

**Central Vermont Regional Planning Commission
Town of Plainfield**

**Pedestrian Bridge & South Sidewalk
Conceptual Alignment Analysis**

Existing Conditions



Submitted by:
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In conjunction with
**Stantec Consulting
EIV Technical Services**

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A. INTRODUCTION

1. OVERVIEW

The Town of Plainfield has been systematically upgrading its pedestrian facilities in the Village area since the 1990s, but there are still gaps in the system. Two significant gaps are adequate pedestrian (and bicycle) facilities on Main Street crossing the Winooski River and along the south side of Route 2 heading west between the Main Street bridge and the Plainfield Post Office. The Central Vermont Regional Planning Commission (CVRPC) assisted the Town in obtaining a 2012 Bicycle and Pedestrian Program Grant to undertake a *Pedestrian Bridge and South Side Sidewalk Conceptual Alignment Analysis (CAA)*. The CVRPC staff is assisting the Town with the project management duties for this CAA.

With the assistance of the CVRPC, the Town organized a Steering Committee (SC) of local officials and citizens to provide direction for the study. Together they requested proposals from consultants to help them with the feasibility study; the selected consultant team (the BRPD Team) is led by Broadreach Planning & Design and supported by Stantec Consulting Services and EIV Technical Services.

The general limits of the Study Area for this project extend on the east from the south side of the Main Street Winooski River bridge westward along Route 2 to the Plainfield Post Office and to the fronts of the existing buildings on Main Street and Route 2. **Figure EC-1** shows the location of the project and the general extent of the Study Area.

This summary report is the first product of the work of the SC and the BRPD Team. The summary describes the existing conditions in the Study Area. The report is formatted for double-sided printing; blank pages are intentional.

2. PURPOSE AND NEED

The purpose of the pedestrian bridge and south sidewalk project is to expand the network of walking and bicycling facilities in Plainfield Village to maximize the ability of residents and visitors to access the various businesses and services along Route 2 in the Upper Village from the Lower Village area, already served by improved bicycling and walking facilities, without the need to drive an automobile between each and every one.

Needs for the improvements include:

- The minimal shoulder space and lack of sidewalk for pedestrians or bicyclists on the south side of Route 2 west of the bridge that could provide access to the Cutler Public Library, the Plainfield Post Office and numerous homes and business;
- The minimal sidewalk and lack of shoulders on the Main Street bridge over the Winooski River; and

- The presence of dirt paths along the south side of Route 2 created by pedestrians walking along the side of the road.

3. PROJECTED USERS

Plainfield officials would like to improve walking conditions for people of all ages and abilities. This means that as much as possible, the improvements should be usable by school children, elderly citizens and those with disabilities. While the Town is reviewing improvements for walkers, it also has the opportunity to potentially provide better facilities for bicyclists. These modifications, if possible, should provide better bicycling conditions for as wide a range of bicyclists as possible. The following sections provide more information on the abilities and needs of the different types of walkers and bicyclists.

Walkers: People vary significantly in their walking skills, experience and willingness to walk different distances. Strong determining factors for walkers are the time and mobility required to reach their destinations. Time and mobility constraints also dictate their usable geographic space; few walkers will venture more than one mile from point to point; most will only undertake trips shorter than ½ mile, unless the trip is recreational or there is some visible destination or landmark.

There are three basic types of walkers:

- *Active walkers,*
- *Basic walkers,* and
- *Circumscribed walkers.*

Active walkers use the road system regularly for transportation, as well as for fitness. They know and generally follow the rules of the road. *Basic walkers* include the majority of older children and healthy adult walkers. *Circumscribed walkers* are those whose speed and mobility are extremely limited. In all cases, when walking on roads, people should walk **FACING** traffic on the left side of the road in the direction of travel for safety and visibility reasons, in addition to the fact that it is Vermont State Law.

Bicyclists: Among bicyclists, there are three typical user groups that can be expected to use the bicycle facilities:

- *Advanced bicyclists,*
- *Basic bicyclists,* and
- *Beginner bicyclists* or children.

