

Town of Fairfax Pedestrian Connectivity Feasibility Study between the North and South Villages

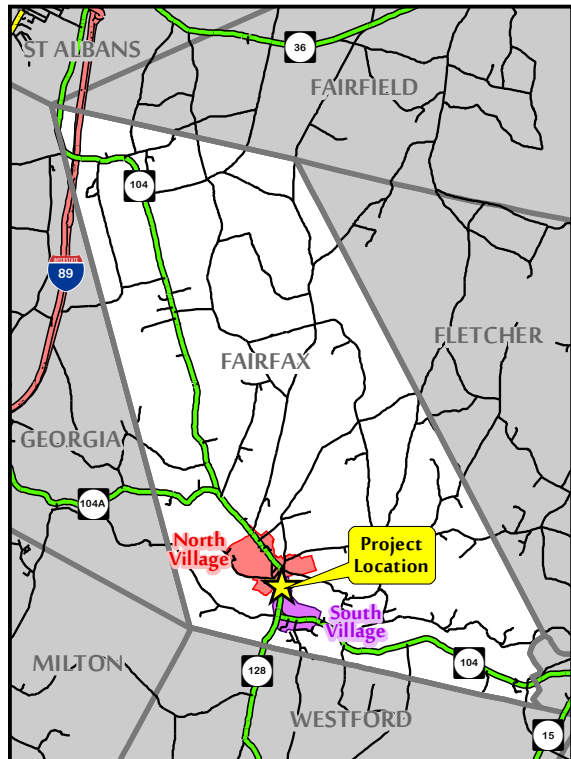
A report on the feasibility of improving pedestrian transportation between two growth centers within the Town of Fairfax, north and south of the Lamoille River

Final Report – March 2015



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INTRODUCION AND SUMMARY

The Town of Fairfax (the Town) received a Municipal Planning Grant (MPG) from the Vermont Department of Housing and Community Development to determine the feasibility of constructing pedestrian improvements along a section of highway within the Town to join the north and south villages, primarily along Vermont State Route 104. The need for the project is clear, as this section of the state highway is not currently served by a coherent pedestrian facility and is unsafe due to experienced high traffic speeds, observed high truck traffic, narrow shoulders and a lack of pedestrian accommodations on the bridge over the Lamoille River. The Northwest Regional Planning Commission (NRPC) worked with the Fairfax Planning Commission (PC) and selected Kevin Russell, Community Development Services and Doug Weber, Summit Engineering as the project consultants to conduct the study.



Existing sidewalk on Route 104 to Maple Street.

Through this study, the project team, in consultation with the Fairfax PC and Advisory Committee, investigated the project area, considered options for pedestrian system improvements and presented recommended alternative improvements to the Town. The *Town of Fairfax Pedestrian Connectivity Study between the North and South Villages* report is the culmination of the study. It includes a recommendation for a system of pedestrian facility improvements broken down into five segments that are reasonable, affordable and feasible with no known physical obstacles or negative environmental impact. The system of improvements includes new sidewalks, a shared-use path, modifications to Bridge #9 across the Lamoille River and a new crosswalk (see page ___ for an overview map).

Segment 1: Village Sidewalk Upgrade

A new 5-foot concrete sidewalk with granite curbing and drainage adjustments to replace the existing 4-foot sidewalk on the west side of Route 104 from Maple Street to Bridge 9.

*Segment 2 - A or B: Pedestrian Improvements to Bridge 9**

- A) A new 5-foot, raised sidewalk on the west side of the bridge keeping a road typical of 11-foot travel lanes and 3-foot shoulders, or
- B) Reconfiguring the fog lines for 6-foot shoulder on west side and 3-foot shoulder on east side.

**Both A and B include the installation of a pedestrian friendly railing on west side.*

Segment 3: Shared-Use Path

A new 8-foot shared-use path with aggregate surface from Bridge 9 heading south to beginning of VTrans drainage system on Route 104. The path will remain within the ROW on west side of Route 104.

Segment 4 - A or B: Sidewalk to Post Office

- A) A new 6-foot concrete sidewalk with curbing adjacent to the road maintaining a 4-foot shoulder from the terminus of the path on the west side, or

B) A new 5-foot concrete sidewalk set off the road at least 3-feet with retaining wall. Either option will terminate at the crest of the hill across from the Post Office.

Segment 5: Crosswalk and Sidewalk to Field Road

A marked, mid-block crosswalk at the terminus of the west side sidewalk to a 5-foot concrete sidewalk on the east side of Route 104, set off from the road shoulder, extending to Field Road.

Together these alternative segments significantly improve pedestrian access between the two village centers, extending from Maple Street in the northern village to Field Road in the southern village. However, each segment can be constructed in logical sequence for stepped improvements over time.

The process of determining these recommended improvements included a robust public outreach with the local community and input and direction of the PC. The alternative solutions presented were determined through field investigations, desktop research and with the collaboration and advice of specialists within the Vermont Agency of Transportation (VTTrans).

PURPOSE AND NEED STATEMENT

Every good endeavor has a good mission statement that guides it. The Purpose and Need Statement is the guiding language that clearly defines the problem and the goals of solving the problem. It also provides a framework for the guiding principles toward achieving the goals. It is a mission statement



End of sidewalk along Route 104 looking south toward Bridge #9

that each major decision going forward is measured against. Here is the statement that best describes the purpose and need for this study and the resulting recommended improvements to connect Fairfax North and South Villages:

- The Town is experiencing growth of residential, commercial and public destination points south of the historic village across the Lamoille River causing increase in travel between the two village centers.
- There is currently no coherent and safe pedestrian system linking the two village centers, along Route 104 and on the Lamoille River Bridge #9, limiting active transportation options for villagers.
- The purpose of the study is to determine reasonable solutions to improve the safety and remove the barriers for pedestrian travel between the two areas of town, north and south of the river.

