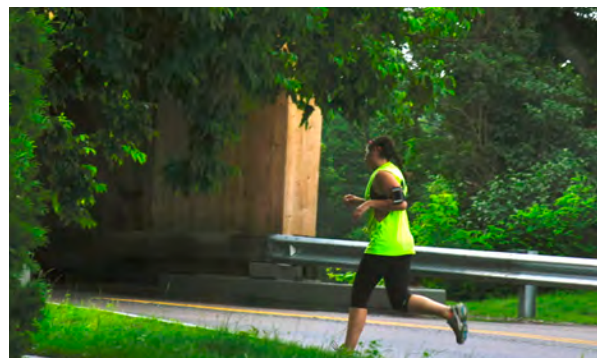


Pulp Mill Bridge Area Sidewalk Scoping Study

May 2014

*Prepared for the
Towns of Middlebury and Weybridge*



Contents

A.	Introduction and Summary	1
B.	Purpose and Need Statement	3
C.	Compatibility with Planning Efforts	5
D.	Project Area and Existing Conditions	9
E.	Public Involvement	11
F.	Alternatives Development	11
G.	Natural and Cultural Resources	18
H.	Utility Impacts	25
I.	Right-of-way	28
J.	Construction and Maintenance	29
K.	Other Important Considerations	30
L.	Preliminary Cost Estimates	31
M.	Project Timeline	32
N.	Viability/Conclusion	33

A. Introduction and Summary

In 2010, the Town of Middlebury received a grant from the Federal Highway Administration (FHWA) through the Vermont Agency of Transportation (VTrans) to further investigate the feasibility of constructing a sidewalk system in the Pulp Mill Bridge Area and produce this report. The Town of Middlebury engaged the Addison County Regional Planning Commission and the Town of Weybridge to create a planning team that would encompass the study area in both towns. The *Pulp Mill Bridge Area Sidewalk Scoping Study Report – January 2014* finds that constructing a sidewalk and pedestrian facility in Middlebury and Weybridge is feasible and justified by the existing pedestrian use in the area and the existing unsafe conditions.



Pulp Mill Bridge - Weybridge

The project team of consultants and members from each town worked together to update previous studies and planning efforts by conducting a robust public outreach process and doing further engineering and resource investigations. Through this process the Towns' committee arrived at a recommended – **preferred alternative alignment for a sidewalk system on the southwesterly side of Seymour Street and the east side of Pulp Mill Bridge Road** as shown in figure #1 on page 2. Additionally the report recommends a crosswalk on Weybridge Street, and further consideration of intersection modifications to improve pedestrian safety, and aesthetic enhancements. Though the parameter for this study was to focus on the feasibility of a pedestrian sidewalk system, considerations for bicycle accommodation and other important local concerns are expressed throughout and in section **K. Other Important Considerations** on page 30.

The study followed the VTrans LTF scoping study process for sidewalk and shared-use paths and completed several steps of Phase A. (Project Definition) of the LTF development process including:

- conducting two public meetings,
- completing Resource Identification,
- developing a Purpose and Need Statement,
- conducting alternatives investigations,
- arriving at consensus for a preferred alternative,
- developing a rough conceptual sketch for recommended sidewalk layouts at various locations to resolve specific property issues, and
- developing conceptual ideas for intersection improvements on each side of the Pulp Mill Bridge.

The Towns achieved the primary goal of the study – to develop a sound preferred alternative that meets the purpose and need and can be developed with construction funding, if successfully awarded, from the Vermont Bicycle and Pedestrian Program, Vermont Transportation Alternatives Program or other available state or federal funding source. This report 1) demonstrates the preferred alternative is feasible and 2) provides the basis of support for funds the towns hope to be awarded through a future grant. If awarded funds, the next steps will be environmental permitting, final design and developing construction plans based upon the findings of this report.

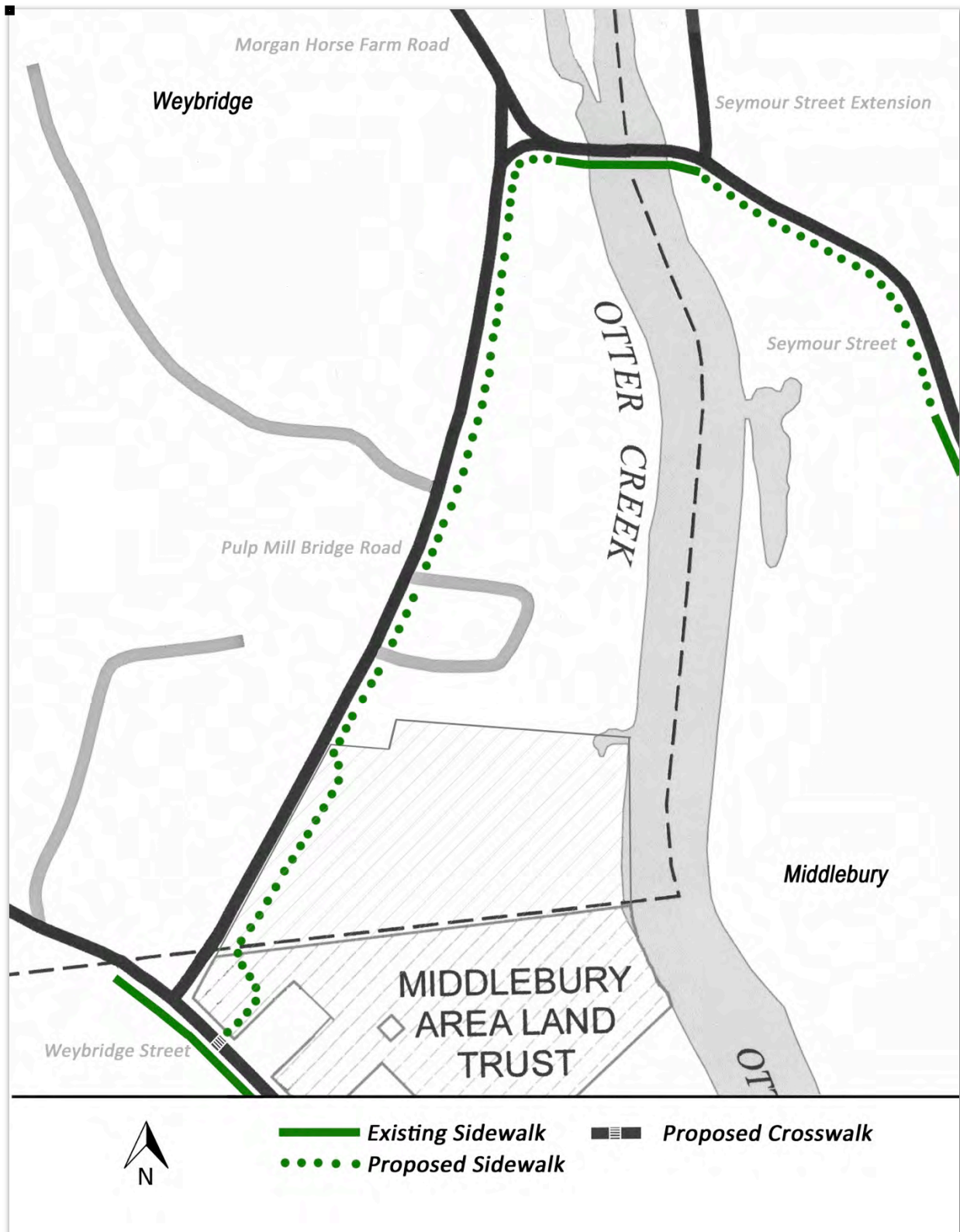


Figure #1
Preferred Alternative Alignment

Conclusion

There is a high level of pedestrian activity within the project area along Pulp Mill Bridge Road and Seymour Street. This report is part of a long-term effort by both towns to address the problem of pedestrian safety along these roads. It not only demonstrates the feasibility of constructing a facility but also clearly reaffirms the need for it and the desire of the two towns to work together on addressing the problem by jointly going forward with a construction project. Through an open public process, the project team has garnered the support of the affected property owners and established consensus among many stakeholders on a sound alternative that can and should be designed and constructed. The two-town advisory committee recommends that the Towns go forward with a joint project to design and construct the preferred alternative.

Project History/Previous Studies

It has long been desired by the communities to provide important connections between the two towns along Seymour Street in Middlebury and Pulp Mill Bridge Road in Weybridge. In 2012, under the guidance of the Addison County Regional Planning Commission (ACRPC), the two towns began working in collaboration to move the initiative forward. They hired a project team of representatives from Community Development Services, Waitsfield and Phelps Engineering, Middlebury, who worked closely on the study with a steering committee represented by both towns.

The need for the project had previously been identified in earlier studies. Findings in these previous reports and engineering investigations done for previous projects in the area are the prime underpinnings of this updated feasibility study. These studies are cited throughout this report:

- 1995 – *Town of Middlebury Bicycle and Pedestrian Path* – Lamoureux, Stone and O’Leary
- 1996 – *Archeological Resource Assessment* – Geoarch
- 1997 – *Engineering plans for a sidewalk/path* – Civil Engineering Associates
- 2004 – *Weybridge Bicycle and Pedestrian Planning and Feasibility Study* – LandWorks
 - *Historic Assessment* – Pritchett
 - *Archeological Resource Assessment* - UVM Consulting Archeology Program
 - *Origins and Destinations Study* – RSG

B. 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 that each major decision going forward is measured against.



Runner crossing in front of the bridge

The purpose of the current study is to determine the feasibility of constructing a contiguous sidewalk and other improvements at key intersections that will provide safe pedestrian access along Pulp Mill Bridge Road from the intersection of Weybridge Street northerly to the Pulp Mill pedestrian bridge, and a section of sidewalk along Seymour Street from the pedestrian bridge connecting to the existing sidewalk.

The purpose of the desired improvements is to improve the safety of the increasing number of residents from both Towns who use the area roadways for daily fitness walking, commuting and other pedestrian activities. The purpose is to create an environment of increased comfort for all transportation users in the project area including bicyclists and motorists.

The Towns of Middlebury and Weybridge have endeavored to improve pedestrian safety in the Pulp Mill Bridge area for several years including previous studies that were conducted in the project area in 1995 and 2004. The previous studies identified the Pulp Mill Bridge area as a highly active corridor for walking, running and bicycling transportation. These studies and the current investigations have acknowledged the generally unsafe condition that exists due to the lack of a coherent, separate pedestrian system particularly along Pulp Mill Bridge Road in Weybridge and the missing section of sidewalk along Seymour Street in Middlebury.

- 1995 - *Town of Middlebury Bicycle and Pedestrian Path Conceptual Alignment Analysis*, on the feasibility of a path on Seymour Street: "The Town Comprehensive Plan, adopted in 1994, includes numerous references to improving alternate means of transportation within the Town, with specific references to improved bicycle and pedestrian paths."
- 2004 - *Weybridge Bicycle and Pedestrian Planning and Feasibility Study* goal: "...creating an environment that is more accessible for pedestrians, particularly in the Pulp Mill Bridge area."