Advanced bicyclists are highly experienced bicycle riders who feel comfortable riding their bikes in heavy traffic and typically prefer to ride on roadways. *Basic bicyclists* comprise the largest category of bicycle riders, including older children, inexperienced adult riders, occasional bicycle commuters, recreational adult bicyclists and experienced riders who still fear or dislike riding in heavy traffic conditions. Basic bicyclists are reasonably competent in

handling their bicycles and they generally understand the rules of the road, but they ride at more moderate speeds and are generally uncomfortable on busy streets unless a striped, obstacle-free shoulder is provided and traffic volumes are low. *Beginner bicyclists* have the weakest bicycling skills. Beginner bicyclists ride more slowly, don't always understand the rules of the road, and are typically uncomfortable riding with motor vehicles. They are best accommodated on low-speed local roads and multi-user paths or even sidewalks for the very young where there are few, if any driveway crossings.

When riding on roadways, bicyclists should always ride with traffic on the right side of the road in the direction of travel. Unless the road is clear, bicyclists should ride single file.

4. ORIGINS, DESTINATIONS & TRAVEL PATTERNS

There are several important destinations within the Study Area for walkers and bicyclists. **Figure EC-2** shows the locations of these areas.

B. LAND USE

The Study Area includes residential, institutional, and commercial land uses. **Figure EC-2** shows the land use types within the Study Area.

C. TRANSPORTATION FACILITIES

1. OVERVIEW

Route 2 in the Upper Village is functionally classified by the Vermont Agency of Transportation (VTrans) as a Principle Arterial on a State Highway. The posted speed is 30 miles per hour (mph) through the upper Village in the Study Area. **Figure EC-3** graphically presents much of the roadway information described below.

2. ROADWAY DATA

On the western end of the Study Area, Route 2 consists of two 12-foot travel lanes with one-foot paved shoulders on either side of the road for a total paved width of approximately 26 feet. A curb and sidewalk also line the north side of the road. Approximately 100 feet east of the west intersection with Towne Road, the north paved shoulder widens to three feet wide; the south side paved shoulder remains one foot wide. The total pavement width at this point is approximately 28 feet. At the bend in the road just west of the Cutler Library, the north side shoulder gradually narrows back to one foot wide. The pavement width narrows to 25 feet wide. The curb and sidewalk continue eastward on the north side of the road to the intersection with Main Street near the eastern end of the Study Area. A gravel shoulder varying in width from one to approximately three feet lines the southern side of the roadway.



Looking west on Route 2; the narrowing of the paved shoulder from three feet to one foot can be seen just past the driveway entrance on the right side of the road.

The roadway surface is in poor condition throughout the project area. VTrans intends to resurface the roadway in the near future, 2015.

The roadway is relatively level with a grade larger than ten percent for a short distance near the intersection with Main Street. There are very small slopes along the south side of the road just to the east of the western intersection with Towne Road heading down and away from the gravel shoulder. The adjacent land at the edge of the right-of-way is approximately three feet lower than the roadway surface. There is another slope relatively close to the road in the large gap between existing buildings on the south side of the road. This slope heads all the way down to the Winooski River, with a drop of approximately 50 feet. There are no guardrails along the sides of the road in the Study Area.



Looking east on Route 2 in front of the FairPoint building showing the drop in grade.

The intersection with Main Street is not signalized but does have a single blinking yellow light facing Route 2 and a single blinking red light facing Main Street.



Looking east on Route 2 towards the intersection with Main Street; the blinking yellow light can be seen just above the tree line. A crosswalk warning sign is also visible on the right.

3. ROUTE 2 RIGHT-OF-WAY WIDTHS

The right-of-way width of Route 2 in the Study Area appears to be three rods wide or 49.5 feet wide. This is based on reconnaissance of the existing development along the road. The road and sidewalk development along Route 2 is within a 50-foot-wide corridor within the Study Area; the building setbacks also support this conclusion.

4. ROUTE 2 TRAFFIC VOLUME & CRASH HISTORY

A traffic count in 2010 slightly west of the Study Area showed that Route 2 at that point had an Average Annual Daily Traffic volume of approximately 6,600 vehicles.

VTrans has identified most of Route 2 within the study area as a high crash location (HCL). These locations are considered to be HCLs because they have had at least five crashes over a five-year period and the actual crash rate, the number of crashes per million vehicles, exceeds a critical crash rate. The critical crash rate is based on the average crash rates of similar roadways in Vermont and is related to the VTrans functional class of a highway and whether it is located in an urban or rural area.