PROJECT AREA AND EXISTING CONDITIONS

The Town of Fairfax has experienced significant growth over the past decades. The historic village north of the Lamoille River remains a very active center of Town with many residences and important social and economic destinations including schools, churches, shops and other services. On the south side of the Lamoille River, the Town is experiencing additional growth with new commercial and residential properties. When established in the 1800s, the Fairfax Post Office was located in the historic village and residents of the compact center were able to walk to it easily. Now

located outside of the designated village center and south of the Lamoille River, this important public service requires an automobile to safely access it in addition to other commercial businesses, services, and a public recreation field. Separating these two village centers – north where the historic development occurred and south where the Town is experiencing new growth – is the Lamoille River. State Route 104 and the motor vehicle-centric Bridge #9, ca. 1985, connect these two distinct growth centers. The lack of a coherent pedestrian facility along the corridor and on the bridge forces pedestrians to rely on an unsafe and unwelcoming, share-the-road condition on the bridge deck and along the existing shoulder of the road.

This study recommends five segments of improvements along Route 104 that connect between Maple Street in the main, northern village and Field Road to the south, covering a total lineal distance of 3,318 feet or 5/8 of a mile. Route 104 is under the control of the Vermont Agency of Transportation and any proposed alternations or additional facilities within the State's right-of-way requires significant coordination with Agency specialists, particularly engineering solutions to safely accommodate all users of Bridge #9. The project team consulted with VTTrans to investigate engineering solutions to make the existing bridge and roadway more accessible for all users of the roadway.

The current Bridge #9 was construct in 1987, replacing a 1928 iron, through-truss bridge. Prior to the iron bridge, there was a double barrel covered bridge that saw its demise in the catastrophic flood of November 1927. Both of the historic bridges lacked any safe pedestrian access and one must assume that as automobiles and trucks dominated the highway, there was also trepidation in crossing each of the earlier bridges if one was on foot or bike. The current bridge deck is 32.8 feet wide. With travel lanes at 11' each, that leaves roughly 5 feet of room on each side for non-motorized, vulnerable roadway users. However, the current layout of the striping results in 4 feet of pavement between the fog line and the bridge curb on the west side and 6 feet on the east. The 1985 bridge design does not include a sidewalk or pedestrian friendly railing. Currently, the bridge railing is lower than an approved pedestrian railing with openings causing an unsafe situation for pedestrians, especially young children. At 30-years old, the bridge will likely see another three decades before a re-decking project could allow for any physical modifications such as widening and adding a raised sidewalk by the State.



East side of Bridge #9 looking downstream

The current alignment of Route 104 changed overtime with each bridge resulting in a straighter, well-constructed highway. Motorists travel in comfort at speed. Current shoulders vary from 3 to 6-feet of pavement beyond the fog line. W-beam style guardrail restricts the shoulder width in areas where there is steep downslope from the highway on the east side and at the bridge approaches, causing an unsafe situation for walkers and bicyclists. The highway is well maintained with good pavement. As the highway descends from the southern village area, the wide-open rural area between the village centers invites motorist to resume travel at higher speed. As motorists approach the bridge heading into the northern village there is very little visual information that announces the approach of the bridge and a new travel condition in the village beyond, causing higher speeds than is desirable for the comfort and safety of pedestrians.

Due to the lack of traffic calming influences, the speed of traffic on the bridge as well as the lack of a sidewalk is the major barrier to walking across it, to and from each village center. The distance, roughly ½ mile, of share-the-road condition between the centers also detracts from the pedestrian transportation potential by offering no refuge for the weary walker against the blasts of the speedy trucks.

STUDY APPROACH

The Northwest Regional Planning Commission (NRPC) provided oversight of the project and direction on the study approach. Additionally the NRPC furnished important studies, reports and data; compiled resource information; and prepared a base map with known resource information. The collaborative approach by the consulting team included the consultation with the Fairfax Planning Commission and its advisory committee of community members including the Town's Recreation Director and Elementary School Principal, and an alternatives development conference with the Vermont Agency of Transportation (VTrans). The consulting team reviewed previous studies, conducted detailed field investigations and desktop research to understand the project area and consider alternative solutions. During the field investigations, the consulting team experienced the psychological barriers to walking the corridor. Accurate measurements of distances, shoulder widths, bridge deck width and setbacks were recorded, and photographs of the project area were taken. Upon completion of investigations and the development of alternative ideas, the project team met with the Planning Commission to review their findings. The team met again with the PC and Select Board to present recommended alternative solutions and to hear local concerns and support for the project at an advertised public meeting. Following the public meeting, the team drafted the report and recommendations here within.

Study chronology (2014):

- July 21 – Consultant field investigations - in preparation for a proposal
- August 28 – Kick-off Meeting with Planning Commission
- September 10 – Conference with NRPC and field investigations
- October 6 – Conference with VTrans to review alternatives
- October 17 – Field investigations
- October 22 – Advisory Committee meeting with PC to review alternative solutions
- November 17 – Alternatives Presentation and Local Concerns Meeting with Planning Commission, the Advisory Committee and Select Board

Minutes and notes from the above meetings and conferences as well as a copy of the PowerPoint alternatives presentation slides are located in the appendices.