The need is for a sidewalk separated from the road, crosswalks and other improvements at key intersections that meets project goals and does not adversely impact other important values.

The goal is to develop a sidewalk/pedestrian system that:

- is designed to meet state and federal standards,
- does not adversely affect the natural and cultural resources in the area,
- provides connectivity to the existing system and important destination points,
- is in keeping with the rural and historic character of the area,
- does not cause increased negative impact from storm water runoff,
- does not unreasonably interfere with other existing or planned public utilities,
- encourages slower traffic speeds,
- does not cause adverse light pollution,
- does not negatively impact private property,
- provides long-term durability,
- is not difficult to maintain, and
- is constructible within a reasonable budget.

The project area is a busy travel corridor for motorists and is experiencing increased walking, running and bicycling activity. The lack of coherent facilities for these vulnerable roadway uses causes a generally unsafe condition. Development of such a facility will greatly improve the safety of the roadway for all of the current users. It will also encourage others to engage in the healthful activities of active transportation that are otherwise discouraged by the current unsafe condition.



Sidewalk terminates in Weybridge

C. Compatibility with Planning Efforts

In addition to the previous planning efforts in the late 1990s and 2004 that were specific to addressing the purpose and need, this study concludes that the recommended alternative is consistent with local and regional plans. Below are excerpts that demonstrate the compatibility of the project with local and regional plans.

2012 Middlebury Town Plan:

Excerpts:

Health and Wellness:

- Help Middlebury residents maintain and improve their physical and mental health.
- Supporting pedestrian and bicycling improvements.
- Promoting mixed uses and walkable neighborhoods.
- Maintaining and developing more recreational trails.

Transportation:

- Residents of Middlebury and the surrounding area perceive transportation as one of the town qualities most in need of improvement, although we do appreciate some aspects of it, including the walkable downtown and other amenities such as the Trail Around Middlebury (TAM). The TAM is a 16-mile trail routed through public and private land and maintained by the Middlebury Area Land Trust (MALT).
- as development progresses (as on Court Street), the need to go out onto the main roads for every trip leads to congestion, inconvenience and safety hazards. To prevent such problems in the future, it is important that we encourage local street connectivity between new neighborhoods and between new commercial developments – for cars as well as cyclists and pedestrians. Making connections within and between well-established residential neighborhoods would be more difficult, but in many cases walking and biking paths could serve the purpose.
- Middlebury is among cities and towns nationwide that are making changes to create a more walkable, bikable, and accessible transportation system, including public transit. Middlebury's aging population will seek more walkable, accessible neighborhoods, and our increasing numbers of older seniors will seek more mobility supports such as senior shuttles and short-term parking and loading zones near major destinations. Many workers may stop commuting as technological trends allow them to work at home.
- Our town is fortunate to have many pedestrian routes that form connections more convenient than those available to cars. These include, for example, the footbridge between Mill Street and the Marble Works, the Boathouse Bridge on the TAM south of the high school, and the path from Buttolph Acres to Mary Hogan School. The pedestrian network also has many



Pulp Mill Pedestrian Bridge

areas that need work, including new sidewalks and connections between streets.

- The seemingly transient and fleeting interactions that happen on the street or on the bus are actually an essential element of a healthy town because they lead to networking and community involvement. Nothing indicates a sociable town better than neighbors chatting on the sidewalk, and for this to happen there must be both sidewalks and people walking on them. Most people choose to walk when it is a convenient way to get somewhere. Destinations like a library, bank or post office attract people who are then more likely to patronize the nearby shops and restaurants. Downtown Middlebury has these destinations still in place. In addition, the narrowness of Main Street, slow traffic speed and many crosswalks make it pedestrian friendly despite occasional heavy traffic and large trucks. Street furnishings such as trees, flowers, benches, bike racks, and outdoor tables further enhance this area. Temporary street closures for festivals have also helped make the downtown a center of activity. Bus riders also develop an “on-board” community, with members from all walks of life interacting and socializing, whether on their daily commute or traveling to stores or other places.
- Places are needed for people to walk, recreate, and meet casually and in groups, and interact for personal, cultural, educational or business purposes. Whenever feasible, as part of each development or redevelopment/improvement project, green spaces and trails/paths, parks, plazas or civic land uses must be incorporated.
- Seymour Street is located in the Middlebury Growth Center Development of these areas must include connecting sidewalks and internal road links and utilities as part of the build out.
- On Seymour Street/Seymour Street Extension, north of Bourdeau Brothers, the vacant land zoned High Density Residential should be master planned for neighborhood development. Sidewalks are needed to fill the gap on Seymour Street and on Seymour Street Extension. The section between Otterside and the Pulp Mill Bridge is a priority.
- There should be bicycle paths and pedestrian walks from Seymour Street north to connect the residents of Seymour Street Extension with the village and to provide access to the Pulp Mill pedestrian bridge.
- Planned street improvements in the Seymour Street neighborhood must include street trees.



Seymour Street Sidewalk

2012 Weybridge Town Plan:

- Preserve Pulp Mill Bridge as an integral part of the automotive and pedestrian infrastructure.
- Support the development of bike and pedestrian paths on some of the Town’s highways, especially Pulp Mill Bridge Road and Morgan Horse Farm Road, to provide increased recreational opportunity and safety and energy-conserving alternatives to the automobile for personal transportation.
- Investigate the feasibility of a community trail and bicycle path system, coordinated, as appropriate, with the Middlebury Area Land Trust’s work with the “Trail Around Middlebury” and the North Country National Scenic Trail system.
- Work with the Middlebury Area Land Trust to support the Trail Around Middlebury.

- Participate with adjoining towns in planning for improvements of roads and bridges connecting Weybridge with its neighbors.

Addison County Regional Plan:

Excerpts:

- Address growing energy concerns by using the most efficient transportation means feasible.
- Avoid negative impacts to the environment and minimize greenhouse gas emissions.
- Support development of infrastructure that will promote and enable the use of alternative fuels and/or transportation systems.
- Provide adequate connections to neighboring regions in support of commerce and commutes to work.
- Encouraging transportation alternatives like rail and bus transit, bicycling, and walking addresses growing energy concerns, minimizes negative impacts on the environment, and promotes economic and environmental sustainability.
- Encourage alternative modes such as public transportation, walking, and bicycling.
- Promote shared rights of way among vehicles, bicycles, and pedestrians.
- Ensure that highway and bridge projects are designed with consideration to the needs of bicyclists and pedestrians, using the guidelines provided in the VTrans Pedestrian and Bicycle Facility Planning and Design Manual (2002).
- Implement traffic calming measures to improve safety and preserve quality of life.
- Separate the most vulnerable travelers such as cyclists and pedestrians from truck traffic by providing sidewalks, well marked cross walks, and appropriate bicycle facilities in village centers and downtowns along truck routes.
- Support connectivity between transit and bicycling and walking.
- Bicycle and pedestrian projects encourage the use of these modes not just for recreation, but also for utilitarian trips such as commuting to work. These projects can attract economic opportunity by making Addison County a destination for tourists and bicycle enthusiasts. In addition, they sustain the goals of encouraging energy-efficient and environmentally-benign modes, as well as providing a safe and sustainable transportation system.
- Develop connections between towns; pursue compliance with ADA standards; construct projects based on conceptual alignment alternatives.
- Middlebury - Complete local bicycle and pedestrian system plan.
- In a transportation network, the role of walking cannot be overstated. Every trip begins and ends with walking. Transit trips often involve a higher degree of walking, and potential deficiencies exist at transit stops where adequate pedestrian facilities are lacking. Therefore, if deficiencies in the pedestrian network exist, it could potentially affect transit ridership. Walking can be both recreational and utilitarian, and has significant health, economic, environmental, and social benefits. To support this mode (and those closely associated with it, like transit), specific facilities dedicated to pedestrians are necessary. Improving walkability positively impacts health, transportation system performance and maintenance, fuel consumption and the



New pedestrian shoulders on Route 30

environment. Particularly in high density areas with walkable distances between origins and destinations, identifying opportunities for pedestrian investments will result in a more effective transportation system. Such opportunities are noted in detail in the 2002 Addison County Regional Bicycle and Pedestrian Plan, and often entail simple improvements such as crosswalks and traffic calming. The Vermont Bicycle and Pedestrian Plan suggests that walking should not only be recognized as a valuable transportation mode, but also encouraged as such.



Bicycle friendly Champlain Bridge

- While pedestrian access is critical throughout Addison County, it is especially important in the dense village centers such as Middlebury, Vergennes and Bristol. It is important that the pedestrian network be maintained in these areas and throughout Addison County because a network in poor condition will discourage people from walking and provide them with an incentive to drive. Improving the safety of the system will encourage the use of alternative modes for both recreation and utilitarian purposes (like commuting).
- Moreover, supporting land use patterns that efficiently support the use of alternatives like transit, walking, and bicycling will promote the use of these modes.

2002 Addison County Regional Bicycle and Pedestrian Plan

Excerpts:

- Walking increases socialization and is associated with improving the quality of Life.
- Walking benefits the environment by reducing pollution from automobile use.
- Walking facilities provide equal mobility opportunities for all members of Society.
- Safe walking facilities enhance access to public transit.
- Walking can reduce traffic congestion and the need for parking facilities.
- Regular walking can result in personal economic savings.
- Most if not all of the above benefits, as well as health benefits cited previously, apply to walking and bicycling in Addison County. However, the degree to which these benefits are recognized will depend on the degree to which communities are successful in creating bicycling and walking-"friendly" environments, or what some people refer to as the walking and bicycling habitat.
- Morgan Horse Farm Road is considered unsafe, as is Pulp Mill Bridge Road.
- Encourage greater attention to sidewalk needs by communities developing local plans or capital programs for transportation.
- Encourage development of "continuous and completed" sidewalk systems.
- Establish Minimum acceptable sidewalk width at 5 feet, 7 feet in areas adjacent to on-street parking.
- Fill in missing gaps and improve severely deteriorated segments.
- Establish accessible routes of travel.
- Separate sidewalks from travel lanes through the use of curbing or green strips.
- Weybridge, adjacent to Middlebury, receives regular biking, jogging and walking traffic from residents and students alike. Some bicycle commuting is occurring along roads like Pulp Mill Bridge Road.

D. Project Area and Existing Conditions

A sidewalk ends illogically along Seymour Street in Middlebury. In Weybridge, another section of sidewalk along the same route also ends illogically. The purpose of this study is to determine the feasibility of linking the current sidewalk terminus at Seymour Street to the pedestrian facility near the Pulp Mill Bridge and a sidewalk, or other appropriate pedestrian facility, along Pulp Mill Bridge Road extending to Weybridge Street in Middlebury. This represents two distinct sections – 1) Seymour Street to the Pulp Mill Bridge and 2) Pulp Mill Bridge to Weybridge Street.

Each section has its own unique character, challenges and opportunities. While potential phasing to include project development and construction of each section separately is an option that can be considered, this study recommends that the project be completed as a whole to provide the connectivity desired.