5. MAIN STREET BRIDGE DATA

Bridge 27 is a 60-foot single span concrete tee beam bridge that was built in 1927. The bridge carries Main Street over the Winooski River and has a curb-to-curb width of 26.5 feet. The bridge also carries a 5-foot-wide sidewalk of the north fascia. There appears to be a sidewalk cantilevered over the southeast wingwall that terminates at the bridge. The structure has concrete panel railings with new street lights mounted to the top of the railing. A VTrans inspection report indicates the superstructure is in satisfactory to fair condition. The substructure appears to be a dry-laid stone masonry abutment in satisfactory condition. Notes from the BRPD Team site observation show deterioration along fascia tee beams, cracking, spalling and delamination of the concrete on both the ridge deck and beams. The bridge's federal sufficiency rating is 84.5 of a possible 100 points. Illustrations show the bridge configuration and provide a sense of the condition.



Looking east along Main Street.



Looking under the bridge from the south side showing the west abutment and the south bridge fascia

6. GREEN MOUNTAIN TRANSIT AUTHORITY

The Green Mountain Transit Authority (GMTA) runs the US 2 Commuter (Route #84) along Route 2 through Plainfield. There are three stops near the Study Area:

- On Route 2 near Goddard College,
- In front of the Post Office and on the other side of Route 2 just east of the Post Office, and
- At the Park & Ride on the east side of the Lower Village on Main Street Extension.

GMTA also operates the Health Center Community Shuttle with service to the Health Center just west of the Post Office.

D. UTILITIES

Figure EC-3 shows the general location of the utilities in the Study Area.

Utility poles within the Study Area are co-owned by Green Mountain Power (GMP) and FairPoint; they switch from side to side along Route 2. **Figure EC-3** shows the locations of the utility poles. From the FairPoint building, an underground phone cable also runs west,

approximately under the alignment of the utility poles. The western few utility poles in the Study Area are being replaced with taller poles that are placed on the side of the existing poles away from the roadway.

Water and sewer lines lie underground within the right-of-way. The specific locations of these lines are still being verified. **Figure EC-3** shows the location of sewer manhole covers and water valves.

Two separate closed storm drainage systems exist along portions of the roadway. One has inlets on both sides of the road to the east of the Cutler Library with an outfall near the open steep slope that lies close to the roadway east of the Library. The second system is just to the west of the intersection of Route 2 and Main Street with an outfall on the southeast edge of the Town parking lot on the south side of Route 2 across from the Town Hall. **Figure EC-3** shows the location of the storm sewer systems.

E. NATURAL RESOURCES

1. TOPOGRAPHY

The topography in the Study Area is generally level in the immediate vicinity of Route 2 but drops significantly towards the Winooski River behind the buildings fronting on the east side of Route 2. The drop is visible on Main Street as it descends towards the bridge from the intersection with Route 2. **Figure EC-2** shows the general topography in the Study Area. The drop to the Winooski River comes close to the edge of Route 2 in the gap between the buildings to the east of the Cutler Library, close to the location where there are large logs stored adjacent to the road.



Looking south towards the bridge over the Winooski River; the drop in the road is evident in the photo. Route 2 continues east on the left side of the picture.

2. WATERCOURSES

There are no watercourses in the Study Area. The Winooski River is the primary watercourse just to the south of the Study Area. A drainage swale descends from the outfall of the storm sewer system on the south side of Route 2 to the Winooski River. **Figure EC-2** shows the location of the drainage swale.



Looking east on Route 2 with the steeply sloping area down to the Winooski River shown a few feet away from the pavement.

3. WETLANDS

There are no mapped wetlands in the immediate vicinity of the Study Area.

4. WATER BODIES

There are no significant water bodies within the Study Area.

5. FLOODPLAINS.

Close to the Study Area, the Winooski River floodplain is narrow and confined due to the steepness of the valley sides.

6. FLORA & FAUNA

The State of Vermont has not identified rare, threatened or endangered species; deer wintering areas or natural areas of special importance within or near the Study Area. There is a core habitat area outside the study area to the northwest. **Figure EC-2** shows the edges of the core habitat area.

There are several large trees located in or close to the Route 2 right-of-way. **Figure EC-2** shows the location of these trees. (The figure does not show trees that are further away from the right-of-way.)



Looking west on Route 2 towards an arborvitae hedge on the south side of the road at the edge of the right-of-way.