ALTERNATIVES DEVELOPMENT

Previous Investigations:

The project area has been investigated in the past, particularly the *2012 Fairfax Non-Motorized Travel Plan*. The Plan's recommendations include rebuilding the existing sidewalk from Maple Street, a new crosswalk opposite the Steeple Market, and a



Route 104 northbound

new sidewalk on the east side of Route 104 from the crosswalk running south, crossing river and terminating at Michelle Road. From Michelle Road, the Plan recommends an informal footpath to the Post Office along the east side. The Plan also recommends a new sidewalk from the Post Office south along Route 104 to East Road including two crosswalks connecting to residential streets opposite, and bike lanes along the entire Route 104 corridor. Following further investigations, the project team ruled out a project located on the east side due to natural resource impacts and steep slopes, particularly south of Michelle Road. If significant pedestrian traffic is generated from Michelle Road in the future, a crosswalk can be considered at that location to connect to the shared-use path.

VTrans Conference:

The project team began with the Travel Plan as a basis for their investigations and conducted field visits to confirm the feasibility of the recommendations. In addition to the field visits, the project team met with the Vermont Agency of Transportation (VTrans) for a conference to discuss various options to the Route 104 and Bridge #9. Any work that the Town seeks to do in the right-of-way of the State Route will require a Section 1111 Permit and a Cooperative Agreement on maintenance and other responsibilities. Additionally the projects will need to meet State and federal standards and laws and not interfere with the current utility of the corridor including drainage and other environmental considerations. The team vetted a number of ideas for adapting the existing bridge and, shoulder widening, sidewalks, and path options along the corridor. The conference was well represented by VTrans specialists:

- Amy Bell, VTrans Planning
- Rob Hall, VTrans Utilities and Permits
- Pam Thurber, VTrans Structures
- Jon Kaplan, VTrans Bicycle and Pedestrian Program
- Diane Perley, VTrans District Transportation



W-beam guardrail on east side of Route 104 constricts bicyclists and pedestrians to a narrow shoulder.

Complete notes are in the appendices. Discussion points included:

- The Route 104 right-of-way is at least a 4-rods in width with additional width near bridge and slope areas.
- District Transportation made drainage improvements to the road on the west side recently.
- Any significant modification to the existing bridge, such as widening the deck would not be considered until there was a reconstruction project, which will be several decades.
- Attaching a new pedestrian bridge onto the existing bridge is not structurally feasible.
- Constructing a new separate pedestrian bridge would not likely be permitted since it would require a center abutment in the river due to length.
- Adding a new raised sidewalk on the existing bridge may possibly interfere with drainage and constrict the deck width for plowing.
- Further consideration of a raised sidewalk on the bridge should involve the DTA and Structures Section.
- Reconfiguring the line striping can be done to provide a larger shoulder width on a side of the bridge that has a connecting sidewalk and/or path.
- Any new facility will need to comply with laws and meet standards.
- An opinion was expressed that the length of the project area may be outside of the reasonable walking distance for the average pedestrian.

Field Investigations:

During three field investigations, the project team viewed, photographed and measured the project area. During these site visits the team experienced the psychological barriers to walking and observed environmental and other physical constraints.

- High traffic speeds even though legal speed is reduced from 40 to 30 mph from south to north.
- High volume of truck traffic.
- Narrow shoulders at guardrails along the east side and at the bridge approaches.
- Bridge feels unsafe due to a narrow shoulder and low open railing.
- Distance and steepness may be too great for some less inclined or less able to walk long distances.
- Limited options to improve the pedestrian safety of the existing highway bridge.
- Steep downward side slopes limit options for a path or sidewalk on the east side and steep upward side slopes may require retaining walls on the west side.
- Possible utility conflicts.
- Limited sight distances for road crossings.
- Obstructions such as trees, signs, poles, mailboxes, access drives, etc.

Relevant Statistics:

Total distance of proposed improvements - .625 miles (3,318 feet)

Segment 1) - 726 feet Segment 2) - 430 feet

Segment 3) - 1,060 feet Segment 4) - 814 feet

Segment 5) - 288 feet

Traffic Data:

Annual Average Daily Traffic (AADT) Route 104

Location Id 109 – 0.1 miles south of Buck Hollow Road
2008 - 6,200 2010 - 7,100 2012 - 7,300 (E)

2010 Percentage of medium and heavy trucks – 9.8%

Location Id 020 – Between Huntley and River Road
2008 – 4,000 2010 – 4,500 2012 – 4,600

2010 Percentage of medium and heavy trucks – 7.8%

Roadway Geometry:

Travel lane widths - 11 feet

Shoulder widths - varies 3 to 5 feet

Right of way - 4 rods +

Bridge Geometry and Data:

Year constructed - 1987

Width of bridge deck - 32.8 feet

Length of bridge (2 Spans) - 166 feet

VTrans condition rating - 8 – Very Good



Existing railing detail on Bridge #9

RECOMMENDED ALTERNATIVES

Informed by the Fairfax 2012 Non-motorized Travel Plan, VTrans Conference and the site investigations, the project team developed a series of five segmented improvements to the corridor focusing primarily on the west side of the road. These alternative ideas were presented to the Planning Commission at which time they voted to refine the options and present them as recommended alternatives to the public.