Middlebury

Seymour Street connects the busy, more urban and commercial part of Middlebury to the rural surrounding character of Weybridge. It is located within the High Density Residential Zoning District. It is designated as a Major Collector serving traffic to and from Weybridge. Formerly the Waltham Turnpike to Montreal, it has a layout of 6 rods (99'). This provides room for the existing sidewalk to be set back away from the road. Seymour Street crosses the Otter Creek through the restored Pulp Mill Covered Bridge where it terminates in Weybridge. Along Seymour Street there are several single-family homes and the residential units in Otterside Court on the south side and commercial/industrial business on the north side. A sidewalk extends from downtown adjacent to Seymour Street on the creek side to a point of termination at a residential driveway before reaching the bridge. Pedestrians who continue toward Weybridge, walking legally against traffic, traverse a grass strip on the shoulder of Seymour Street. At this location, the road descends a steep slope and bends to the left. Water sheet flows off the road and along the shoulder down this slope causing erosion resulting in a rough irregular scoured out shoulder. This coupled with vegetation closely guarding the road, the vertical crest and curve results in an unsafe environment for even the most adventurous pedestrian. Walkers (legally walking against traffic) heading into Middlebury must cross the road to get to the existing sidewalk.



Sidewalk terminus on Seymour Street

Continuing toward the bridge the land drops away from the road at a very steep slope and a residential driveway poses a potential engineering conflict with a proposed sidewalk. The houses near the bridge are not set back far from the road. On the north side of Seymour Street, one can easily observe a large culvert that allows a small stream to pass under the street toward the Otter Creek. This area represents a very narrow “choke point” for all of the competing needs. Known stormwater drainage problems exist on Seymour Street near the bridge.



Seymour Street Extension and
Seymour Street intersection

The intersection of Seymour Street and Seymour Street Extension is a location that has been included in the study to

create a coherent pedestrian facility. The study explores a crosswalk, sidewalk extension, signage and other ideas to improve safety and aesthetics and to provide important connectivity to Seymour Street Extension including several residential units, Wright Park and the TAM trail network. From the pedestrian perspective, the bridge intersection location is busy with signs, utility poles and a W-beam guardrail that seriously detracts from experience and distracts and obscures the user's sight distances. The study finds particular concern for unsafe crossings that occur near the bridge for pedestrians and bicyclists who must cross to use the pedestrian bridge. The study recommends some minor infrastructure changes to make this a safer area for pedestrians and improve aesthetics.

Weybridge

Once in Weybridge, the road becomes more rural, residential. The intersection of Pulp Mill Bridge Road and Morgan Horse Farm Road is the most historically significant area along the project. The road triangle and the period homes juxtaposed to the Pulp Mill Bridge evoke a calming feel of easier, slower times. The Pulp Mill Bridge attracts many visitors who perambulate around the area to view and photograph the bridge. Parking is informal, generally along the shoulder of Pulp Mill Bridge Road or at the gravel pullout on Morgan Horse Farm Road. The island is well landscaped and maintained with low profile plantings. Three stopping conditions exist at the intersection, one at the end of Pulp Mill Bridge Road and two at the end of Morgan Horse Farm Road. The committee reviewed possible pedestrian improvements to this intersection. The historical context is an important value and an asset that must be respected.



Signs detract from the historic setting in Weybridge

From the triangle intersection the proposed project will follow the Pulp Mill Bridge Road corridor southward, crossing back into Middlebury at the intersection of Weybridge Street. Pulp Mill Bridge Road has a rural residential character with single-family homes, some historic, lining the road on both sides. A side road, Otter Creek Lane, loops back on the east side with several homes. The road has 11-foot travel lanes and roughly 1-foot gravel shoulders. Utility poles line the west side of the road at the intersection then cross four times on the way south to Otter Creek Lane and then stay fixedly along the shoulder of the west side to Weybridge Street. The road houses existing water and wastewater infrastructure along its flanks. A community posting board is located on the east side of the road.

At the northeast corner of the intersection of Weybridge Street and Pulp Mill Bridge Road, there is a community park that is managed by the Middlebury Area Land Trust (MALT). This represents a great opportunity to provide linkage to an important natural area destination for sidewalk users. The recommended alternative has the sidewalk separated far off the road along this stretch on publicly conserved land. The intersection where Pulp Mill Bridge Road tees into Weybridge Street is another area that has been carefully considered for safe road crossing to access the existing sidewalk on the opposite side of Weybridge Street. A curve just westerly and higher traffic speeds on Weybridge Street of traffic coming into town poses a safety concern for a road crossing due to limited sight distance. The recommended alternative proposes a



MALT Otterside Park gravel path

mid-block crossing easterly of the intersection connecting to the MALT property east of the parking access point to provide a safer crossing with improved sight distance.

The park also is a stop on the ACTR route. The addition of the sidewalk and crosswalk would improve a multi-modal connection for pedestrians who use the transit services.

E. Public Involvement

Previous studies in the 1990s had limited public involvement. In 2004, the *Town of Weybridge Bicycle & Pedestrian Planning and Feasibility Study* conducted several public meetings and compiled many comments and concerns, but demonstrating support for improvements. The current study followed the VTrans, LTF guidance for public involvement as part of Phase A. Project Definition. An advisory committee of representatives from each town was formed and participated in the study by guiding the project team and providing important resource information. This committee held three planning meetings at the Addison County Regional Planning Commission throughout the process. Additionally, the committee and the project team advertised and notified affected property owners by letter and held two public meetings:

- **Local Concerns Meeting – October 8, 2013**
- **Alternatives Presentation – December 3, 2013**

In addition to the advertisement and letters, the consultants gave a press release to local newspapers and online community news sources. Both meetings were held at 5:30 pm in the Middlebury Town offices. At each meeting, there was good participation and several important comments and concerns were addressed. The agendas, attendance lists, and detailed notes of these comments are attached in the appendices. The Alternatives Presentation was also broadcast on Middlebury Public Television and is available for download.

The Town of Middlebury established a web link from the Town's web site to a shared folder of pertinent project maps and documents that everyone could access. The project team utilized shared online folders to communicate with the committee to review draft material.



The challenging slope and driveway on Seymour Street

At the request of some of the property owners, members of the project team met separately with them to discuss specific concerns and design details related to the property. Since there was concern for historic trees, the project team hired an arborist to meet with those property owners who had concerns for impacts to the trees. The arborist's report of recommendations and notes from these property owner visits are attached in the appendix.

F. Alternatives Development

The project area has two logical distinct sections where sidewalks could be developed in phases independently by each town respectively - Section #1 in Middlebury (figure #2) and Section #2 in Weybridge. Options for improvements to intersections and other pedestrian improvements are

presented as either standalone projects or in conjunction with each respective sidewalk project. These are shown in the figures below. Knowing that both towns have a mutual interest in each section, these should be combined, in total or in part, into a preferred alternative and pursued as a joint project. If the sidewalk were to be developed along Pulp Mill Bridge Road in Weybridge, there would be a compelling need to also add the crosswalk across Weybridge Road in Middlebury, requiring collaboration between the towns. A joint application for funding of a comprehensive system of improvements would also resonate well with the funding source.

Section #1 - Within the Town of Middlebury

Sidewalk Alternative A. South Side of Seymour Street

In 1995, the Town conducted a feasibility study for a pedestrian path along Seymour Street – *Conceptual Alignment Analysis for the Town of Middlebury Transportation Path*. This study recommended a shared-use path along southwesterly side of Seymour Street and a new pedestrian bridge alongside the Pulp Mill Covered Bridge. In 1997, plans for the new bridge went forward and conceptual plans for sidewalk connections on the southwesterly side of Seymour Street and in Weybridge a short section on Pulp Mill Bridge Road were developed. The southwesterly side of Seymour Street was chosen due to existing settlement and pedestrian traffic patterns, the layout of the road and the generous right-of-way limits. These are the same logical reasons why the project team believes that there is no other practicable alternative alignment than for a sidewalk on the southwesterly side of Seymour Street.

Seymour Street and Seymour Street Extension Intersection Option

This option proposes alterations to the intersection of Seymour Street and Seymour Street Extension to improve access and provide additional safety for pedestrians going to and from Seymour Street Extension area. The concept includes a new crosswalk connecting to a short section of sidewalk along the east side of Seymour Street Extension, extending the guardrail adjacent to the bridge on the south side of Seymour Street to the crosswalk location and additional signs and pavement markings as necessary.

Weybridge Street Crosswalk Option

This option proposes a new mid-block pedestrian crosswalk on Weybridge Road in Middlebury and a short section sidewalk extending into the MALT property. The location of the crosswalk is proposed to be to the east of the MALT curb cut to improve the sight distance for pedestrians and the motorists traveling into town on Weybridge Road. This crossing alignment allows the sidewalk to traverse the parcel without crossing the MALT drives on Weybridge Road and Pulp Mill Bridge Road and provides better connectivity to the trails and amenities of the conserved land.