F. CULTURAL RESOURCES

1. HISTORIC/ARCHEOLOGICAL RESOURCES

The Study Area between the Main Street bridge and eastern intersection with Towne Street lies within the National Register of Historic Places Plainfield Village Historic District. Several of the historic buildings within the District appear to be located either in or directly adjacent to the Route 2 right-of-way. **Figure EC-2** notes the location of these potential infringements.

Archeological and historic reviews were completed in 1996 for the analysis of a bicycle and pedestrian path along various alignments, one of which was along the north side of Route 2 where the sidewalk installed in the 1990s is located. **Attachment EC-1** includes copies of these archeological and historic reviews. They cover a larger area than is being studied for this project. The conclusions of these studies is that potential changes to the front yards of the buildings in the Historic District or to the concrete Main Street bridge over the Winooski River should be reviewed by the State of Vermont Agency of Commerce and Community Development's Historic Preservation Program prior to implementation.

2. OPEN SPACE AND PUBLIC LANDS

There are seven public parcels within the Study Area:

- The Plainfield Town Hall on the north side of Route 2,
- The Town parking area across Route 2 from the Town Hall,
- The Village Mill Street Park,
- The Cutler Library,
- The Post Office,
- The Russell Memorial Field/sewage treatment plant property, and
- The first fire station housing the Plainfield Historical Society.

Figure EC-2 shows the location of these public properties.

3. AGRICULTURAL LANDS

There is a small area of land in agricultural use in the Study Area on the north side of Route 2 across from the Post Office. **Figure EC-2** shows the location of the agricultural land.

G. PLANNING DOCUMENTS

1. MUNICIPAL PLANS

The draft Town Plan currently being finalized has numerous passages in support of the addition of sidewalks to the south side of Route 2 and the improvement of pedestrian circulation across the Winooski River bridge. The support and other relevant text can be found in particular in two sections of the draft Town Plan: *Section 7. Facilities, Utilities & Service* and *Section 8. Transportation*.

Excerpts from *7. Facilities, Utilities & Service* include:

For years, safety hasn't been a sure thing for foot traffic between the lower and upper village. Given the fact that there are many amenities in both parts of the village, it makes sense to continue to work on improving this deficiency. The Select Board has been in discussions with VTrans and Central Vermont Regional Planning Commission to develop solutions. Recently, the Town was awarded a \$25,000 grant (10% Town match) to study

the possibility of a sidewalk on the south side of US 2, continuing to the lower village via a pedestrian walkway on the south side of the Main Street Bridge. If constructed, this would allow for a marked crosswalk near the blinking light intersection and would provide a safe connecting link between the parking lot opposite Town Hall and the public parking in the village. The study is to extend from the Mill Street Park to the Post Office.

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The Select Board is in discussion with CVRPC and VTrans to figure out both a temporary and a permanent solution to the unsightly and dangerous intersection at the blinking light [of Route 2 and Main Street]. The Town already has an engineered design for improvements to the intersection and the process to implement it is scheduled to begin within the next several years.

Excerpts from 8. *Transportation* include:

Ensuring that this key intersection [of Route 2 and Main Street] is safe for pedestrians as well as highway traffic is of importance to the people of Plainfield in order to avoid accidents and injuries. This improvement will overcome the lack of sight distance from the northeast and permit safe pedestrian crossing of Route 2, re-opening easy access to the town's historic town hall/opera house from the lower village as well as from the town's parking lot on the opposite side of the street that existed in earlier, low-traffic times. Overcoming the highway crossing barrier that has grown up over the years, is critical to the future of this landmark public building as the venue for meeting and as well as a popular dance and performance space.

The 2005 intersection study also proposed that a sidewalk be constructed on the south side of Route 2 from the westerly termination of Main Street in front of the present Blinking Light Gallery to the Town parking lot opposite the Town Hall. If such a sidewalk were built, a crosswalk to the north side of Route 2 in the vicinity of the Town Hall would be permitted by Vermont Agency of Transportation. In order to advance this project, in 2012, the town of Plainfield applied for and received funds from the Vermont Agency of Transportation and the Central Vermont Regional Planning Commission for planning services to study how this improvement could best be accomplished, including a pedestrian bridge added to the existing bridge over the Winooski River to the east, as well as extending it west along Route 2 to the Post Office. The current Select Board is investigating funding sources for this intersection.