Segment 1: Village Sidewalk Upgrade

A new 5-foot concrete sidewalk with granite curbing and drainage adjustments to replace the existing 4-foot sidewalk on the west side of Route 104 from Maple Street and extended to Bridge 9.

Segment 2 - A or B: Pedestrian Improvements to Bridge 9

A) A new 5-foot, raised sidewalk on the west side of the bridge keeping a road typical of 11-foot travel lanes and 3-foot shoulders, or

B) Reconfiguring the fog lines for 6-foot shoulder on west side and 3-foot shoulder on east side.

Both A and B include the installation of a pedestrian friendly railing on west side.

Segment 3: Shared-Use Path

A new 8-foot shared-use path with aggregate surface from Bridge 9 heading south to beginning of VTrans drainage system on Route 104. The path will remain within the ROW on west side of Route 104.

Segment 4 - A or B: Sidewalk to Post Office

A) A new 6-foot concrete sidewalk with curbing adjacent to the road maintaining a 4-foot shoulder from the terminus of the path on the west side, or

B) A new 5-foot concrete sidewalk set off the road at least 3-feet with retaining wall. Either option will terminate at the crest of the hill across from the Post Office.

Segment 5: Crosswalk and Sidewalk to Field Road

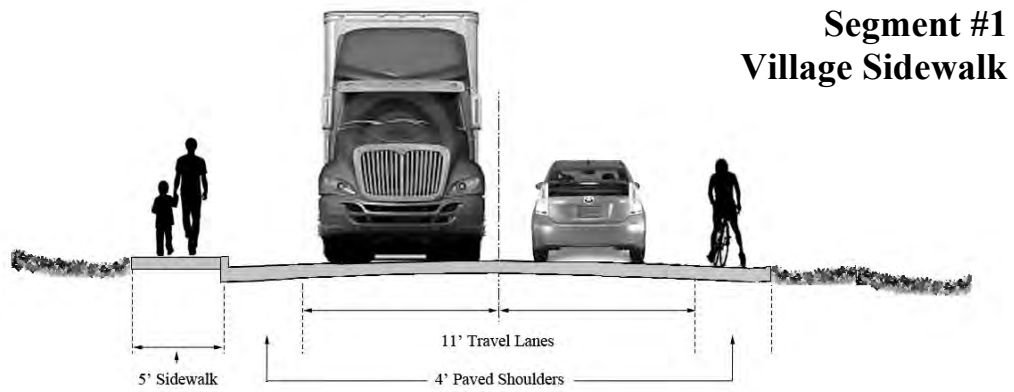
A marked, mid-block crosswalk at the terminus of the west side sidewalk to a new 5-foot concrete sidewalk on the east side of Route 104, set off from the road shoulder, extending to Field Road.

Future Considerations:

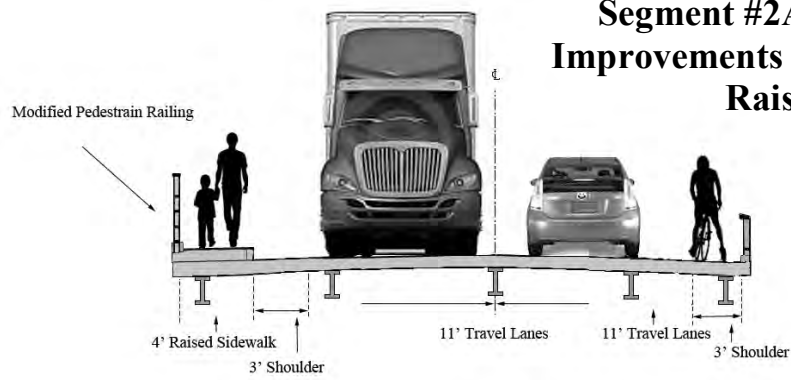
Additional improvements to the south end of the project area were also considered during the study. These are conceptual ideas that were outside the scope of the project and require further study and estimating.

Shared-use Path to Recreation Field: A new 8-foot wide shared-use path with aggregate surface connecting to Segment 5 on one end, looping around the recreation field and connecting to the road shoulder or a future sidewalk along Route 104 further southeast.

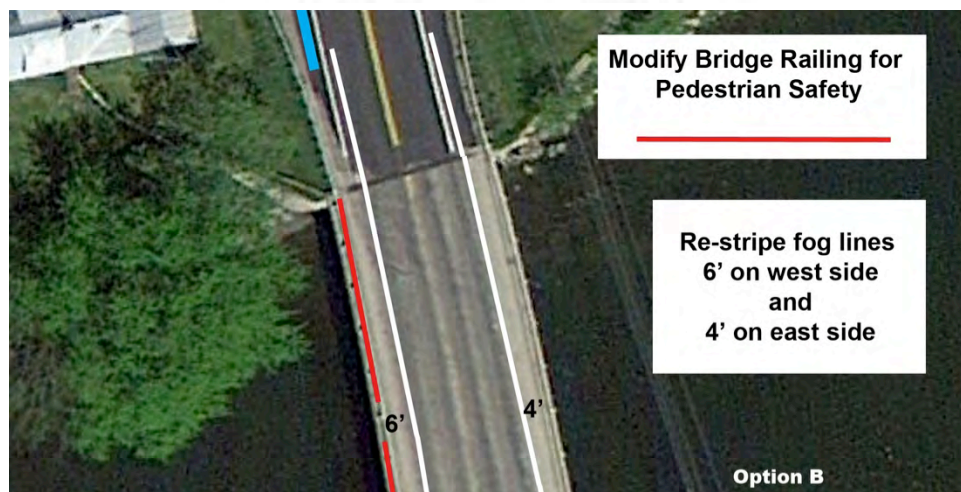
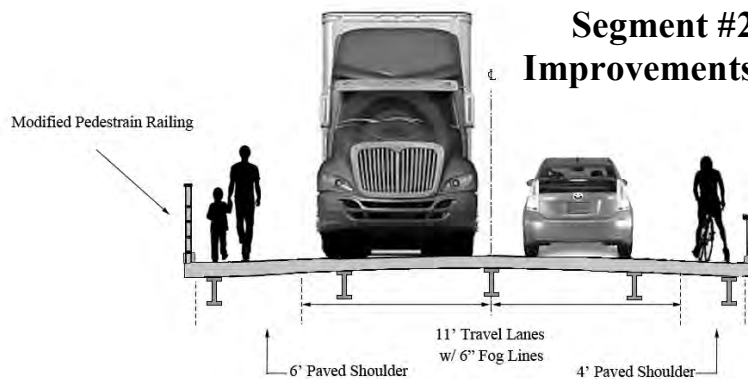
Sidewalk along Route 104 to East Road: A new 5-foot concrete sidewalk and 5-6' green space along Route 104 from Field Road to East Road.



