

Town of St. Albans

**Conceptual Planning & Feasibility Study
for Bicycle and Pedestrian Facilities**

Final Report



Submitted by:
Broadreach Planning & Design

In conjunction with
Stantec Consulting
Heritage Landscapes, LLC
University of Vermont Consulting Archeology Program

June 12, 2014

I. INTRODUCTION

A. OVERVIEW

The Town of St. Albans has been working to enhance bicycling and walking options between the Town's Educational Center and the Collins Perley Recreation Center for many years. A feasibility study completed in 2003 was not able to develop a viable link along Fairfax Street. The Town also envisions a larger network of bicycling and walking facilities throughout the Town and a link between the Educational Center and the Collin Perley Recreation Center could serve as a significant piece of this system.

The Town recently received funding through the State of Vermont Agency of Transportation (VTrans) to look again at the feasibility of creating this desirable bicycling and walking link, looking at a larger Study Area beyond Fairfax Street to increase the possibility of finding a viable option.

The Town organized a Steering Committee for the project of local officials and citizens to provide direction for the study. After circulating a Request for Proposals, the Town selected a consulting team consisting of Broadreach Planning & Design, Stantec Consulting Services, Heritage Landscapes LLC and the University of Vermont Consulting Archeology Program (the BRPD Team).

The Study Area for this project extends approximately to the east side of Route 104, the north side of Weldon Street, the west side of Route 7 and the south side of Fairfax Street. **Figure 1** shows the general extent of the Study Area. It includes areas in both St. Albans Town and City.

This report is the product of the work of the Steering Committee and the BRPD Team. It presents the recommendations of the Steering Committee and describes the process used to develop them.

B. PURPOSE AND NEED

The purpose of the St. Albans bicycle and pedestrian facility between the Town Educational Center and the Collins Perley Recreation Center is to allow easy, convenient and safe walking and bicycling between the two facilities for walkers and bicyclists of all ages and abilities, especially school children.

Needs for the improvements include:

- The regular use of the athletic fields at the Collins Perley Recreation Center by the students attending the Town of St. Albans Educational Center.

- The lack of comfortable, convenient walking facilities within the Study Area south of the Interstate Access Road other than along Route 7;
- The lack of shoulders or through roads of adequate width to allow comfortable bicycling conditions for casual or young bicyclists;
- The area lies within one of the Town's Growth Centers which will result in the gradual increase in residents as well as locations that are suitable to access via walking or bicycling;
- The High Crash Highway Segment on Route 7 directly in front of the school entrance and the route that students need to walk or ride to enter and exit the school on their way to the Collins Perley Recreation Center or anywhere else;
- The congested nature of the school entrance in the morning and afternoon when school is starting or ending that currently places walkers and bicyclists in direct contact with motor vehicles and buses entering or exiting the school campus; and
- The large number of Town residents that already walk at the Recreation Center that cannot easily walk there.

C. PROJECT DEVELOPMENT PROCESS

After an initial meeting with the Steering Committee, the BRPD Team began work on Task B of their scope of work: to analyze the existing conditions in the Study Area. At the end of the work on this Task, the BRPD Team produced an *Existing Conditions* summary describing in detail the existing conditions in the Study Area. **Appendix A** is a copy of the final *Existing Conditions* summary; the main body of this final report incorporates portions of the summary. Before moving to the next Task, the BRPD Team assisted with a public work session to review the *Existing Conditions* summary and get further input on the issues and suggestions for possible solutions.

After the first public work session, the BRPD Team, again with assistance from the Steering Committee during a team work session, developed a set of alternatives that would help link the St. Albans Town schools with the Collins Perley Recreation Center. They considered as many different options as possible, including taking no action, during their work session. As part of the subsequent analysis after the work session, the BRPD Team reviewed the potential impacts, benefits and cost ranges for the various alternatives. They also informally discussed the alternatives with VTrans to ascertain the viability of undertaking those that were within the SASH right-of-way. They summarized the numerous alternatives that they considered and analyzed in the *Alternatives* summary. **Appendix B** is a copy of the *Alternatives* summary; the main body of this final report incorporates portions of the *Alternatives* summary. After further reviewing and refining the alternatives with the Steering Committee, the BRPD Team assisted with an Alternatives public work session hosted by the Town to review the alternatives and begin the selection of a preferred alternative.

At the public work session, the attendees came to agreement on a preferred set of alternatives. The Steering Committee agreed with the alternatives, which included numerous modifications within the SASH right-of-way. The BRPD Team arranged a meeting with VTrans representatives of appropriate sections and departments to confirm the feasibility of

actually undertaking those portions of the preferred alternatives that lie within the SASH. At the meeting, VTrans suggested the consideration of a new intersection on the SASH at Thorpe Avenue Extension as a new alternative, one that the BRPD Team had not considered due their belief that VTrans would not agree to endorse it. Due to the potential significance of such a new intersection on the Town, the BRPD Team asked that the Selectboard review the idea and agree that it could be an improvement that the Town would welcome. After the Selectboard indicated that they thought the idea had merit, the BRPD Team refined some of the elements in the *Alternatives* report to include the new intersection alternative method of crossing the SASH. They then assembled a draft Final Report for final public review.

At the work session, many of the community members living south of the SASH were strongly opposed to opening up Thorpe Avenue Extension as a through street. They were concerned about the significant increase in traffic they anticipated would occur if the street were to be connected to the SASH. While there were some meeting participants that thought the intersection would be a good idea, most did not. They thought that the bridge might be the best way to create a crossing of the SASH but they understood that it would not necessarily provide an acceptable crossing for BFA students. There was no clear agreement at the end of the meeting about what alternative way of bringing walkers and bicyclists across the SASH would be preferred over the Thorpe Avenue intersection concept.