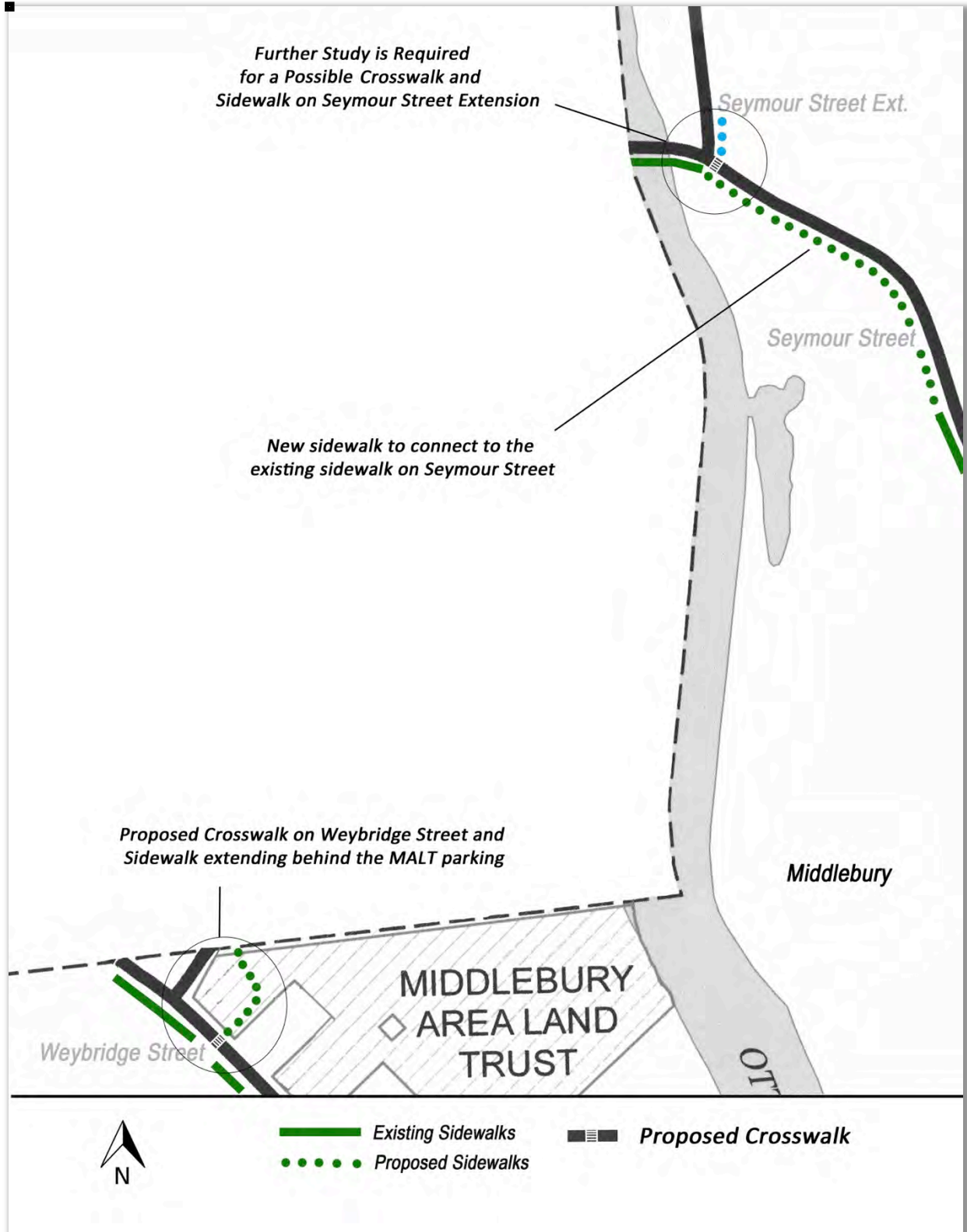


Figure #2
Section #1 – Within the Town of Middlebury

Section #2 - Within the Town of Weybridge

Sidewalk Alternative A. - East Side of Pulp Mill Bridge Road

Previous planning efforts have indicated the need for improved pedestrian facilities in the area of the Pulp Mill Bridge. The *2004 Weybridge Bicycle and Pedestrian Planning and Feasibility Study* determined the need for a sidewalk on Pulp Mill Bridge Road. It concluded that the proposed sidewalk should be located on the east side of the road. This was compelling momentum for the current study effort to focus on the east side as *Alternative A*.

“The Pulp Mill Bridge sidewalk is proposed along the east side of the road, beginning at the Weybridge Road intersection and connecting to the pedestrian bridge on Pulp Mill Bridge. From the intersection of Weybridge Road to the end of the Middlebury College/Middlebury Area Land Trust (MALT) property, there will be a 5-foot grass buffer between the road and the sidewalk. If MALT is awarded funding, it has offered to construct the sidewalk on its property in cooperation with the Town. If this were to happen, MALT would prefer that this portion of the sidewalk be located 10-15 feet from the roadway. Also indicated in the *Origins and Destinations Study* is the highest concentration of homes (Origin Cluster #7), located along Pulp Mill Bridge Road. These homes, in combination with several destinations in this area (i.e. proposed park, connection to the Trail Around Middlebury, Pulp Mill Covered Bridge and access to nearby Middlebury College and downtown Middlebury), warrant the construction of a sidewalk. Many people walk to and from these destinations daily and an unofficial worn path has materialized on the east side of the road from this use” - *2004 Weybridge Bicycle and Pedestrian Planning and Feasibility Study*

Sidewalk Alternative B. - West Side of Pulp Mill Bridge Road

A number of residences along Pulp Mill Bridge Road, particularly at the southern end, would be served directly with a sidewalk on the west side. This alternative proposes a sidewalk running along the west side of the road for its entire length and would require an additional crosswalk at the triangle intersection adjacent to the bridge and additional considerations for a crosswalk near the intersection of Weybridge Street.

Sidewalk Alternative C. - West Side to the East Side of Pulp Mill Bridge Road

In keeping with the logical approach of serving as many residences directly with a sidewalk, this alternative proposes a sidewalk along the west side of Pulp Mill Bridge Road, crossing over to the east side from Otter Creek Lane to the bridge. In addition to the mid-block crossing on Pulp Mill Bridge Road, this would also require additional crosswalk considerations near the intersection of Weybridge Street. Additional variations of east/west mid-block crossing configurations were considered as well, each requiring additional crosswalks to provide connectivity to the current system.

Triangle Intersection Option

The project team considered how to best integrate the proposed pedestrian system into the unique intersection adjacent to the Pulp Mill Bridge and provide connectivity to the pedestrian-active area along Morgan Horse Farm Road extending north from the intersection. The roadside pullout and public parking area to the north provide parking for the traveling public who wish to view the bridge. The triangle island provides refuge for pedestrians. At each point, traffic is stopped except traffic coming out of the bridge from the Middlebury side, either bearing right to go north on Morgan Horse Farm Road or left continuing south to Pulp Mill Bridge Road. The 2004 study proposed two new crosswalks at this intersection – one crossing from the east side of Pulp Mill Bridge Road to the south end of the island and the other at the north end of the island to the east side of Morgan Horse Farm Road. Due to the complexity of the intersection and criteria necessary to warrant these crosswalks, a comprehensive study by traffic engineers could benefit the Towns.

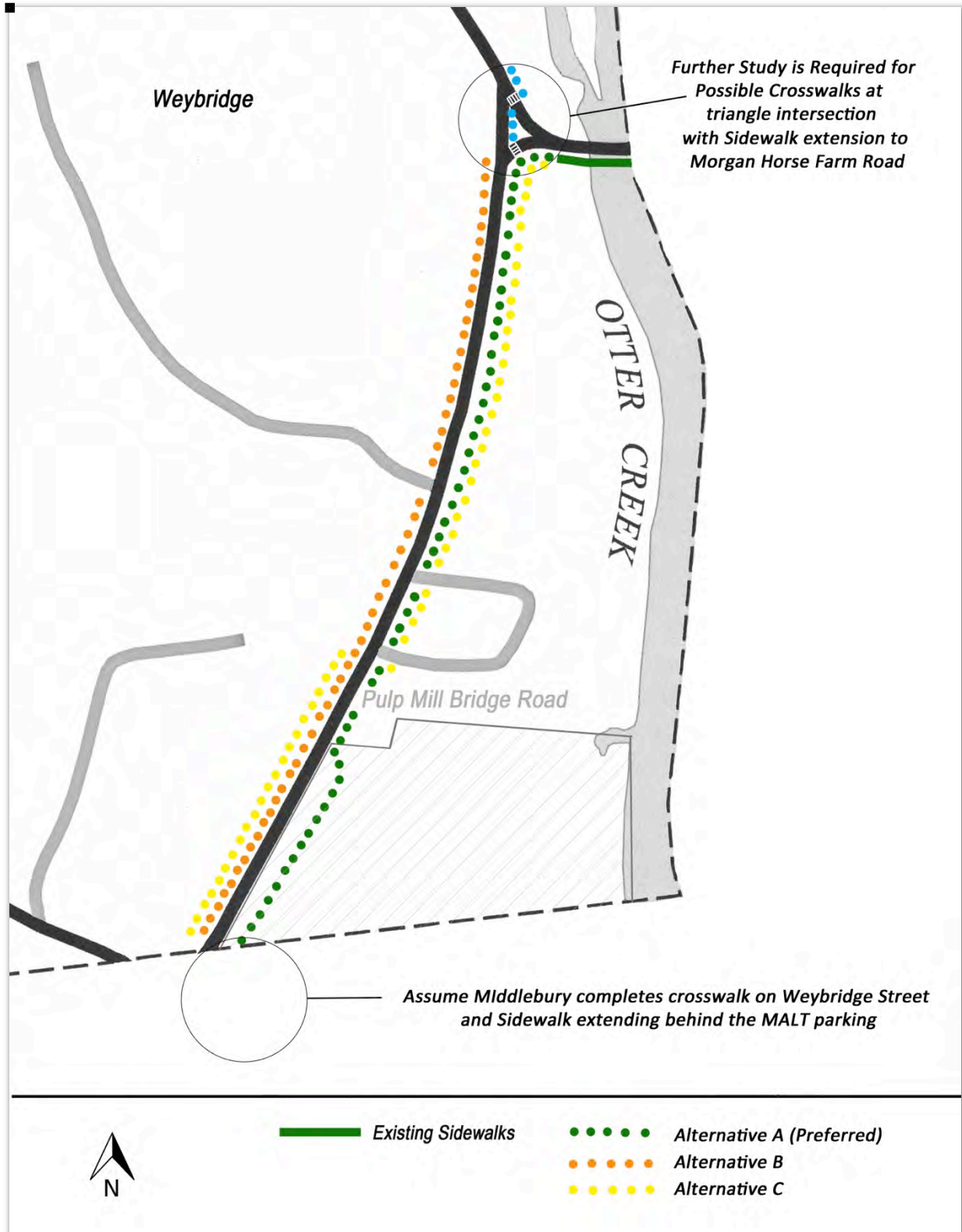


Figure #3
Weybridge Alternatives

Sidewalk Layouts

Vermont Pedestrian and Bicycle Design Standards require that a sidewalk have a safe horizontal or vertical separation from the travel portion of a road. A sidewalk must be set back horizontally from the edge of the pavement at least five feet or, if closer, use curbing to raise the sidewalk above the road to provide a vertical separation. A curbed sidewalk layout should maintain a minimum of three feet of paved shoulder in addition to the travel lane to provide safe accommodation for bicyclists and other vulnerable roadway users. Curbing will be required at proposed crosswalk locations. Using curbing may require additional drainage infrastructure and right-of-way acquisitions to deal with storm water run off responsibly. The existing 2'+or- gravel shoulder would remain the same where there is no curbing.

Ideally, the sidewalk should be set further back from the road without curbing. This layout is the safest condition for pedestrians, allows for adequate storm water runoff without additional drainage systems, will be less expensive to construct and is easier to maintain. It is not practical that the entire length of the proposed sidewalk can be set back from the road, however and some sections will require curbing and associated drainage facilities. Each section and alternative sidewalk alignment has differing topographical conditions that the sidewalk would need to fit into and will require a combination of these two basic layouts as shown in the typical cross sections in figures #4 and #5 below.