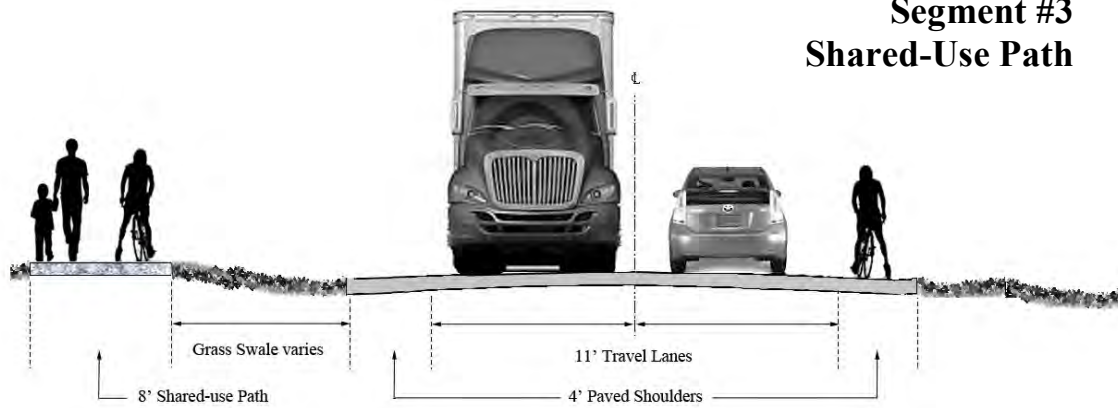
Segment #2A Pedestrian Improvements to Bridge #9 Raised Sidewalk



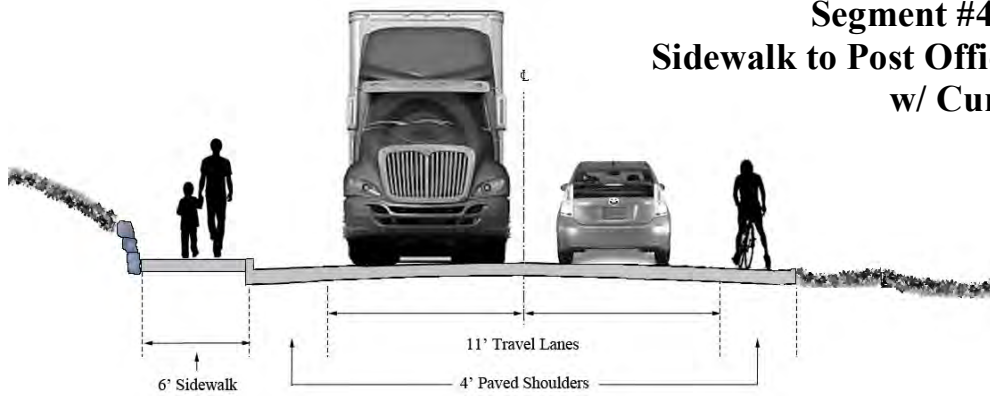
Segment #2B Pedestrian Improvements to Bridge #9 Restriping