After the third public work session, the Steering Committee reviewed the options and decided that the underpass alternative was still most appropriate when all users were considered. While they understood that it was not be the most direct route for SATEC students to walk to and from school from their homes, it was in a better location for most other users. This report summarizes the recommendations of the steering committee and the information they used and the process they undertook to reach them.

This report includes full copies of the *Existing Conditions* and *Alternatives* summaries as part of the appendices.

D. REPORT ORGANIZATION

After this introduction, the report continues with the recommendations. Following the recommendations the report goes back to briefly describe the important existing condition features. It continues with a review of potential impacts and issues associated with the preferred alternatives. The main text of the report closes with an implementation section that includes phasing recommendations, initial estimates of potential construction costs and implementation suggestions.

The report is formatted for double-sided printing; blank pages are intentional.

II. RECOMMENDATIONS & REASON

A. THE RECOMMENDED ALIGNMENTS

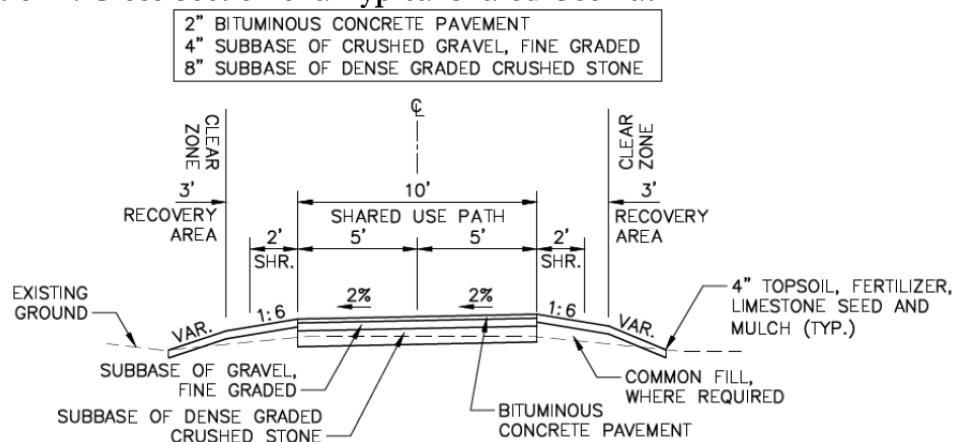
Figure 3 shows the schematic layout of the recommended alignment of the new walking and bicycling facilities between the schools and the CP Center. This recommended alignment for current consideration includes:

- A shared use path on the north side of the St. Albans State Access Highway from SATEC to the Thorpe Avenue Extension ROW;
- A shared use path along the east side of the Thorpe Avenue Extension right-of-way on the east side of the SASH, extending from the end of Thorpe Avenue to the end of the new Shared use path in the SASH;
- A new shared use path on the north side of the SASH from the Thorpe Avenue Extension right-of-way to the a point approximately 825 feet to the east;
- A bicyclist and pedestrian underpass of the SASH;
- A bicycle route on City of St. Albans streets from BFA to the southern end of Thorpe Avenue; and
- A shared use path along portions of the existing alignment of the CP Center foot path to the CP Center building.

The overall path is in roughly a "Y" configuration with the single portion of the path leading away from the CP Center, splitting into two branches on the north side of the SASH where it intersects the Thorpe Avenue Extension ROW

The preferred alternative is a shared use path, which is an ADA accessible path at least eight feet wide but more typically ten feet wide with two-foot gravel shoulders on either side. **Illustration 1** provides a typical cross section of a shared use path. **Illustration 1** shows an asphalt surface because they are typically the most cost effective surfacing in the long run and is the recommendation for this project.

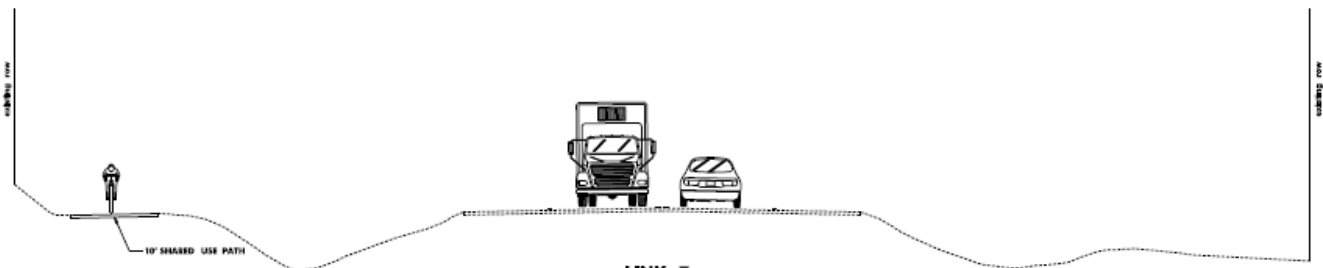
Illustration 1: Cross Section of a Typical Shared Use Path



Starting at the western end at SATEC, the shared use path would begin at Route 7 on the west side of the SATEC driveway. The existing crosswalk now on the north side of the Route 7/SATEC driveway intersection would be relocated to align with the end of the new shared use path. The shared use path would head east up the slight rise; it may need to have level resting pads every 30 feet because the slope might be more than five percent, based on the slope of the existing sidewalk. (Even though this might be considered to be adjacent to an existing roadway, because it is a private driveway and the goal is to provide a facility that serves the largest number of users as possible, the level pads are considered to be a prudent addition.) Just west of the first parking area, the path would turn south and follow the western edge of the SATEC property line. A fence would separate the path from the elevation drop at the western property line. The turn in the main driveway at the southern end of the property would need to be narrowed by approximately two feet to allow room for the path between the property line and the driveway. The reduction would not impede turning movements of buses, delivery trucks of automobiles.

