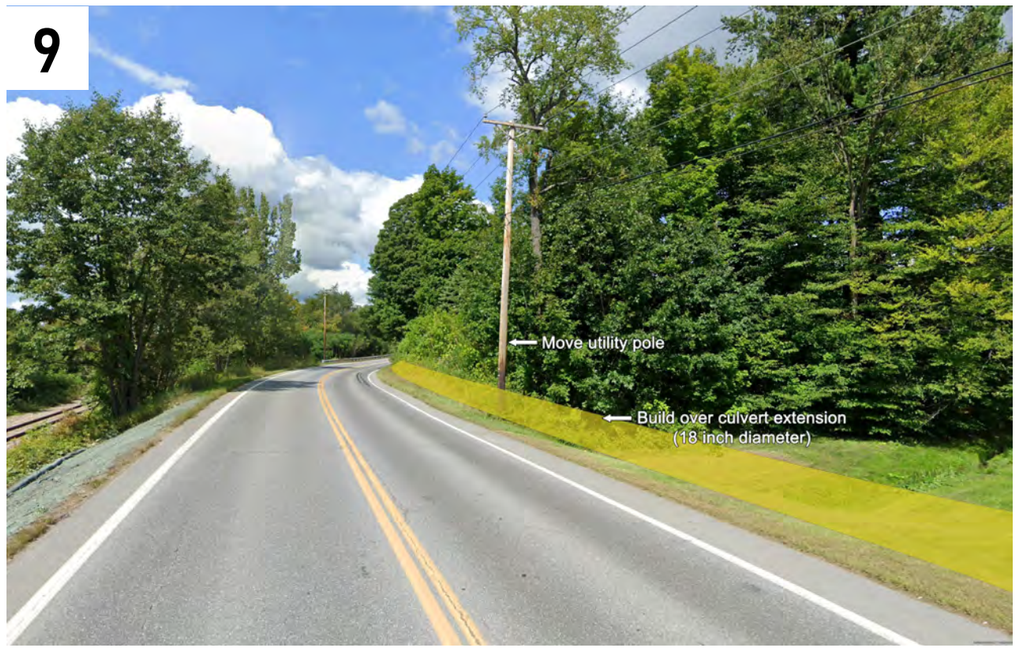
4

Base imagery from
- Google Earth,
- Gary Bressor,
- DuBois & King.