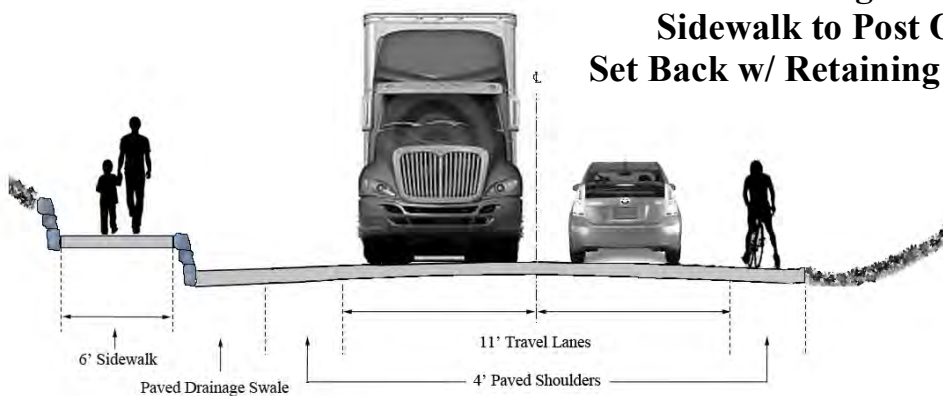
Segment #3 Shared-Use Path



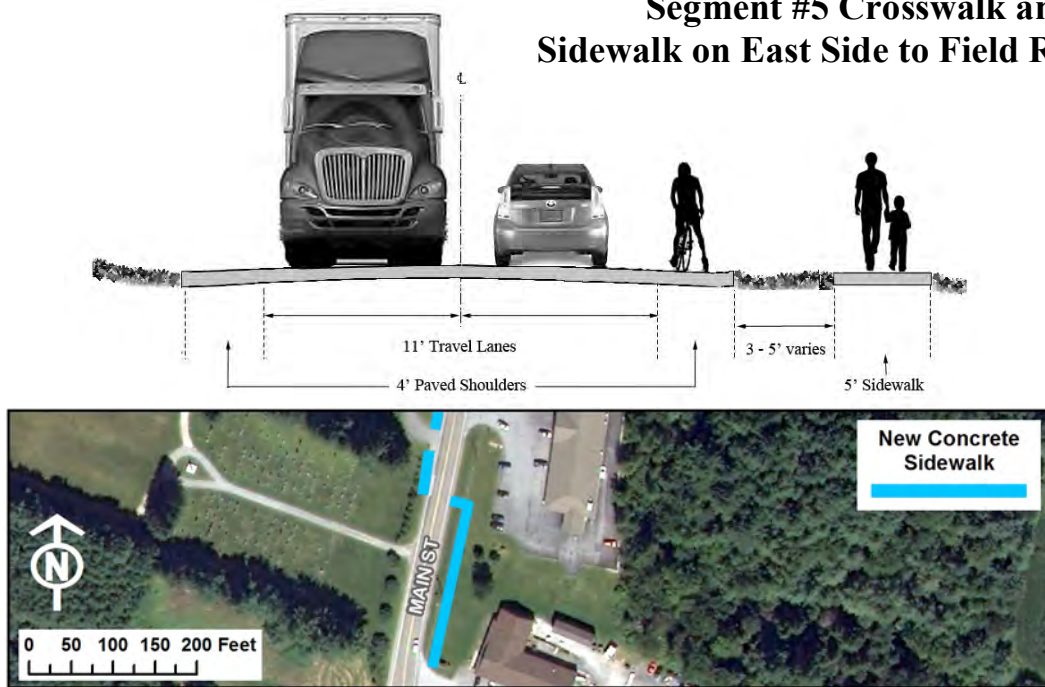
Segment #4A Sidewalk to Post Office w/ Curb



Segment #4B Sidewalk to Post Office Set Back w/ Retaining Wall



Segment #5 Crosswalk and Sidewalk on East Side to Field Rd



Future Considerations:

Additional improvements to the south end of the project area were also considered during the study. These are conceptual ideas that were outside the scope of the project and require further study and estimating. *Shared-use Path to Recreation Field:* A new 8-foot wide shared-use path with aggregate surface connecting to Segment 5 on one end, looping around the recreation field and connecting to the road shoulder or a future sidewalk along Route 104 further southeast. *Sidewalk along Route 104 to East Road:* A new 5-foot concrete sidewalk and 5-6' green space along Route 104 from Field Road to East Road.



RIGHT-OF-WAY

As stated above, the right-of-way for Route 104 is established at 4 rods or 66 feet. Additionally, over time, as a result of reconstruction projects, the State has acquired additional land near the bridge and along the corridor where there are steep side slopes. The recommended alternatives are proposed to be within the existing state-owned right-of-way. However, it is likely that some easements will be necessary during construction. In the event that a final alignment is outside the existing right-of-way such as to provide better set back from the highway or new drainage facilities, permanent easements will be required. If the Town decides to use funding derived from federal sources, any rights that are needed will be subject to the federal Uniform Relocation Act and need to follow a strict process of procurement. Easements, either temporary or permanent, will require compensation to the private property owner unless the rights are donated. Early, respectful communication with possible affected property owners is advised to foster an open and positive relationship. However, any negotiations on the amount of compensation must wait until the total impacts are known and a fair value is approved. With federal programs, the value of any easements that are donated can be used toward the local share of funding.



West side of Route 104

Any additional rights-of-way that are required will need to be coordinated with VTrans Right-of-way Section in order to receive a formal Right-of-Way Clearance. This is a process that requires conformance with the above-mentioned federal Act and careful coordination with engineering plans, title information, easement documents, and discussions with property owners and attorneys. The Town will need to formally certify that the rights have been acquired and the easements recorded properly before the Clearance is issued and construction is allowed to begin. This process is not to be taken lightly even though the recommended alternative is proposed to be largely within the State's ROW. There will be opportunities to make the project better by acquiring additional land as well as inevitabilities such as drainage, sloping and temporary construction activities that will require easements.