The shared use path would cross into the SASH ROW and turn east again. The path would head east along the far northern edge of the SASH ROW; it would be approximately 30 feet from the edge of the SASH pavement. **Illustration 2** shows a cross section of what the path would look like in the SASH ROW.

Illustration 2: Cross Section of a Shared Use Path on the North Side of the SASH Looking East



It would continue east along the northern edge of the SASH ROW to a point approximately across from the northwest corner of the CP Center. At this point, the existing grade at the outer edges of the SASH ROW is approximately 12 feet lower than the grade of the SASH itself. The path would turn south here to pass under the SASH and continue towards the CP Center. The road might need to be raised to provide at least a two-foot separation between the concrete surface of the SASH and the roof of the underpass. The grade of the path through the pass might also be raised approximately a foot to make sure that the underpass doesn't flood. **Illustration 3** shows a simulation of how the underpass would appear from the north side.

Illustration 3: Possible SASH Underpass

On the south side of the underpass, the shared use path would continue south, cross the western end of a private parcel and enter the CP Center site. The Town would need to obtain an easement from the landowner to construct the shared use path.

Once on the CP Center property, the path would follow the alignment of either the western or the eastern route of the recreation path to reach the front of the CP Center Recreation Building. (**Figure 3** shows the alignment following the western route.) The new shared use path would either replace the existing narrower path or be constructed adjacent to it so that the recreation path users could walk without the potential conflicts with bicyclists on the shared use path. No matter which alignment is used, a short section of new shared use path would need to be constructed to reach the front of the building.

In addition to this direct path from SATEC to the CP Center, another shared use path would lie along the east side of Grice Brook Road/Thorpe Avenue Extension East. It would run from the new path on the north side of the SASH north to the end of Thorpe Avenue. To avoid disturbing the existing utility poles or drainage ditch on the east side of the road, the path might actually lie partially in the adjacent property. The property owner has indicated that he is willing to consider granting an easement to the Town for the construction of the path. A new large culvert would take Grice Brook under the shared use

path. The path would end at the southern end of Thorpe Avenue in the City. From there walkers would use the sides of Thorpe Avenue to reach Upper Weldon Street. They would use the sidewalk on Upper Weldon Street and other streets in the City to walk to BFA. Bicyclists would use the existing streets. The designated bicycle route would be marked by "Share the Road" signs and other appropriate markings or signs.

The project would also include new bicycle racks near the CP Center building entrance and at the various recreation fields to provide convenient bicycle parking for path users.

B. THE BASIS FOR THE DECISION

1. SASH Crossing

The crossing of the SASH is the most difficult portion of this project. At the end of the Alternatives public work session, the participants determined that the underpass near the eastern end of the SASH was the most appropriate way to get bicyclists and walkers across the road along with an upgrade to the existing crosswalk at the SASH/Route 7 intersection. The Steering Committee agreed with this conclusion.

When VTrans introduced the new alternative of a full intersection at Thorpe Avenue Extension, the BRPD Team and the Steering Committee re-evaluated all of the crossing options. **Table 1** shows a comparison of each of the SASH crossing alternatives considered. The information in the table does not show a clear advantage of one alternative over another. Each has particular good and bad aspects.

The biggest advantage of either the underpass or the bridge is that they separate walkers and bicyclists from motorists on the SASH. However, the cost of each of these alternatives would be high and the underpass alternative also has drainage issues associated with its design and installation. A new intersection at Thorpe Avenue Extension would use a signalized crosswalk and would be opposed by many of the residents living in the neighborhood around Thorpe Avenue Extension. The crosswalks at either end of the SASH are associated with busy intersections that would need upgrading to make them acceptable crossings to the community. The Route 104 intersection would also be out of the way of many potential users for this particular project and might not be used as frequently as desired.

When weighing the various factors, including the community's lack of support for the new intersection on the SASH with Thorpe Avenue Extension, the Steering Committee decided to recommend the underpass as the preferred alternative.

2. SATEC and BFA Students

SATEC students walking or bicycling to and from school would be best served by the bridge over the SASH that would link directly with their school's campus. A combination of improvements to the crosswalk at the Route 7/SASH intersection and the new intersection

at Thorpe Avenue Extension would provide the second best set of improvements to their walking or bicycling conditions.

The costs of constructing the bridge were a concern of the Steering Committee as well as the lack of safe, new bicycling provisions for BFA students between their school and the new bridge or others coming from the north of SATEC east of Route 7. To get to the bridge, bicyclists would need to cross Route 7 to ride on the correct side of the road and then cross back over Route 7 to get to the bridge. The double crossing of Route 7 was a concern, along with the fact that it could induce bicyclists to revert to riding on the sidewalk on the east side of Route 7, a dangerous behavior, which is extremely unsafe.

BFA students now tend to walk or ride along existing City Streets to Thorpe Avenue. They cross Grice Brook via an existing small, wooden pedestrian bridge. On the other side of the bridge, they use Grice Brook Road to reach the SASH ROW. They then go through the fence and dart across the SASH between traffic and head through the fence onto Thorpe Avenue Extension. The recommended alternative would provide a quicker and easier route that would eliminate the dash across the SASH without taking the students out of their way as they head to or from the CP Center.