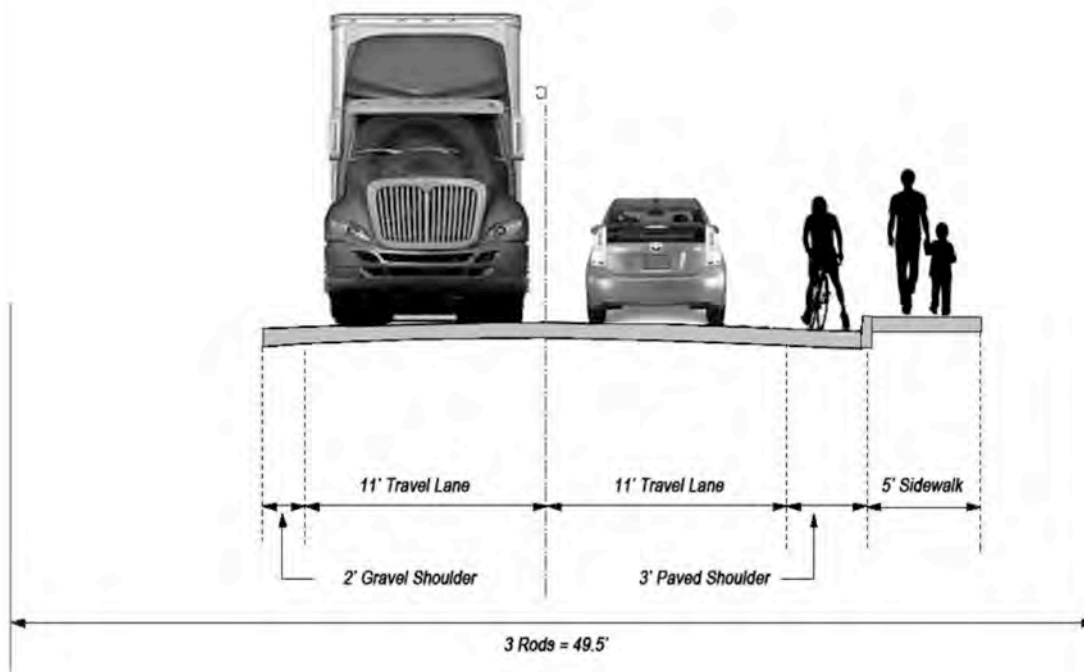


Figure #4
Curbed Typical Section

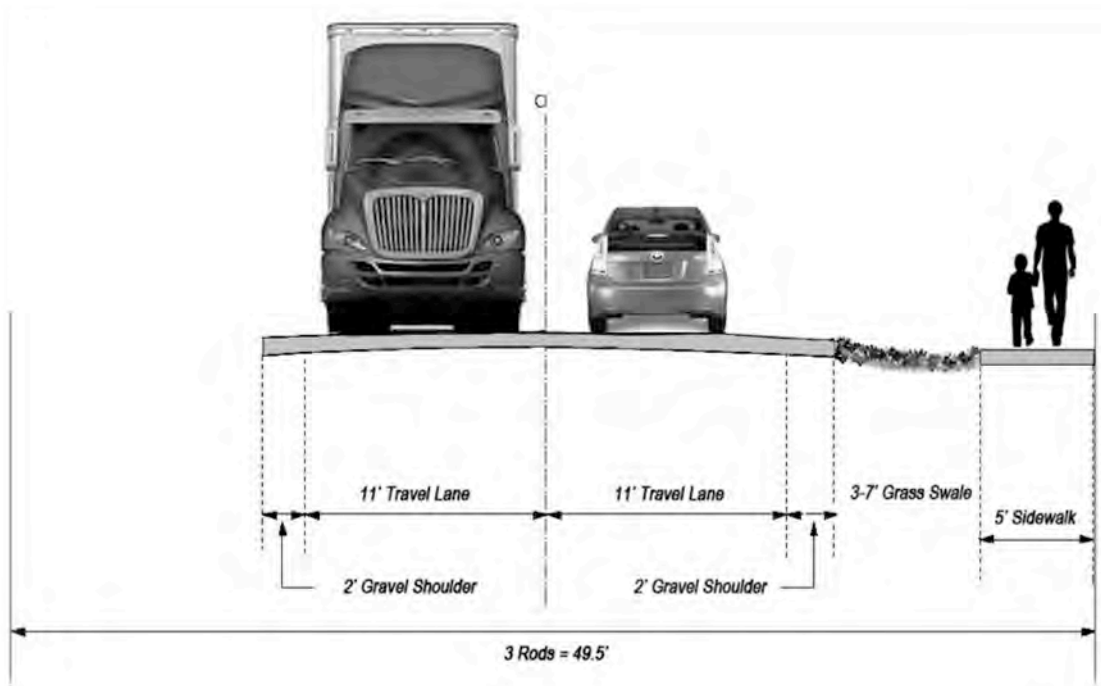


Figure #5
Uncurbed Typical Section

On Seymour Street

Seymour Street has a wide right-of-way that allows for the sidewalk to be setback from the road with a generous green space between the road and the sidewalk. The steep grade of Seymour Street as it descends toward the bridge creates a challenge to maintain compliance with Americans with Disabilities Act (ADA) required maximum grade of 8%, particularly where the ground slopes away from the road steeply as well. Near the bridge and the intersection with Seymour Street Extension, the proposed sidewalk and intersection improvements will include additional curbed sidewalk sections. Some areas may have curbing with green space then sidewalk consistent with the existing section near the bridge. The area around the intersection and bridge approach may also require alterations or upgrades to the existing storm drainage system to accommodate the sidewalk and solve the existing drainage issues. The sidewalk layout along Seymour Street and design details of the intersection and drainage improvements will be done during the next phase of the project. Additional design details will include pavement markings, signs, utility alternations and landscaping features as necessary along Seymour Street.

On Pulp Mill Bridge Road

The general topography along Pulp Mill Bridge Road is uphill on the west side and downhill on the east side. On the west side, drainage ditches run along the length of the road with culverts at most driveway locations. Utility poles and mailboxes are also located predominantly on the west side. These all compete for space in the right-of-way for a proposed sidewalk will be difficult without significant utility relocation on that side in Alternatives B and C. To recommend a particular sidewalk layout for the west side of Pulp Mill Bridge Road would require additional engineering investigations and communication with property owners.

On the east side, the ground slopes away from the road, steeply at some locations. There are several properties where there is room to set the proposed sidewalk back away from the road and a few locations where there are conflicts with trees and historical features that would require curbed sidewalk sections. The final sidewalk layout that will be determined in the design phase of the project along Pulp Mill Bridge Road will likely be a combination of curbed and uncurbed sections of sidewalk. Where uncurbed sections of the sidewalk are proposed, the sidewalk would be set back at least five feet from the edge of pavement. In these cases, additional right-of-way may need to be acquired, at least temporarily during construction.

Alternatives Analysis

The preferred alternative alignment of the sidewalk on Pulp Mill Bridge Road, with a sidewalk entirely on the east side of the road, was arrived at through a careful review of previous studies, an engaged public outreach and a careful review of natural and cultural resources. An *Alternatives Matrix* was presented that charted various relevant attributes associated with each sidewalk alignment and visually demonstrates the preferred alternative. See page 33.

G. Natural and Cultural Resources

All construction projects funded by Federal Highway Administration (FHWA) and the State of Vermont Agency of Transportation (VTrans), which this project will likely be, require careful review of a wide range of natural and cultural resources and identifying any potential impacts. The National Environmental Protection Act (NEPA) requires various levels of permitting processes for federally funded projects to ensure that construction projects avoid, minimize and/or mitigate adverse impacts these resources. Sidewalk projects are typically required to file a Programmatic Categorical Exclusion (PACE) letter that details the resources that have been identified with Conceptual Engineering Plans that define the limits of construction. Additionally there are other State and Federal Permits that are typically required. This scoping study is an update to the previous studies with current natural resource information and a compilation of the cultural resource information that have been previously presented the reports in 1996 and 2004 (appended).

Natural Resources:

For this scoping study, natural resources were reviewed using the *State of Vermont, Agency of Natural Resources, Natural Resources Atlas*. The project area was selected, and all available GIS data downloaded for that area (see figure #6). This data was reviewed for the project area to determine which categories applied. Categories without data in the project area showed up as blank in the GIS software during review indicating that they are not present. The following Natural Resources were reviewed:

- Brownfields
- Conserved Lands
- Deer Wintering Areas
- DFIRM Floodways
- Green Mountain National Forest Areas
- Ground Water Source Protection Areas
- Hazardous Waste Sites and Generator

- Indiana Bat Hibernacula
- Invasive Plant Atlas
- Rare Threatened and Endangered Species
- Prime Ag Soils
- Wetlands
- Surface Water Source Protection Areas
- Priority Rivers and Streams

Of these, the following resources were found to be present in the study area.

- Wetlands
- Prime Ag Soils
- Rare Threatened and Endangered Species
- Priority Rivers and Streams
- Conserved Land

These resources are depicted in the exhibit in Figure #6. Actual shapefile representations are found in the appendices. Each of these resources are proposed to be addressed in the following ways:

Wetlands

Based on the proximity of mapped wetlands, and visual observations during the scoping study, it is expected that the project, when designed, may impact some wetland buffer area. This is detailed further in the section outlining permits and environmental impacts.

Prime Ag Soils

It is expected that outside of some grading slopes, all of the work will take place within the existing road right-of-way. Traditionally this soil is viewed as already impacted by the existing town road and non-productive. Although classified as prime ag, the soil is not currently in production and could not be put into production in a profitable manner due to its proximity of small residential parcels and town roads. The impact of this soil will not impact future agricultural potential.

Rare Threatened and Endangered Species

Based on the mapping, it appears that all Rare, Threatened and Endangered species locations, currently mapped by the Agency of Natural Resources, will be well outside of the future project boundaries and will not be impacted.

Conserved Land

The conserved land in the project area is Otter View Park, currently conserved by the Middlebury Area Land Trust (MALT). MALT has expressed interest in participating in the project to connect their natural trail into the municipal network.

Priority Rivers and Streams

The Otter Creek is mapped as a Priority River. Due to the proposed scope of the project to connect their, and the fact that the limits of the project will be well outside of the existing pedestrian bridge, the project should not impact the river provided all stormwater requirements are met. This is discussed in more detail in the Permitting section.