RESOURCE ISSUES AND UTILITY CONFLICTS

Natural and Cultural Resources:

The scoping study process conducted a desktop review of known natural and cultural resources that may be impacted by the project. The Base Map is not a complete depiction of actual environmental conditions, specifically wetlands, and only shows data from the *State of Vermont, Agency of Natural Resources (ANR), Natural Resources Atlas*. Further investigation by experts will be needed in preparation for necessary environmental permits during the design and development of the construction project. It may be necessary to consult with wetlands biologists, historical and archeological consultants and other specialists to provide accurate facts and insight into the project area with conclusions that support the permit. The study did not conduct these in-depth investigations. Public funding will require that the construction of a project and its use does not have any adverse impact on a broad range of resources including wetlands, floodplains and archeological resources and historic properties. Projects that are funded by the Federal Highway Administration (FHWA) require a permit that acknowledges that the project meets the National Environmental Protection Act (NEPA). If the project area is within the existing right-of-way and on land previously disturbed by earlier development, the permitting process will be easier. Projects that impact natural or

cultural resources will require a more stringent review, and approvals will likely have conditions that may require costly measures to avoid and minimize impacts.

In the opinion of the project team, the recommended alternative is likely to be determined to be environmentally sound with minimal impacts to known or anticipated resources. If funded by FHWA, the projects will likely be permitted under a Programmatic Categorical Exclusion (PACE), which is a streamlined checklist of resources that will be assessed for impacts including:

- Air Quality
- Noise
- Water Quality (storm water)
- U.S. Army Corps of Engineers (wetlands)
- Threatened and Endangered Species and Habitat
- Agricultural Land
- Hazardous/ Residual Waste Liabilities
- Historical or Archaeological Resources (Section 106)
- Section 4(f) and 6(f) Resources (public recreation land, land purchase with Land and Water Conservations Funds (LWCF), and historic resources)
- Right of Way
- Public Participation Opportunity
- Social and Economic Concerns
- Aesthetic Concerns

Previous transportation projects that have affected the area can be reviewed and resource information will be compiled in preparation for the PACE documentation that may avoid the need for additional resource review.

Other permits that may be necessary with one or more sections of the recommended alternative:

- Act 250 Permit (possible)
- 404 Army Corps of Engineers (COE) Construction General Permit
- Vermont State Wetlands Conditional Use Determination Permit
- Vermont ANR, Stream Alteration Permit
- Vermont State Historic Preservation Officer (SHPO) approval (possible)

Utility Conflicts:

The Route 104 corridor also provides access for transmission lines and other utilities that are permitted within the State's right-of-way under a State issued Section 1111 permit. A future transportation project that the Town develops within the State's right-of-way will also require



Wetlands and steep downslopes along the east side of Route 104.



Commercial center on Route 104.

such a permit with conditions for its construction and maintenance. The project will also have to integrate well with other utilities in the corridor. Due to the competing space and other possible considerations, relocation or modification of existing utilities may be necessary. Coordination with VTTrans Utilities and Permits Section and the known utility owners will be necessary as the project moves forward into the design and engineering phase. Agreements will be necessary between the town and any of these known utility companies within the Route 104 corridor where modifications are needed:

- Green Mountain Power Corporation
- FairPoint Communications

VTTrans Review and Approvals:

As we have discussed, any improvements to the State's right-of-way will require important coordination with VTTrans on many levels. If federal transportation funding is used for developing parts or all of the recommended improvements, the Town will need to follow a strict development process with supervision by the Agency's Municipal Assistance Bureau (MAB). This is formerly known as the Local Transportation Facilities (LTF) section of the Agency. The bureau manages the Vermont Bicycle and Pedestrian Program, Transportation Alternatives Program and the Safe Routes to School Program. These grant programs are important sources of funding for project like this. Projects funded by these programs undergo a development process honed over many such projects to insure that successful outcomes. A flow chart and guidebook are published by VTTrans MAB that clearly outlines the steps necessary to complete three phases of the project: Phase A) Project Definition; Phase B) Project Design and ROW; Phase C) Construction. Throughout the three-phase MAB development process there are a series of reviews and approvals by the VTTrans Project Manager before the project can go forward and funding can be authorized for the next phase.

- Conceptual Plans and PACE review and approval (approval completes Phase A),
- Preliminary ROW Plans and draft right-of-way documents review and approval,
- Preliminary Engineering Plans review and approval,
- Final Engineering Plans, Specifications and Estimate (PS&E) review and approval,
- Section 1111 Permit,
- Right-of-way Clearance, (approval completes Phase B),
- Authorization to Bid,
- Approval of all construction change orders, and
- Approval of all invoices for accuracy and eligibility.

Plans reviews are done by a wide range of VTTrans specialists by an online shared-review process including:

- Program Development Bureau
 - Highway Safety Design
 - Structural Section
 - Right-of-way
 - Utilities and Permits
 - Environmental
- Maintenance Operations Bureau
 - District 8 - St Albans
- Municipal Assistance Bureau
 - Bicycle and Pedestrian Unit
- Policy and Planning Bureau
- Construction Management Bureau

Prior to authorizing construction, VTTrans will review the checklist of items to be sure that all permits and clearances are obtained. During construction VTTrans will review and approve any design changes, change orders or other significant project changes. Throughout the project, VTTrans will review and approve all procurement of services and as well as all invoices for reimbursement. Locally funded projects within the State's ROW will require similar review and approval by VTTrans. However, certain administrative tasks and federal requirements may not be necessary, simplifying the process. Typically, Towns hire a Local Project Manager to work on behalf of the Town and in collaboration with the VTTrans Project Manager and specialists throughout the development of a project to assure that all steps are taken properly and the project is completed timely and successfully.