C. ADDITIONAL WORK & PROVISIONS

1. SAFE ROUTES TO SATEC

Since the crossing of the SASH is proposed to be on the eastern end of the residential neighborhood on the south side of the SASH, it would not be convenient for most students walking to SATEC. Students living more than a few streets west of the underpass might still head west and down the cliffs along SASH then walk the along the edge of SASH itself and cross at the crosswalk at the Route 7 intersection. (Students at SATEC have said that this is the route that they currently walk to and from school.) At a minimum, the project should also include an upgrade of the existing crosswalk at the western end of the SASH with an extension of the center median west to provide a pedestrian refuge. It should also eventually include a pedestrian phase on the signal to be installed with the intersection is expanded by the addition of the west approach of Federal Street.

Ideally, it would also be beneficial for the Town to study the potential of adding a shared use path on the south side of the SASH ROW from the bend in Potter Avenue to Route 7. This would provide a safe alternative to either walking the long way around along the road network or down the cliffs and along the edge of the side of the SASH.

2. ALTERNATE CP CENTER ACCESS

In the event that the landowner between the SASH ROW and the CP Center property will not allow the construction of the shared use path on the western edge of his property, the Town may consider extending the path all the way to Route 104 and then along the west side

of the Route 104 ROW to the CP Center parcel. A new crosswalk on SASH should be added to whatever configuration exists for the intersection of Route 104 and SASH.

3. EDUCATION

In order to increase knowledge of how to safely use the new facility, both SATEC and BFA could either begin or continue to include safe walking and bicycling education in their physical education or other classes. Well developed curriculums are available from the Vermont Safe Routes to School web site (www.saferoutesvt.org).

4. FUTURE EXPANSIONS

Several of the alternatives considered during the development of these recommendations would be excellent additions to a bicycling and walking system in the Town of St. Albans, even though they were not the best way of addressing the purpose and need of this particular project. These other routes are included in the recommendations as future expansions of the preferred alternative that would provide additional access routes to the CP Center from other areas in the Town and the City.

III. EXISTING CONDITIONS

A. INTRODUCTION

The following text provides an overview of relevant features of the Study Area that have influenced the recommendations. **Appendix A** includes a more complete description of the existing conditions in the Study Area. **Figure 2** and the plans in **Appendix A** provide a graphic overview of the existing conditions in the Study Area.

B. PROJECTED USERS

While one of the focuses of the study is to make it easier for students at the schools in the Town and the City, especially the Town of St. Albans Educational Center (SATEC) and the Bellows Free Academy (BFA) to walk or bicycle to the Collin Perley Recreation Center (CP Center), the Town would also like to improve bicycling and walking conditions for people of all ages and abilities.

C. TRANSPORTATION FACILITIES

1. ROADWAY DATA

US Route 7 (S. Main Street) lies at the west end of the Study Area. This minor arterial on a Class 1 Highway has two 16-foot-wide travel lanes, two eight-foot-wide marked parking areas and five-foot sidewalks with grass strips on both sides of the road. The grass strips vary in width from three feet to ten feet. The grades on Route 7 are relatively flat. The speed limit is posted at 25 mph.

VT Route 104 (Fairfax Road) runs north to south along the east side of the Study Area. It is a two lane Major Collector with eleven-foot-wide travel lanes and three-foot-wide paved shoulders with no pedestrian accommodations. The grades are relatively flat through the Study Area. The speed limit is posted at 40 mph.

Connecting the two roadways is St. Albans State Highway (SASH), often called the Interstate Access Road. This Principal Arterial is a limited access freeway with two 13-foot-wide lanes and ten-foot-wide paved shoulders. Grades are roughly four percent at its steepest point along the western end of the road. The speed limit is posted at 50 mph. There are currently no bicycling or walking accommodations along the highway, although VTrans might allow the introduction of such facilities at the outer edges of the right-of-way, disassociated from the highway itself.

Upper Weldon Street in the City is a Major Collector Class 2 Town Highway located north of SASH and runs west to east from US Route 7 to VT Route 104. Grades are fairly steep at roughly five percent at the steepest point. West of Thorpe Ave, Upper Weldon has two nine-foot-wide lanes and four-foot wide sidewalks with green strips at least ten feet wide on both sides of the roadway. East of Thorpe Ave, Upper Weldon Street has two eleven-foot-wide lanes and no pedestrian accommodations. The posted speed limit throughout is 25 mph.

Thorpe Avenue is a short north south, residential street on the south side of Upper Weldon Street. It is only about 20 feet wide with no sidewalks or other separate pedestrian accommodations. It dead-ends at the Town/City line.

On the Town side of the Town/City Line at the end of Thorpe Avenue the right of way to Thorpe Avenue Extension. A portion of the right-of-way is currently occupied by Grice Brook Road, a private road on the east end of a senior housing development. Thorpe Avenue Extension is an actual road on the south side of the SASH. It is a Class 3 Town Highway that runs north from Fairfax Street an east west street paralleling the SASH, and dead-ends at the SASH right-of-way. Thorpe Avenue Extension is 22 feet wide; it has no sidewalks or other dedicated pedestrian facilities.

Along both Route 104 and Route 7, the Right of Way (ROW) width is generally 99 feet or six-rod wide, centered on the road. SASH has roughly a 150-foot-wide ROW but the ROW

extends out as far as 200 feet for turning lanes at either end of the road. The Class 2 and Class 3 Town Highways generally have a three-rod ROW or 49.5 feet on center.

The City of St. Albans has been developing plans to modify the Route 7/SASH intersection into a four-way, signalized intersection. The new approach would be an extension of Federal Street on the west side of the intersection. The Northwest Regional Planning Commission has studied the Route 104/Sash intersection and there is now a recommendation for the improvement of the intersection into a roundabout. The modification has not yet gone into design and now date has been set for the design process to start.

B. UTILITIES

Storm water runoff coming from the SASH right-of-way has caused significant issues for some of the residents on the south side of the road. VTrans has installed several storm water retention features to aid the neighborhoods and is considering plans on the north side of the SASH and adjacent properties for several more features. **Figure 2** shows these potential futures.