Labeled Route Photographs 5-8



Labeled Route Photographs 9-12



Labeled Route Photographs 13-16

Labeled Route Photographs 17-20

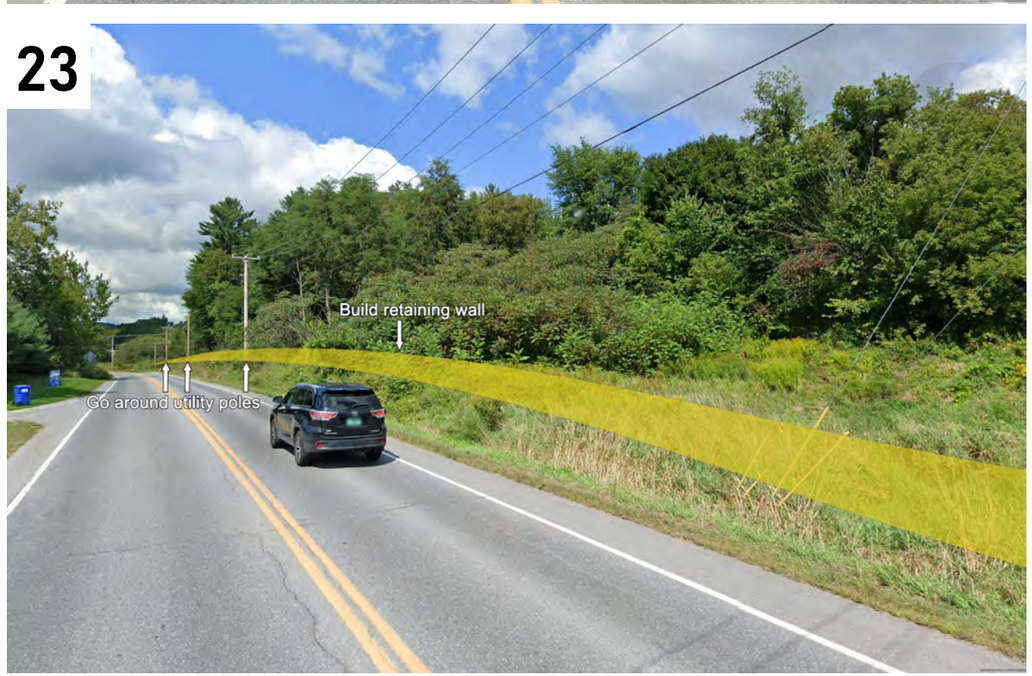
17

18

19

20

Labeled Route Photographs 21-24



Labeled Route Photographs 25-28

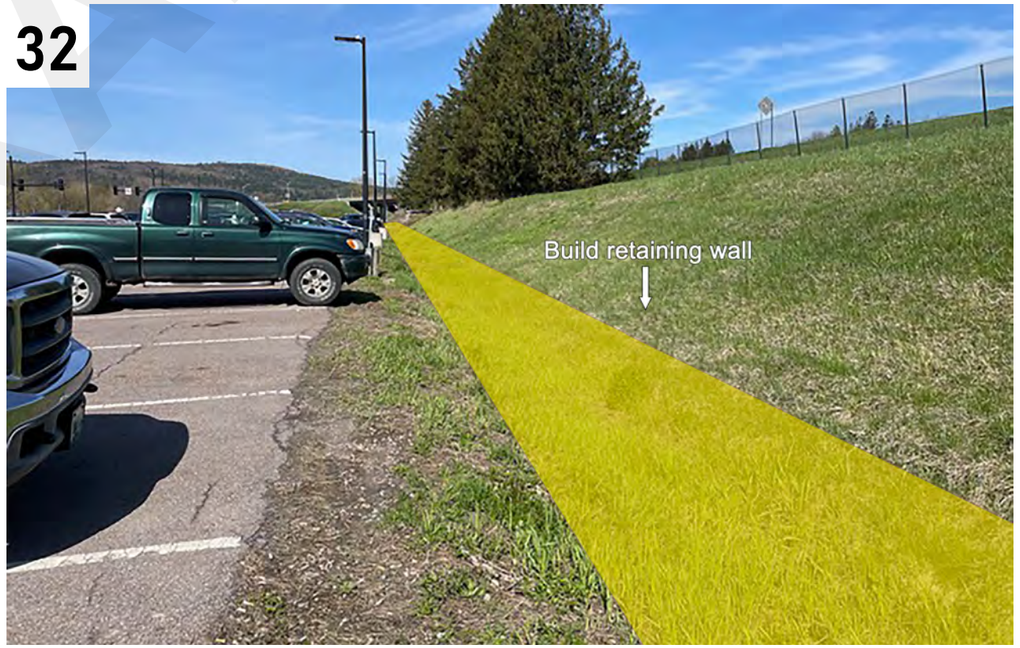
Labeled Route Photographs 29-32

29

30

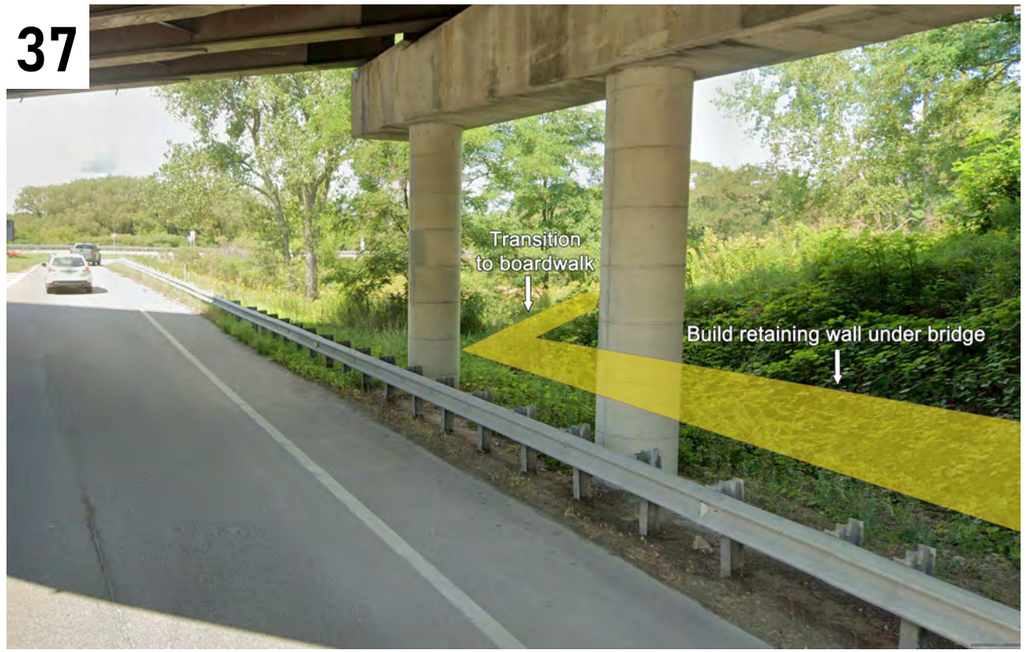
31

32



Labeled Route Photographs 33-36

Labeled Route Photographs 37-39



Riverview Commons