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Over the past twenty years, multiple projects have been completed to improve pedestrian traffic through the village. In the mid-1990s, sidewalks were constructed along the northern side of Rt. 2 from the Town Hall to the Post Office. The granite curb gives pedestrians an extra margin of safety, and the Town contracts with a private operator to keep village sidewalks plowed in the winter. In conjunction with the Rt. 2 sidewalk construction, a gravel path was laid down from the Post Office to the Rt. 214 intersection. This unpaved portion of the sidewalk has become overgrown in recent years, but continues to be used by pedestrians walking between the village and Goddard College.

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In 2001, the construction of the park on Mill Street included a brick patterned circle at the intersection with Main Street that had the intended effect of slowing traffic by narrowing the over-wide intersection and making the pedestrian crossing shorter and safer. The old, uneven sidewalks in the lower village were rebuilt in 2007- 2008 adding granite curbs, and pedestrian crossing on both Main and Mill Street. Green Mountain Transit Agency, a nonprofit public transportation company, offers door-to-door service for seniors and persons with disabilities.

Among the transportation strategies listed in the draft Town Plan are:

- Create safer pedestrian access from Route 2 through the Village.
- Support and encourage alternative transportation modes: bus, bicycle, walking, etc.
- The Town should implement sidewalk sections over time when the funding becomes available.

2. REGIONAL PLANS

The “Pedestrian and Bicycle Facilities” portion of the CVRPC *Regional Transportation Plan* includes several sections that support the purpose and need of this project, including in the discussion of existing conditions:

Bicycle and pedestrian facilities are a vital piece of the transportation system. These facilities are very important to the safety and convenience of bicyclists, pedestrians and vehicle traffic. Bicycle and pedestrian facilities provide improved circulation and access in cities, villages, and other densely developed growth areas. These facilities are especially important to people with mobility limitations. The ability to walk or bike to your destinations reduces the need for vehicles, use of fossil fuel, pollution, supports public transit services, facilitates traffic calming, and provides health benefits. The economic benefits are also readily apparent. Tourists are more likely to visit an area with a good sidewalk network. Bicycle touring is very popular on Vermont’s scenic highways.

The Regional Plan also indicates that Plainfield's plans for the installation of additional sidewalks along Route 2 in the Village is a candidate project for design and construction. (This project is the first step in the design and construction process leading towards eventual installation.)

3. STATE PLANS

The 2008 *VTrans Pedestrian and Bicycle Policy Plan* includes goals and objectives that directly support the upgrading of bicycling and walking facilities along the Route 2 corridor, including:

Goals

- *Cultural Environment.* Enhance the human scale and livability of Vermont's communities by improving opportunities for pedestrian and bicycle mobility and access in and between towns, downtowns, villages and rural landscapes.
- *Health.* Improve the health of Vermonters and reduce health care costs by making it easier, safer and more convenient for citizens to be more physically active by walking and bicycling on a regular basis.
- *Transportation Choice.* Enhance pedestrian and bicycle transportation options in Vermont so that citizens, regardless of location, socioeconomic status, or health can choose a seamless, convenient and comfortable mode that meets their needs. Promote a transportation network, including roadways, shared use paths, rail trails, rails with trails, and accessible walker facilities, which allow pedestrians and bicyclists to reach their destinations throughout the State or to connect to other modes of travel.

Objectives

- *Objective 8.* Work with citizens, municipalities, regional planning organizations, and other State agencies to develop, plan, and implement pedestrian and bicycle plans, projects, and programs.
- *Objective 12.* Provide a seamless transportation network for pedestrians and bicyclists by improving linkages between walking, bicycling and other modes of transportation.

4. OTHER PLANS OR STUDIES

Final Scoping Report - Plainfield US 2 and Main Street Intersection Transportation Study – DuBois and King completed this study in 2005 for the Town and CVRPC. The study examined numerous alternative methods of addressing the grading, sight distance and alignment issues with the intersection and recommended a tee intersection. **Attachment EC-2** includes a

copy of the recommended layout. The layout included a sidewalk on the west and south side of the intersection as well as crosswalks at several locations near the intersection.

Attachment EC-1
Archeological and Historic Reviews

Attachment EC-2
Final Scoping Report - Plainfield US 2 and
Main Street Intersection Transportation Study
Recommendation