C. TOPOGRAPHY

The topography in the Study Area slopes gradually downward to the west. The largest changes in grade are along Rugg Brook as well as at the western end of the Study Area, where the slope is more pronounced. **Figure 2** shows the general topography in the Study Area, as shown by 20-foot contours.

There are several locations along the SASH where the highway was constructed on fill. In two areas, the fill is approximately ten feet high; the elevation of the roadway is at least ten feet higher than the surrounding grade on either side of the road. At the western end of the SASH, the existing rock outcrops needed to be blasted in order to provide a connection with Route 7. There are rock cliffs on either side of the SASH approximately 175 feet west of the intersection with Route 7 that are about 16 feet high.

IV. IMPACTS & ISSUES

A. OVERVIEW

The preferred alignment would several issues and potential impacts associated with its implementation. **Figure 4** shows the locations of various issues and potential impacts of the preferred alignment.

B. PURPOSE & NEED

The preferred alignment is considered to meet the purpose and need for this project.

C DRAINAGE

VTrans is currently examining different options for addressing excessive drainage passing under the SASH into the neighborhood on the south side. Most of the options are focused on the north side of the SASH east of Thorpe Brook Extension. Some involve the use of the land within the north side of the SASH ROW in the area anticipated to be used by the preferred path alignment. The adjacent landowner has indicated that he would be willing to consider donating an easement to allow the path to lie on the property just to the east of the SASH ROW if the land within the ROW might not be available due to the potential stormwater mitigation work.

The stormwater issues in this area could also create problems for the recommended underpass. Even though the underpass would not require excavation or a ramp to get down to it, it still could be flooded frequently if placed at the same grade as the adjacent field. Keeping the elevation of the path at least six inches to a foot above the existing grade would minimize the chances that stormwater would gather in the underpass.

V. IMPLEMENTATION

A. PHASING

Because of the need to create segments that can serve as viable facilities on their own in the event that no other phases are ever built, the BRPD Team suggests a phasing plan with a few variables. Figure 5 shows the five potentially independent phases for this project. The town could construct the red, green or orange phases in any order. Whichever goes first of either red or green would include the construction of the new Thorpe Avenue Extension intersection. The blue phase should be constructed after the intersection and either the red or green phase is constructed. The Route 7/SASH crosswalk (yellow phase) should be implemented either before or in conjunction with the construction of the new intersection. The Route 104/SASH intersection crosswalk (orange phase) could be implementing at any time.

B. INITIAL ESTIMATE OF PROBABLE CONSTRUCTION COSTS

The BRPD Consulting Team has prepared an initial estimate of probable construction costs for the proposed shared use path. The overall cost of the entire project would be approximately \$2,500,000. **Table 1** provides the basic cost information; the BRPD Team will expand this information for the public work session.

The BRPD Team based the initial estimate on the figures contained in this report. The numbers should be considered as guides in how much funding might be needed to construct

the different recommendations. The initial costs estimates are based on having the project completed by an independent contractor. The Town might be able to realize savings by constructing the portions of the sidewalk or shared use path with its own road crews.

The Town will have to assume the ongoing maintenance of the new facilities, with the possible exception of the elements of the interchange that are linked directly to SASH. Before the report is finalized, the BRPD Team will be adding more specific costs for maintaining hard packed crushed gravel and asphalt surfaces so the Town can decide which surface may more sense. In general, the combined cost of installing and maintaining crushed gravel paths exceeds the combined cost of installing and maintaining asphalt paths in about five years and continued to increase for up to 20 years, when the asphalt may need to be replaced. Because the path would be serving as a route between the schools and the CP Center, which is used year round, it would be likely that the Town would want to keep it clear of snow in the winter. With a ten-foot path, a small snow plow on a pickup truck might be able to handle the plowing. Alternately, the Town may contract with the City to maintain the path, at least initially, since the City already has the smaller equipment needed to maintain paths and sidewalk.

C. PERMITS

The implementation of the recommended improvements will require an amendment to the ACT 250 Permit for the Collin Perley Recreation Center. It may also require a stormwater runoff construction permit. Local permits may also be necessary.

D. FUNDING

Funding for the short-term recommendations might be able to be secured from a variety of sources. Below is a list of various funding sources that could be used to help with the implementation of the recommendations, including:

- **Transportation Alternatives Program (TA Funds):** TA funds can be used to increase bicycle and pedestrian mobility. These funds will cover a maximum of 80 percent of the project with the remaining portions most likely coming from the project sponsoring organization. TA funds are distributed in Vermont through a competitive grant program.
- **Bicycle and Pedestrian Program:** These State funds cover specific bicycle and pedestrian improvement projects and are provided via a competitive grant program.
- **One Time Tax:** A one-year-only increase in the tax rate by one or two cents by the Town could raise funds for one phase or serve as matching funds for competitive grant programs.
- **Private Fundraising:** The Town could work to raise private fundraising for the shared use path, at least in part, possibly with some memorial that acknowledges the contributions.

- Bonds: The Town could opt to use bonds to generate funds to undertake one or all of the phases at once.
- Bikes Belong Grants: These grants are given by the Bikes Belong organization to improve bicycling conditions throughout the United States. The grants are for both facilities and advocacy. The grants for 2013 are by invitation only, but it may be possible to be invited to submit an application for the 2014 round. Additional information can be found at: <http://www.bikesbelong.org/grants/apply-for-a-grant/who-can-apply/>.

A new online tool developed by a partnership between the Alliance for Biking and Walking and the League of American Bicyclists helps find potential federal funding sources for alternative transportation projects. The site can be reached at <http://bit.ly/11xhEtr>.