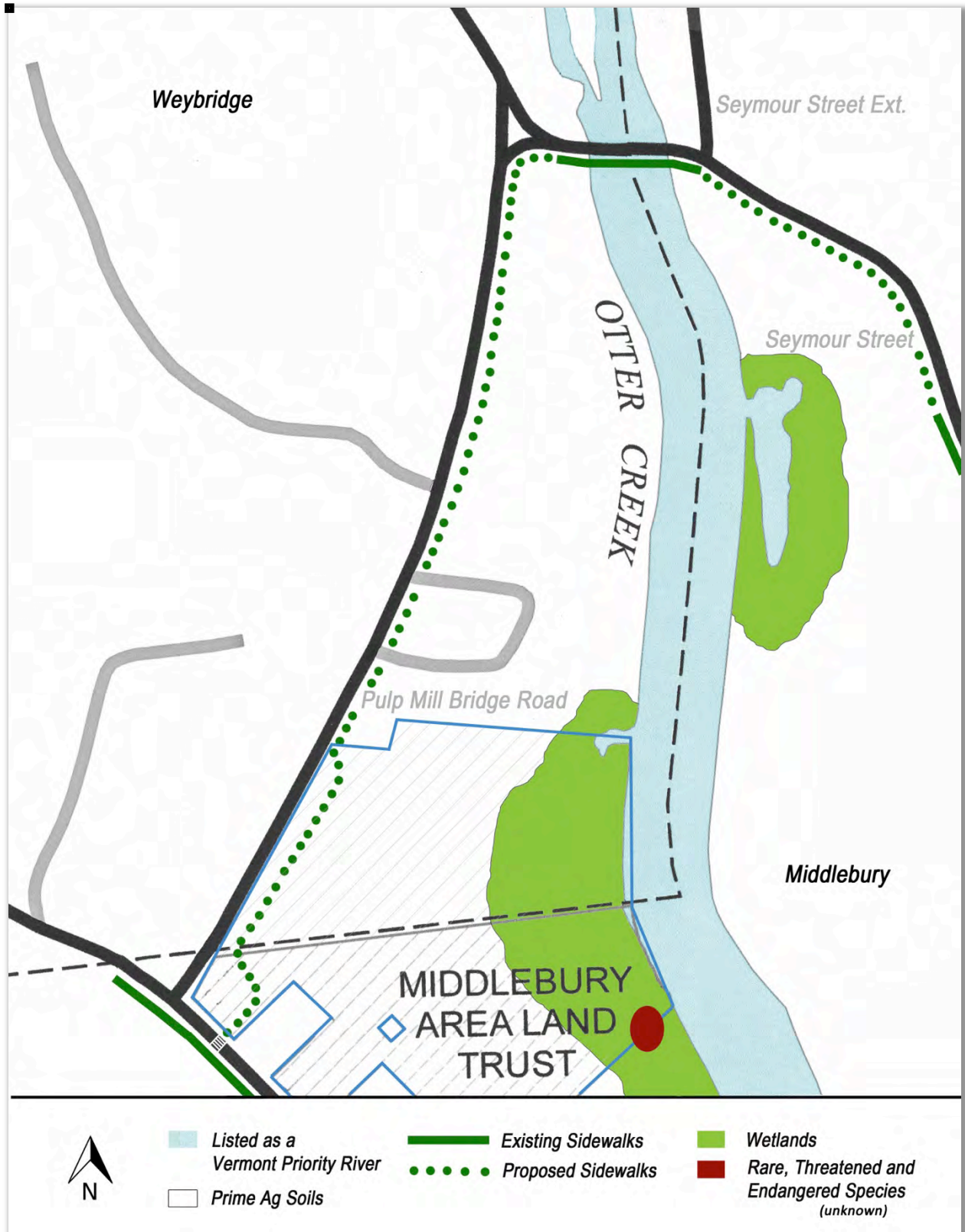
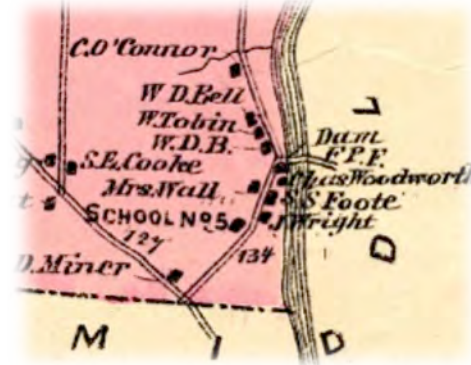


Figure #6
Natural Resource

Cultural Resources:

The study area bridges two distinct and culturally rich towns – Middlebury and Weybridge. These towns have a long-standing relationship of collaboration by co-stewarding the historically significant Pulp Mill Bridge spanning the Otter Creek that has one bank in each town. On either side, there are important historical and archeological resources that need to be protected and enhanced. The project team has compiled findings of previous studies, one in 1996 that included the Seymour Street and one in 2004 that included Pulp Mill Bridge Road. These studies identified the resources and made recommendations for further investigations and actions to mitigate impacts. The complete reports are located in the appendix. Here is a summary of there findings.



Weybridge - FW Beers

Archeological Resources

Early pre-contact occupation was likely to have occurred along the banks of the Otter Creek and its tributary that crosses under Seymour Street. Areas that have not already been pre-disturbed are potential locations of pre-contact artifacts. The areas identified by the previous studies have been compiled and presented on an updated map presented below. There are three areas of sensitivity, one along Seymour Street, one about midway on Pulp Mill Bridge Road and the entire MALT parcel. The studies recommended further subsurface investigations if these areas are to be excavated for construction. See figure #7.

Historic Resources

The 1799 layout of the Waltham Turnpike established the wide 99' right-of-way on Seymour Street. The road crosses the Otter Creek through the historically rare, two-lane Pulp Mill Covered Bridge ca. 1820. In Weybridge the streetscape is defined by it's historic character with older residential houses dispersed



Middlebury - FW Beers

around a triangle intersection. Both of the previous studies identified historically significant structures associated with 19th century mills at this location that will need to be protected. Additionally, the project team and advisory committee acknowledged that the recent reconstruction of the Pulp Mill Bridge did not fully respect the historical context as to guardrail selection, interior lighting design, and utility pole locations. Along Pulp Mill Bridge Road there are historic houses set close to the road with mature trees. The proposed sidewalk layout and recommended alignment avoids impacts to these resources. In general, the Pulp Mill Bridge Area has historically been a busy pedestrian area where walking was safely accommodated by sharing the road. Today's auto-dominated roads have changed that historical quality. The addition of a coherent pedestrian facility that is tastefully designed and laid out can improve the safety of pedestrians and reinforce that historical context.



Figure #7
Archeological and Historic Areas of Potential Impact

Recreation Resources

The Pulp Mill Bridge Area is highly used by recreation and fitness walking, running and bicycling. With Middlebury College residences located close by, the project area is part of a popular fitness loop. The Otterside Park owned by MALT provides a natural path and boardwalk connection to an overview of the Otter Creek. Wright Park, located north of Seymour Street is easily accessible for pedestrians. The sidewalk and other improvements will provide a safer pedestrian connection for the Trail Around Middlebury (TAM) that follows Seymour Street and Seymour Street Extension into the park.

Public viewing of the Pulp Mill Covered Bridge is very popular. The area in Weybridge near the bridge and triangle intersection sees frequent visitors who pull off the road, walk around the area and across the pedestrian bridge to admire and photograph the bridge and setting. On the north side of the intersection there is a gravel pullout with a path that connects to a more formal, larger public parking area for access to the Otter Creek for fishing and viewing the falls.



Trailhead for falls viewing and angling

Other Community and Social Values

Sidewalks provide opportunity for personal communication among the citizens who perambulate. A sidewalk that is five feet wide provides comfortable room for two people walking or running abreast. A safe, coherent pedestrian facility will encourage others to engage in the healthful and socially rich activity of walking.

The community posting board on Pulp Mill Bridge Road and sandwich boards located at the triangle intersection provide important venues to disseminate public information and advertise community events. A sidewalk system will provide opportunities to enhance these public interaction spaces.

Residential mailboxes are located along the west side of Pulp Mill Bridge Road. The recommended alternative will not require any alternation to these mailboxes.

Anticipated Permits, Reviews, and Environmental Impacts:

This study and the previous investigations and projects identified the natural and cultural resource in the area that may be affected by a new sidewalk. However, no formal approvals or permits have been obtained. During the design phase and prior to construction, the following reviews, permits and clearances are anticipated from three governing levels – federal, state and local.

Federal

NEPA

All projects funded by the FHWA require conformance to the Nation Environmental Protection Act (NEPA), which is a process to carefully identify and document all know natural and cultural resources minimize impacts to them. Typically, sidewalk projects follow a simplified version know as a Programmatic Categorical Exclusion (PACE) document. This document, prepared by the project's permit specialist is furnished to VTrans with the conceptual level of plans that clearly identifies the limits of construction and the potential areas of impact. It includes a comprehensive checklist of resources that could potentially be impacted and addresses the identified resources with reviews and recommendations from resource specialists. In addition to natural resources, the PACE includes review

of cultural, archeological and historic resources in order to comply with federal law Section 106. Approval of the PACE by VTrans and FHWA is an important milestone that is necessary before final design and formal right-of-way efforts can begin.

ADA

The project design must also meet federal design standards and conform to the Americans with Disabilities Act (ADA).

Uniform Relocation Act

FHWA projects require that all affected land be in the control of the public agency. Acquiring any needed rights to private land must meet the standards of the Uniform Relocation Act. VTrans Right-of-way Section has the authority to review and approve right-of-way acquisition. Issuance of the formal Right-of-way Clearance is an important milestone that must be achieved before VTrans can authorize the Town to go to construction.

State

ACT 250

The MALT parcel and the adjoining parcel to the north on Pulp Mill Bridge Road are subject to one Act-250 permit. This permit may need to be amended for the purpose of developing the sidewalk. It is anticipated that it will be determined based on minimal impacts that it will be an administrative amendment. Otherwise, due to the limited nature of disturbance associated with the project, and it is in the public good, the project will be seen as a stand alone venture and not subject to review and approval of the ACT 250 Board.

Agency of Natural Resources

We anticipate the project will be subject to the following reviews and approvals from the Agency of Natural Resources.

- *Construction General Permit*
As the Sidewalk project will most likely impact greater than one acre of disturbance, the project will be need to receive a Construction General Permit for Stormwater runoff during construction. Due to the proximity to the river, the project will likely be classified as a moderate risk project.
- *Stormwater Discharge Permit*
The new impervious area for this project is 0.68 acres. Normally, this would not be a trigger for a Stormwater Discharge Permit, but if VTrans assumes we must take into account the existing road pavement as an existing impervious surface with the project because the sidewalk is being installed within the Right-of-Way then the project is likely to need to a Stormwater Discharge Permit. This permit will require an appropriate design of systems to deal with concentrated water from sections of the project where curbing is installed rather than a green strip between the sidewalk and the road.
- *Wetlands Conditional Use Determination CUD*
Although a review of the *Vermont Online Natural Resources Atlas* shows all wetlands outside of the project area, a cursory visual review of the project path shows locations that may be

designated as wetlands in the vicinity of the Town's pump station on Seymour Street. If so, the project may impact the 50' buffer and require a Wetlands CUD.

Local

Both the Town of Middlebury and the Town of Weybridge will be the respective owners of the project within their borders. Through collaboration with the two Selectboards, the project will be reviewed and approved including consultation and necessary approvals with other local public stakeholders such as the Development Review Board, Department of Public Works and Weybridge Fire District #1. Agreements with towns and public utilities will be necessary for any utility modifications.

VTrans Reviews and Approvals

Throughout LTF development process, there are a series of reviews and approvals by the VTrans Project Manager before the project can go forward to the next phase.

- Conceptual Plans and PACE (approval completes Phase A)
- Preliminary ROW Plans and draft right-of-way documents
- Preliminary Engineering Plans
- Final Engineering Plans, Specifications and Estimate (PS&E)
- Right-of-way Clearance
- Authorization to Bid (enter Phase C)

Prior to authorizing construction, VTrans will review the checklist of items to be sure that all permits and clearances are obtained. During construction VTrans will review and approve any design changes, change orders or other significant project changes.

H. Utility Impacts

Both the Seymour Street area and the Pulp Mill Bridge Road area are served by a mix of utilities, including: municipal water, municipal sewer, and stormwater infrastructure. Descriptions of impacts to utilities are separated into the sections described in the Alternatives Development Section of the report, corresponding to the differing responsibilities of the Towns.