PRELIMINARY COST ESTIMATES

Each segment of the recommended alternatives can be constructed separately or as one larger project comprising all or many of the distinct segments. Breaking down the entire project area into segments also allows for variety of funding sources, development processes, and timelines. The project budget below is a rough outline of anticipated cost for management, engineering, construction and inspection for each segment if completed separately. Segments bundled into larger projects will result in savings of time and money, and there will be less duration of construction interruption. A realistic project budget for a federally funded sidewalk project includes the specific line items as shown below. Construction cost estimate are derived from average costs for each type of facility based on compiled data furnished by the Vermont Bicycle and Pedestrian Program and Vermont State specifications for construction. Management, engineering and inspection costs are based on our experience and guidance from VTTrans, MAB resources. We anticipate the project cost of the recommended alternatives to be:

Segment 1: Village Sidewalk Upgrade

Local Project Management	\$15,000
Engineering, design and permitting	\$25,000
Construction Inspection	\$12,000
Construction	\$123,000
Total Project Budget	\$175,000

Segment 2 - A: Pedestrian Sidewalk on Bridge 9

Local Project Management	\$15,000
Engineering, design and permitting	\$18,000
Construction Inspection	\$10,000
Construction	\$124,000
Total Project Budget	\$167,000

Segment 2 - B: Shoulder striping and railing on Bridge 9

Local Project Management	\$1,000
Engineering, design and permitting	VTTrans
Construction Inspection	VTTrans
Construction	\$3,000
Total Project Budget	\$4,000

Segment 3: Shared-Use Path

Local Project Management	\$12,000
Engineering, design and permitting	\$18,000
Construction Inspection	\$10,000
Construction	\$120,000
Total Project Budget	\$160,000

Segment 4 - A: Sidewalk to Post Office with Granite Curb

Local Project Management	\$18,000
Engineering, design and permitting	\$20,000
Construction Inspection	\$15,000
Construction	\$142,000
Total Project Budget	\$195,000

Segment 4 - B: Sidewalk to Post Office set off road with Retaining Wall

Local Project Management	\$18,000
Engineering, design and permitting	\$25,000
Construction Inspection	\$17,500
Construction	\$269,500
Total Project Budget	\$330,000

Segment 5: Crosswalk and Sidewalk to Field Road

Local Project Management	\$5,500
Engineering, design and permitting	\$8,000
Construction Inspection	\$5,500
Construction	\$26,000
Total Project Budget	\$45,000

These budget estimates are realistic figures to be used in requesting funding from a VTtrans grant program or other eligible funding source. The Vermont Bicycle and Pedestrian Program and the Vermont Transportation Alternatives Program are likely sources of funding for this project. Each annual program has separate application processes and are cycled at different times of the calendar year. Each program requires a local match of the federal and state funds – Bicycle and Pedestrian program - 10%, and Transportation Alternatives - 20%.

<i>Total all segments including 2A and 2B</i>	BP Program	Alternatives
Total Costs	Local Share	Local Share
<i>With Segment 4A</i>	\$74,600.00	\$149,200.00
<i>With Segment 4B</i>	\$88,100.00	\$176,200.00

The Agency of Commerce may also provide construction funding through community block grants. Connecting path sections may be eligible for funding by the Vermont Recreation Trails Grant Program managed by the Department of Forests, Parks and Recreation.

This report provides demonstrates the feasibility and support necessary to justify funding through any public or private source by covering a wide range of important topics that are considered for selection of worthy projects. These estimates are within reasonable range of many funding sources.

CONSTRUCTION AND MAINTENANCE

It is anticipated that local, state and federal funding will be used to construct the future sidewalk/path. The proposed improvements will be constructed in accordance with federal and state standards and practices, with the Town providing responsible local project management and construction inspection. It is anticipated that major segments of the project will follow the VTrans Municipal Assistance Bureau (MAB) development process with the guidance and oversight by a VTrans Project Manager. VTrans has published a guidebook – *Municipal Assistance Bureau Local Projects Guidebook* – (found at vtrans.vermont.gov) that details the three phases of development. Under this development process the project's consultants are hired through a qualified-based selection process. Construction contracts are awarded to the lowest responsive bid from a pre-qualified bidder. Bids are based on Vermont Standard Specifications for Construction and subject to all prevailing federal and state laws, standards and procurement policies. It is highly recommended that the Town hire a qualified Local Project Manager to represent the interests of the Town in overseeing the locally managed project for a timely and successful completion in compliance with the funding sources requirements.

VIABILITY AND CONCLUSION

During the scoping study process the project team held community meetings, investigated the project area, and consulted with specialists from the Vermont Agency of Transportation. The team developed a series of recommended pedestrian improvements, presented here, that are feasible to construct and will meet purpose and need – bridging the pedestrian-gap between the north and south villages of Fairfax. Phasing the discrete segments may be a realistic option for the Town. Constructing Segment 3 first (the share-use path along the flats) will provide a refuge from Route 104

traffic for pedestrians and cyclists to enjoy for a long stretch in the middle while continuing to share the road on the bridge and along Route 104 at each end. Having this useful segment in place will be a compelling demonstration to VTrans that the additional segments are needed and worthy of supporting on each end. Segment 4B with the retaining wall, though more expensive, is the preferred option due to further set back from the road, ease of maintenance and does not interfere with the State's drainage system. Each of the segments, in themselves and together as a whole, are reasonably cost effective, feasible to construct and not likely to have any adverse impact on important resources. Additionally, the project team recommends further study and consideration of traffic calming features that would reduce traffic speeds and improve the pedestrian friendly environment, such as gateway treatments, street trees, and pedestrian lighting fixtures within the streetscape.



Fairfax Village looking south on Route 104.