Other funding sources may be available for the construction of the path, including:

- Potential health grants promoting healthy living;
- The Robert Wood Johnson Foundation (see <http://www.rwjf.org/content/rwjf/en/grants/search.html?k=walking&d=&l=>);
- MCI/Worldcom Royalty Donation Program (For this and several subsequent ideas, see <http://www.americantrails.org/resources/funding/TipsFund.html>);
- Bridge sponsorships (and possibly naming rights);
- People for Bikes grants (see <http://www.peopleforbikes.org/pages/community-grants>); and
- RockShox's Grants (see <http://www.sramcyclingfund.org/fund-overview.html>).

Even other potential sources exist. Some additional resources that may provide insight into additional funds include:

<http://www.americantrails.org/resources/funding/Funding.html>,
<http://rlch.org/>, and
<http://atfiles.org/files/pdf/bicentennialsourcebook.pdf>.

E. PROCEDURES

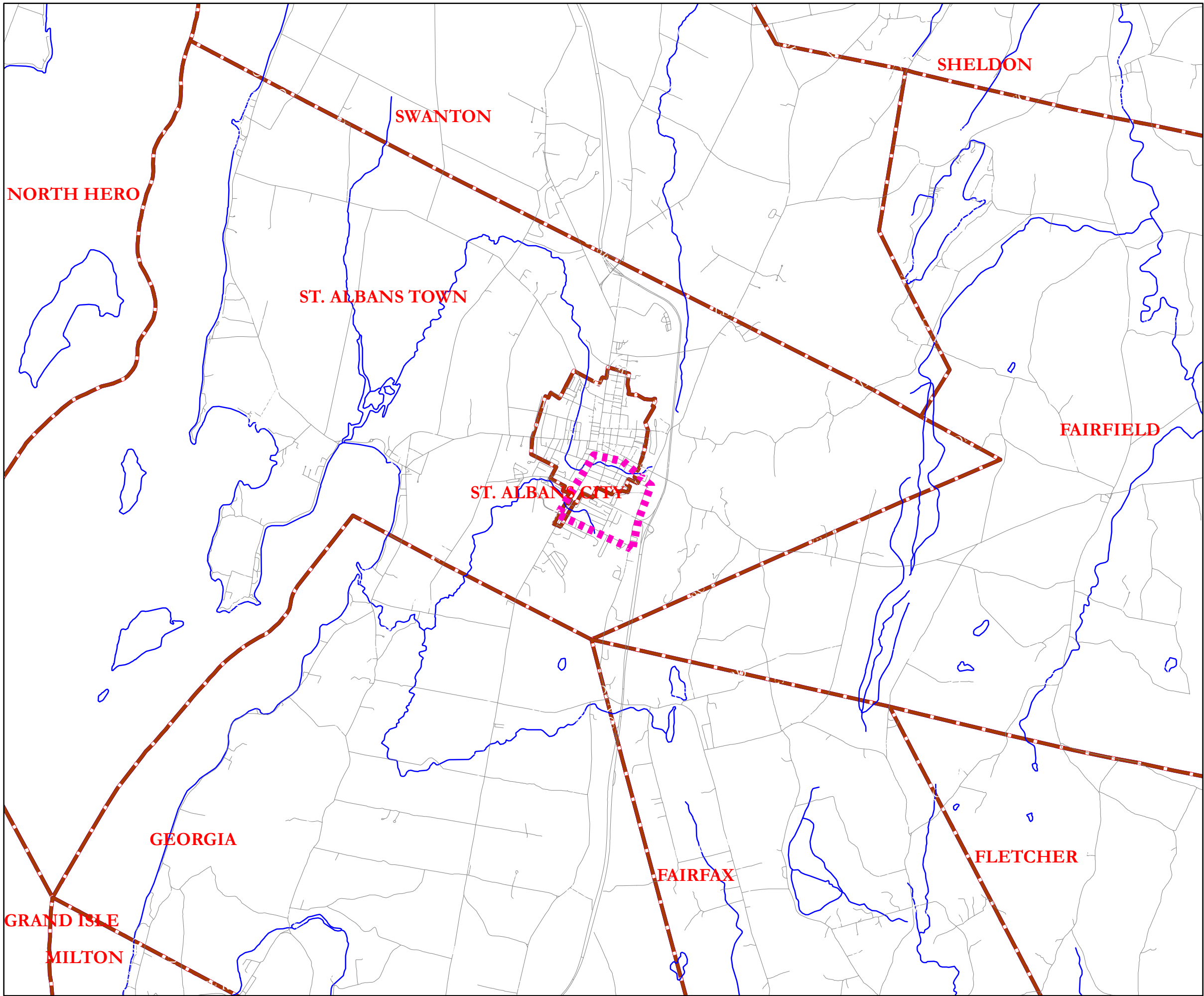
As a first step towards implementing the recommendations of this study, the Town Selectboard should accept and endorse the report. It will be difficult to proceed with the recommendations for the Town without this endorsement. Once the report is endorsed by the Town, it can undertake these steps, but not necessarily in the order listed here:

- Initiate discussions with VTTrans on the issues and analysis needed for the use of the SASH ROW for the shared use path.

- Start considering and applying for funding opportunities through grants, bonding or other sources the Town considers appropriate.
- Keep the Town residents up to date on the process of implementing the recommendations.
- Work with the City to come to agreement on the placement of the shared use path on the SATEC property and within the Route 7 ROW and the relocation of the existing crosswalk on Route 7 in front of the school to align with the new shared use path.
- Work with the City to coordinate the alignment and construction of the eastern end of the shared use path extending south from Thorpe Avenue that lies within the City.
- Hire a consultant if needed to assist with the design of the shared use path.
- Work with VTrans to implement the upgrading of the SASH crosswalk at the Route 7 intersection.
- Work with the landowner over whose property the shared use path runs to secure their agreements on granting the necessary easements (carefully following federal guidelines).
- Follow design and construction process for the new intersection and shared use path sections.