Section #1 – Within the Town of Middlebury (Seymour Street)

Seymour Street features municipal water, municipal sewer, stormwater culverts, all owned and maintained by the Town of Middlebury. It also features overhead power distribution owned and maintained by Green Mountain Power. An exhibit of the utilities in this area and the proposed route of the sidewalk is included in the appendices. As stated previously, the only practical alternative for the sidewalk in this area is along the southwesterly side of the road. There do not appear to be any significant impacts to existing utilities in this area with the exception of possible modifications to the pumping station.

Water

Water mains were recently replaced (within the last 10 years) on the northeasterly side of the road and will not be impacted by the proposed sidewalk on the southwesterly side.

Overhead Utilities

One utility pole at the southern end of the project area is located close to the roadway, but given the right-of-way of 82.5 feet, a suitable sidewalk alignment can be achieved to avoid relocating it or any other utility pole in the area.

Wastewater

Along the southwesterly side of Seymour Street, a gravity sewer and force main are installed within the right-of-way, and a town-owned sewage pumping station is located. The ground around the pumping station is seven feet lower than the road elevation in this area, and features a steep slope along the road. Since the final design will likely make significant modifications to the grade, it may be necessary to make modifications to the pump station to accommodate a new sidewalk, including:

- Localized grading changes on Town property,
- Removal of the existing pump station hatch and riser, and install an extension and replacement at a higher elevation
- Removal of the existing electrical distribution and control panel backboard, refurbishment and replacement at a higher elevation to provide necessary clearance of the higher finished grade.

Stormwater

Stormwater infrastructure on Seymour Street generally consists of grass swales and culverts crossing the roadway. In most areas along Seymour Street, it is expected the sidewalk would be designed to allow sheet flow onto grassed areas and follow existing drainage patterns. Near the Pulp Mill Bridge, stormwater is directed off the roadway by paved swales, and in this location a new sidewalk will require modifications to the existing stormwater system to manage stormwater responsibly. It is expected new curbing and catch basins will be installed to direct stormwater under the sidewalk to an appropriate outlet. The actual configuration will require discussion with the landowners in this area during the design phase of work and may require additional easements for drainage. These modifications will cure an existing problem.

Section #2 – Within the Town of Weybridge (Pulp Mill Bridge Road)

Pulp Mill Bridge Road features overhead power, municipal water, municipal sewer, and stormwater culverts, all owned by multiple entities that are generally understood to be as follows:

- The Town of Weybridge owns the stormwater infrastructure (culverts, etc.)
- The Town of Middlebury owns all water and sewer mains
- Weybridge Fire District No. 1 owns water and sewer branch lines, as well as service lines within the right-of-way
- Green Mountain Power owns the overhead power distribution that runs along the western side of Pulp Mill Bridge Road.
- Cable TV and telephone lines coexist on the GMP poles.

The right-of-way for Pulp Mill Bridge Road is only 3 rods in width, a narrow corridor to accommodate both existing utilities and a proposed sidewalk. Additional right-of-way may be needed to accommodate utilities that may be affected by the new sidewalk. These are the anticipated impacts to the utilities along Pulp Mill Bridge Road:

Water, Northern Area (north of Orchard Lane)

Within the last five years, the Town replaced the water main crossing of Otter Creek with new water main to the intersection of Pulp Mill Bridge Road and Morgan Horse Farm Road. To the south of this intersection along Pulp Mill Bridge Road, the existing water main is quite old and in poor condition. It is buried along the edge of the eastern side of the road, and the Town has experienced a number of water main breaks within the last decade in this area that required repairs. The Town of Middlebury Public Works Department The Town of Middlebury Public Works Department is currently in the planning phases for a waterline replacement project along the entire stretch of Pulp Mill Bridge Road from the intersection of Morgan Horse Farm Road south to the intersection of Weybridge Street, which would be expected to be implemented ahead of the proposed sidewalk project. It is anticipated the water main alignment will be relocated entirely on the west side of the roadway, thus avoiding direct impacts to the proposed sidewalk if the preferred alternative alignment is implemented.

Water, Southern Area (south of Otter Creek Lane)

The existing water main crosses Pulp Mill Bridge Road to the western side of the road in the vicinity of Orchard Lane and Otter Creek Lane. According to the Town, the water main remains the property of the Town of Middlebury, however all of the branch and service lines that serve the housing developments adjacent to Pulp Mill Bridge Road are the property of Weybridge Fire District No. 1. As with the main on the northern part of the project, the water main in this area is old and in need of replacement. Existing water and sewer lines are shown in the appendices.

Wastewater

A municipal sewer along Pulp Mill Bridge Road services only a few homes along Pulp Mill Bridge Road and Otter Creek Lane. Properties to the north are served by individual, private wastewater systems. The sewer runs along the eastern side of the road, where it is transferred through a cross-country gravity sewer line to a pumping station near Otter View Park. The sewer infrastructure this area is in generally good condition and is not in need of replacement at this time. Therefore we do not anticipate any impact of work associated with the proposed sidewalk regardless of which side of the street it is placed on.

Overhead Power

The recommended alternative of the sidewalk along the east side of Pulp Mill Bridge Road avoids significant impact to the overhead utilities that are located along the west side of the road. Due to the topography on the west side, placement of the sidewalk in this location would likely require relocation of existing overhead electrical utility poles and associated services in this area with greater need for additional right-of-way and at significantly higher construction cost.

Stormwater

Stormwater infrastructure along Pulp Mill Bridge Road consists of drainage swales, driveway culverts, and road crossing culverts, though there is evidence of small drain inlets in some areas as well. The existing roadway within the ROW is quite narrow, and in some areas the grade drops off directly adjacent to the gravel shoulder. Construction of a new sidewalk may require lengthening, rework, and possibly replacing some of the existing under-road crossing culverts.

Driveway cross culverts and a ditchline are only present along the west side of Pulp Mill Bridge Road. Locating the sidewalk on the east side of Pulp Mill Bridge Road avoids relocation of that ditchline and construction of catch basins and a storm drain system that would be needed to raise the grade to allow

for a sidewalk. This major modification coupled with utility pole locations would likely require additional permanent easements to acquire the necessary right-of-way and is a compelling reason for locating the new sidewalk on the east side.

I. Right-of -way

All sidewalk projects that are funded by the Federal Highway Administration (FHWA) are required to demonstrate that the local public agency has control of the land that covers the limits of construction. A formal *Right-of-way Clearance* issued by the Vermont Agency of Transportation is an important milestone necessary to proceed to construction. A typical sidewalk project may require a number of different types of formal easements granted by property owners to the town that are recorded in the land records in order to obtain the clearance.

Permanent easements: On private land occupied by the sidewalk facility, structures or slopes that the town desires to maintain will require a permanent easement for the affected area. Also any area of private land that will receive new water from drainage due to the facility may require a permanent drainage easement.

Temporary easements: Areas on private land where the contractor will need to occupy for the duration of the construction project only and areas where the land will be regarded to match the new construction will require a temporary easement for the affected area.

The property owners are entitled to just compensation for the easements granted. The easements can be donated to the towns, the value of which can be used toward the local funding match. These areas will be clearly demarcated on the plans and on the ground. The specific areas will be calculated for the purpose of determining the market value for just compensation to the property owners by either approved appraisals or a Waiver Valuation process using local assessed land values.

Specific to the study area, Seymour Street in Middlebury is a wide public right-of-way and there may not be a need for permanent easements. However, Pulp Mill Bridge Road is narrower with a likelihood of requiring some permanent easements as well as several temporary easements. The desired sidewalk layout that is set back away from the road is more likely to require these easements. Extensive curbing may require additional drainage infrastructure that may require permanent drainage easements.

The Right-of-way process begins once the project plans are well advanced and the limits of construction can be clearly defined. Through this study process, the towns have established good communication with potentially affected property owners. Getting them to sign an easement to go forward is a critical step in the process. It will be important to continue this good communication through the design phase of the project.

J. Construction and Maintenance

Construction

It is anticipated that local, state and federal funding will be used to construct the future sidewalk. The proposed improvements will be constructed in accordance with federal and state standards and practice with responsible local project management and construction inspection. It is anticipated that the project will follow the VTTrans Local Transportation Facilities Section's development process with the guidance and oversight by an LTF Project Manager.

As with any new utility, the sidewalk will require some level of maintenance commensurate with the building material and quality of the product achieved during construction. These three alternative surface treatments that meet the ADA guidelines were reviewed for the finished sidewalk material:

- Concrete
- Bituminous Concrete Paving (Asphalt)
- Fine Crushed Gravel (SurPak/Staymatt)

Through feedback received in the public meetings, and during the committee meetings, a concrete sidewalk was unanimously supported for the following reasons:

- There were several maintenance concerns regarding Surpak, including longevity, grass and weed growth through the surface over time, and maintenance concerns about plowing in the winter and the need for periodic grading of the surface.
- There were several concerns regarding asphalt. Local residents were concerned with aesthetics, especially in the vicinity of the Otter Creek Park, and some raised concerns about the increased temperatures the dark asphalt surface retains in the summer and the potential effect on animals. There are also concerns about quality control, and generally a concrete sidewalk will be more durable than asphalt.

Because of this feedback, and the teams past experience on similar projects, the recommended material type is concrete. It should be noted however that a number of different surface treatments exist for concrete, and this project should look at using multiple surface treatments during the design phase to accommodate a different look and feel for unique locations. For example, exposed-aggregate concrete may be considered for the MALT property to create a more rural feel, while a more traditional broom finish surface can be considered for the more urban locations in front of houses. That this concrete treatment has been used successfully in other parts of the Town was an important point made during the Alternatives Presentation that resonated well with those present.

Maintenance

When constructed correctly, using proper materials, and methods, concrete sidewalks are generally easy to maintain. Required long-term infrastructure maintenance includes the sealing of cracks to prevent water intrusion and subsequent expansion and cracking during the winter time, and repair of limited spalling which can occur as a result of salt and brine application to facilitate snow and ice removal. In areas where the sidewalk is constructed with a curb directly adjacent to the road, physical repairs will be required from time to time due to damage resulting from plow impacts. Any stormwater facility that is added with the new sidewalk will require regular maintenance and cleaning. Conditions of a possible stormwater permit may include regular monitoring and reporting, and possible annual fees.

Snow removal, mowing

Green-spaces between the sidewalk and the road are typically maintained by each private landowner in their customary manner. Both towns agree that the sidewalks in each town will be maintained for public use year-round. Snow plowing will be the responsibility of each to town respectively with the interfaces at the pedestrian bridge on the north and the MALT parcel on the south end of the project area. The Town of Middlebury has the equipment and public works staff and is already performing the expected maintenance for sidewalks and stormwater infrastructure throughout Town. The Town of Weybridge

does not have sidewalks to maintain currently, and may need to consider contracting out the maintenance including snowplowing and sanding the sidewalk.