TABLE 1: SASH Crossing Alternatives Analysis
Town of St. Albans
Conceptual Planning & Feasibility Study For Bicycle and Pedestrian Facilities
April 16, 2014

	No Action	Alternative #14	Alternative #15	Alternative #16	Alternative #17a	Alternative #17b	Alternative #18
		Crosswalk on SASH at Route 104 Intersection	Bridge over SASH	Underpass beneath SASH	Crosswalk at Signalized Route 104 Intersection	Crosswalk at Route 104 Roundabout	New Four-Way Intersection at Thorpe Avenue
Project Description							
Length	0	65 FT	175 ft	100 ft	70 FT	50 FT	50 FT
Existing Sidewalk	NA	Yes	NA	NA	No	No	No
New Sidewalk	NA	No	NA	NA	No	No	Yes
Number of Road Crossings	NA	NA	0	0	1	1	1
Number of Culvert Extensions/ Bridges	NA	0	0	2	0	0	2
Private Property Temporary Easements	0	0	0	0	0	0	4
Private Property Permanent Easements	0	0	0	0	0	0	0
Location and Responsibility		City	City (Town)	Town	Town	Town	Town
Significant Physical Constraints		The length of the crossing is long especially until a signal is added to the intersection. Existing median can be extended to become a pedestrian refuge.	Existing grade allows bridge to be built without ramps leading up to it that rise above existing grade. Transition to grade of SASH is within ADA limits.	Existing grade allows underpass to be built without ramps leading down to it but it is also at a low point that collects stormwater	Minimal	Minimal	Minimal grade on both sides of SASH is level, allowing new approaches to be level as well
Environmental/Cultural Constraints							
Disturbs Front Yards	No	No	No	No	No	No	No
Disturbs Steep Slopes	No	No	Yes	No	No	No	No
Affects Historic Resources	No	No	No	No	No	No	No
Adjacent to High Crash Areas	No	No	No	No	Yes	Yes	No
Disturbs Utilities	No	No	No	No	No	No	No
Has ADA Issues	No	No	Yes	No	No	No	No
Disturbs Street Trees	No	No	No	No	No	No	No
Impacts SASH Traffic	No	No	No	No	No	No	No
Disturbs Flood Plain	No	No	No	No	No	No	No
Impacts Existing Stormwater Problem Areas	No	No	No	Yes - Impacts can be mitigated	No	No	Yes - Impacts can be mitigated
Disturbs Hazardous Material	No	No	No	No	No	No	No
Project Attributes							
Meets Purpose and Need Statement by Itself	No	Yes	Yes	Yes	Yes	Yes	Yes
Types of Users Served	Experienced Bicyclists	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users
Separates Motorized and Non-Motorized Users	No	No	Yes	Yes	No	No	No
Changes Existing Traffic Patterns	No	No	No	No	No	No	Yes
Impacts Surrounding Neighborhoods	No	No	Yes	No	No	No	Yes
Benefits Students Walking to School		Yes	Yes	No	No	No	Yes
Provides Access to Alternate Destination	No	Yes	Yes	Yes	Yes	Yes	Yes
Order of Magnitude Cost	\$0	\$15,000	\$800,000	\$900,000	\$15,000	Included in Roundabout	\$300,000
Other Issues							
General Comments		Will also make it easier for students living south of SASH to walk to school. Essential component of a town-wide bicycle and pedestrian network	Best alternative to help students walk to school.	Drainage issues need to be carefully considered and addressed during design and construction. Might be necessary to raise SASH to allow culvert to be slightly above existing grade to avoid having it collect stormwater.	Least direct route from SAT/EC to Collin Perley but necessary as part of a townwide bicycle and pedestrian network	Least direct route from SAT/EC to Collin Perley but necessary as part of a townwide bicycle and pedestrian network	Preferred alternative by Virans informal review group. Moderately useful for students walking to school.
Positive Considerations							
Negative Considerations							