Known Engineering Constraints and Challenges

- A steep slope on Seymour Street will make it challenging to meet ADA compliance.
- Wetlands exist within the area along Seymour Street near the Town's pump station and will require delineation to determine if the project will be within the buffer area.
- There is concern for snow that slides off the new metal roof of the covered bridge onto the pedestrian bridge.
- A traffic study will be required for all proposed crosswalks to verify whether they are warranted and comply with standards.
- There are current stormwater problems on Seymour Street near the bridge.
- Current and future water and wastewater projects within the project area need to be taken into consideration.
- A Phase 1 Archeological Study will be required in specific areas along Seymour Street and Pulp Mill Bridge Road that will be disturbed with the construction of a sidewalk.
- Construction easements and at least one permanent easement will need to be obtained from private property owners along Pulp Mill Bridge Road.
- Selection of exposed aggregate surface treatment will require a special provision in the specifications.
- There are several existing street trees that have particular value to homeowners, prompting the project team to contract with a certified arborist to comment on potential impacts of the proposed sidewalk and offer suggestions regarding tree protection. The arborist included specific recommendations outlined in an email included in the Appendix. These items should be considered by the design engineer, and if feasible incorporated into conditions of a construction contract.

K. Other Important Considerations

As with any study, there is a tendency to discover and learn about other important considerations that affect the study area. This section is a review of topics that came out of the public hearings, property owner communications and committee deliberations that are important to express. These topics should inform the process of design and development going forward.

On Bicycling

Though the focus of this study was largely on a pedestrian sidewalk, important discussions revolved around bicycling. The previous studies specifically included bicycling in their scope and made recommendations for bicycle improvement on Seymour Street and Pulp Mill Bridge Road. The pedestrian bridge was installed as an outcome. Other ideas included possibly widening Pulp Mill Bridge Road, construction of a separated shared-use path, and initiating a share-the-road campaign to educate users.

Current considerations are for a share-the-road condition on Seymour Street and Pulp Mill Bridge Road for bicycles. Where curbing will be installed with new sidewalks, this report recommends maintaining a three-foot paved shoulder for the safety of the bicyclist. A new sidewalk will allow junior bicyclists a safe place to ride and develop safe riding skills before they share the roadways with automobiles.

A major topic of discussion was the legality of bicycling through the covered bridge. Currently, the policy is to restrict bicyclists from riding through the bridge from either direction, though there is only existing signage entering from the Weybridge side, and requiring them to use the pedestrian bridge. The primary reason is to avoid the concern for narrow bicycle tires from falling into the seams of the bridge decking boards. Although the boards were recently replaced, the decking boards will wear and shrink creating a hazard over time. This prohibition of bicycles on the covered bridge requires unsafe crossing movements at either end for bicyclists who obey the ban and use the separate pedestrian bridge.

On Street Trees

The rural-residential character of the project area is reinforced by street trees and natural vegetation that line the roadside. On Pulp Mill Bridge Road there are large maple trees that compliment an historic home and are particularly important to the property owner. The protection of these trees, and the replacement of other important trees that may need to be removed for a sidewalk, will be an important design criteria. Additionally, new street trees should be considered in certain areas to reinforce the streetscape character. As a necessary component of comprehensive streetscape infrastructure, trees provide significant value aesthetically and functionally.

- The pedestrian experience is greatly enhanced by being among trees.
- A treeless roadside is conducive to higher traffic speeds by automobiles.
- Trees absorb CO₂ and give off oxygen.
- Trees provide habit for wildlife that is important to us for insect control.
- Trees can improve privacy.

Other Aesthetic and Design Concerns

Through the public hearing process, discussions with property owners and among the committee, there were other important topics that should be considered going forward including:

Traffic calming: Considerable discussion centered around the high traffic speeds on the roadways. The addition of a pedestrian sidewalk system will provide a safe place for pedestrians and have a calming affect on traffic speeds along the adjacent roadway by the visual cues that drivers get from the vertical curbing, crosswalks, and the presence of people. Additionally, street trees that confine the visual corridor narrowly will also tend to slow traffic. Consideration of travel lane width and fog-line striping as a means of traffic calming should be considered. This should also be weighed against the potential risks related to bicycle safety, as the fog lines may present the appearance of a bike travel lane as well as provide a slippery surface for bikes during wet weather.

Street lighting: Several residents commented that they were concerned about the addition of new street lighting. The report does not recommend the addition of street lighting. There was concern that the Pulp Mill Bridge lighting was too bright. The committee discussed the possibility of reducing amount of light in the bridge and/or shielding the light from spilling out of the bridge widows.

Utilities and signs: The new w-beam guardrail on the bridge approaches and utility poles on each side detract from the historic context of the Pulp Mill Bridge area. A busy, cluster of traffic signs also detracts from the aesthetic quality of the area near the bridge. Where possible, signs and utilities should be consolidated, relocated or otherwise minimized to improve the aesthetic quality of the streetscape.

Vegetation management: Maintenance of the existing vegetation should be done to improve safety of the pedestrians by increasing sight distances, particularly near the pedestrian bridge.

L. Preliminary Cost Estimates

A realistic project budget for a federally funded sidewalk project includes the specific line items as shown below. A detailed construction cost estimate of \$600,000 using the *Vermont Standard Specifications for Construction* is located in the appendices. Based on our experience and guidance from VTrans, LTF resources, we anticipate the overall project cost of the recommended alternative to be:

Local Project Management	\$40,000
Engineering, design and permitting	\$75,000
Construction Inspection	\$35,000
Construction	\$600,000
Total Project Budget	\$750,000

This budget estimate is a realistic figure to be used in requesting funding from a VTrans grant program. The Vermont Bicycle and Pedestrian Program and the Vermont Transportation Alternatives Program are likely sources of funding for this project. Each annual program has a separate application process and are cycled on opposite ends of the calendar. Each program has a required local match as follows:

Town's Local Match		
Total Project	BP Program (10%)	Alternatives (20%)
\$750,000	\$75,000	\$150,000

M. Project timeline

Each project that undergoes the VTrans LTF development process has a different timeline due to many factors that influence its pace. Since, through this study, this project has undertaken many of the initial steps necessary in Phase A. Project Definition, the project is well on its way. Here is a list of important milestones in the LTF process and potential dates for a realistic timeline of constructing the project as recommended based on being awarded funding in January 2015.

Next Steps and anticipated dates: Apply for funding to proceed, July 2014 – award January 2015

Phase A. Project Definition

Hire Local Project Manager	February 2015
Hire Design and Engineering team	March 2015
Conceptual Plans and CE submitted	September 2015

Phase B. Final Design and ROW

Preliminary ROW Plans	October 2015
CE Approved	November 2015
Final Plans submitted	December 2015
ROW Clearance	March 2016
PS&E Bid Authorization	May 2016

Phase C. Construction

Award Construction Contract	June 2016
Ground Breaking	July 2016
Substantially Complete	September 2016
Certification of Completion and Acceptance	November 2016
Ribbon Cutting	December 2016

N. Viability/Conclusion

The Pulp Mill Bridge area of the Towns of Middlebury and Weybridge experiences a high volume of walkers, runners, bicyclists and other vulnerable roadway users. There is no coherent pedestrian facility between the pedestrian bridge adjacent to the Pulp Mill Bridge to the existing sidewalk on Seymour Street. This missing link and the lack of a sidewalk along Pulp Mill Bridge Road causes an unsafe condition for these travelers. After years of study, culminating in this report, both towns have concluded that they can improve pedestrian safety by constructing a sidewalk along the east side of Pulp Mill Bridge Road and along the southwesterly side of Seymour Street. Additionally, modifications to the intersections on either side of the bridge including new crosswalks can improve pedestrian safety, with the possible inclusion of new crosswalks.



The preferred alternative was arrived at through a careful review of facts established by previous studies and current investigations. The study process was guided by a joint two-town local advisory committee and the towns vetted the project with the community through a robust public outreach effort. The project team met with affected property owners to review their concerns and desires. The report compiled information from previous studies and identified important natural and cultural resources to be protected. No adverse impacts are anticipated. However, it recommends avoiding certain historical features and further archeology investigations in some project areas that have not already been disturbed by other construction. No known physical barriers to constructing a facility along the preferred alignment exist.

An evaluation matrix was developed that charted various attributes of each alternative that was investigated and visually demonstrated the preference for the recommended alternative. This study process not only determined that construction of a facility is feasible, but also reconfirmed the need for the project and the resolve of both towns to move forward with constructing the sidewalk system.



Appendices:

The complete report with all previous studies, working documents, planning exhibits, meeting notes, and other pertinent information to inform the project going forward is located on the attached DVD. A complete file list is as follows:

Pulp Mill Bridge Area Sidewalk Scoping Study Report and Appendices - List of files on DVD

PMBS Report and Appendices:

Planning exhibits:

ACT - 250:

MALT act 250 Site Plan.pdf

Project Narrative.pdf

Base Map 2004 study.pdf

Evaluation Matrix.pdf

Exhibit for Public Meeting.pdf

Intersection exhibits:

Intersection option .pdf

PMB Triangle Intersection b.jpg

PMB Triangle Intersection b.pdf

PMB Triangle Intersection.pdf

PMB Triangle Option 1.pdf

Seymour Street Intersection option .pdf

MALT A Option 1.jpg

Natural Resources:

Natural Resources Appendix ____ .jpg

Prelim Exhibit 9-5-13.pdf

Pref. Alternatives sec. 1 and 2.pdf

project study area.jpg

project study area.pdf

Utilities exhibits:

Pulp Mill Bridge Road North Appendix ____ .jpg

Pulp Mill Bridge Road South Appendix ____ .jpg

Seymour Street Appendix ____ .jpg

Previous Studies and Plans:

1996 Archological study:

PM Ped Map 2.pdf

PM Ped Map 3.pdf

PM Ped Map1.pdf

Pulp Mill Ped-Phase 1A Arch narrative.pdf

1997 Sidewalk Plans.pdf

MBRY_BikePedPath_alignment_19951129.pdf

Pulp Mill Brige Final_Plans 1-25.pdf

Seymour Street Extension.pdf

Weybridge_BikePedFeasibility_20040930.pdf

Weybridge_BikePedFeasibility_Appendices_20040930.pdf

Public Participation:

0136_001.pdf

Agenda Mid-Wey Study 10-16-13.pdf

email letter from arborist.pdf

M-Wpropertyownernotes10-21-13.pdf

MeetingnotesPMB11-13-13.pdf

Mid-Wey Alt pres agenda.pdf

Mid-Wey Alt pres handouts.pdf

Mid-WeyLocalConcernagenda.pdf

NotesPMBSidewalk10-16-13.pdf

PMB Sidewalk - kick off notes.pdf

PMB Sidewalk - LC meeting notes.pdf

PMB Sidewalk Aternative Matrix.pdf

PMBSidewalkAlternativenotes.pdf

Pulp Mill Bridge Sidewalk PR piece 9-12-13.pdf

Seymour Street Abutters.pdf

Report:

Evaluation Matrix rotate.pdf

pmb contents.docx

PMB Sidewalk Report 4-30-14.pdf

pmbs 4-30-14.docx