Conceptual Planning & Feasibility Study for Bicycle & Pedestrian Facilities



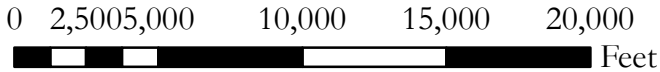
The Town of St. Albans

Legend

Study Area

Town Boundary

Watercourse



Study Area

April 18, 2014

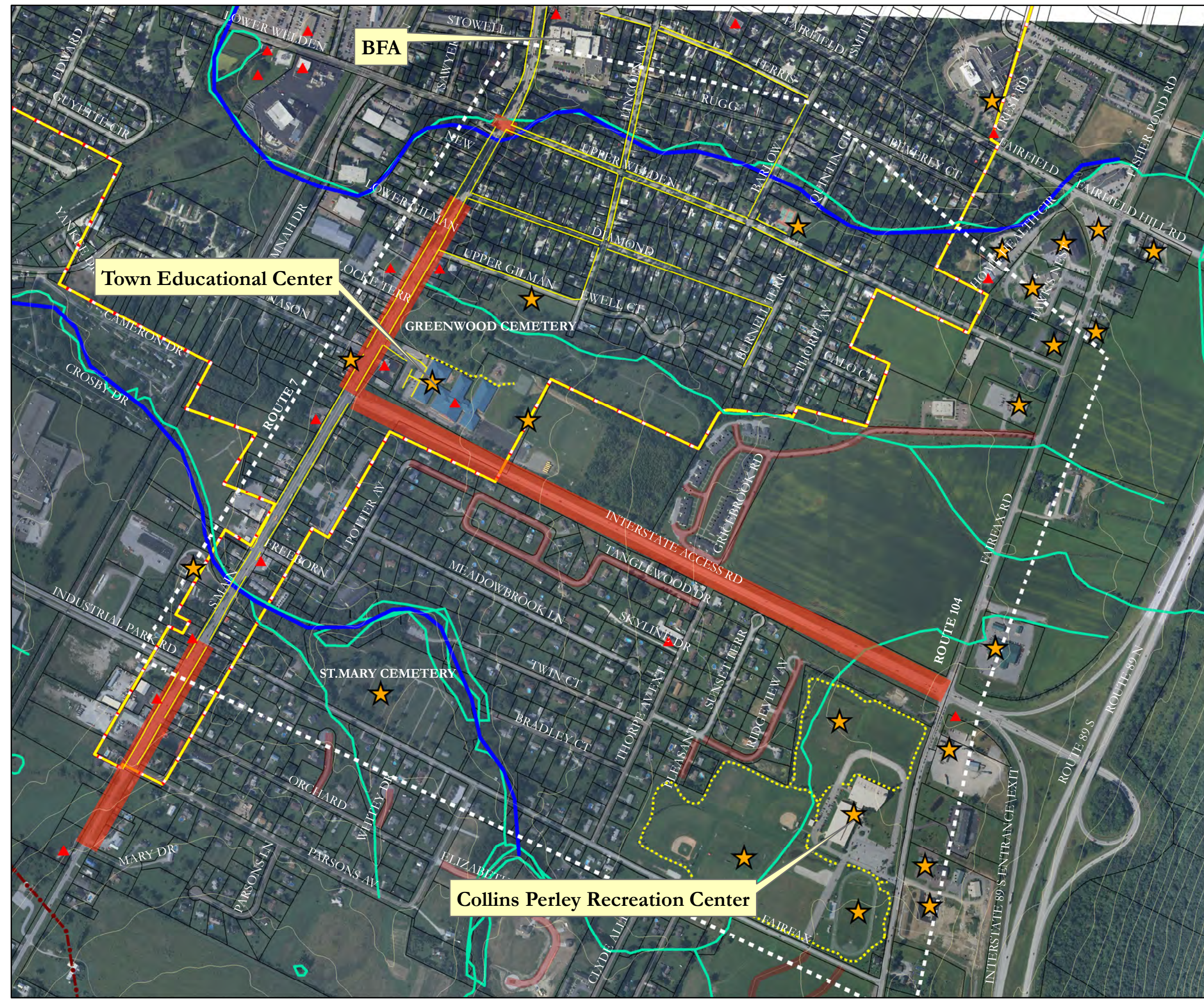
Figure 1

Conceptual Planning & Feasibility Study for Bicycle & Pedestrian Facilities

The Town of St. Albans



Legend	
Existing Sidewalks	
Existing Path	
Private Road	
High Crash Area	
Town Boundary	
20- Foot Contour	
Watercourse	
Destinations	
Study Area	



Existing
Conditions

BROADREACH
Planning & Design

Stantec

Heritage Landscapes
Preservation Landscape Architects & Planners

April 18, 2014

Figure 2

Legend

-  Preferred Alternative
-  Future Route
-  Property Line
-  Study Area
-  Town Boundary

 Preferred Alternative
 Future Route
 Property Line
 Study Area
 Town Boundary

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Figure 3



Legend

-  Green Phase
-  Yellow Phase
-  Red Phase
-  Future Route
-  Property Line
-  Study Area
-  Town Boundary

0 250 500 1,000 1,500 2,000
Feet

BROADREACH
Planning & Design



Heritage Landscapes
Preservation Landscape Architects & Planners

Phasing

Figure 5



Appendix A

Existing Conditions Summary

Town of St. Albans

**Conceptual Planning & Feasibility Study
for Bicycle and Pedestrian Facilities**

Existing Conditions



Submitted by:
Broadreach Planning & Design

In conjunction with
Stantec Consulting
Heritage Landscapes, LLC
University of Vermont Consulting Archeology Program

June 10, 2014

A. INTRODUCTION

1. OVERVIEW

The Town of St. Albans has been working to enhance bicycling and walking options between the Town's Learning Center and the Collins Perley Recreation Center for many years. A feasibility study completed in 2003 was not able to develop a viable link along Fairfax Street. The Town also envisions a larger network of bicycling and walking facilities throughout the Town and a link between the Learning Center and the Collin Perley Recreation Center (CP Center) could serve as a significant piece of this system.

The Town recently received funding through the State of Vermont Agency of Transportation (VTrans) to look again at the feasibility of creating this desirable bicycling and walking link, looking at a larger Study Area beyond Fairfax Street to increase the possibility of finding a viable option.

The Town organized a Steering Committee (SC) for the project of local officials and citizens to provide direction for the study. After circulating a Request for Proposals, the Town selected a consulting team consisting of Broadreach Planning & Design, Stantec Consulting Service, Heritage Landscapes LLC and the University of Vermont Consulting Archeology Program (the BRPD Team).

The Study Area for this project extends approximately to the east side of Route 104, the north side of Weldon Street, the west side of Route 7 and the south side of Fairfax Street. **Figure EC-1** shows the general extent of the Study Area. It includes areas in both St. Albans Town and City. If during the course of the work a viable option appears to exist outside of this defined Study Area, it will still be considered.

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 St. Albans bicycle and pedestrian facility between the Town Learning Center and the Collins Perley Recreation Center is to allow easy, convenient and safe walking and bicycling between the two facilities for walkers and bicyclists of all ages and abilities, especially school children.

Needs for the improvements include:

- The regular use of the athletic fields at the Collins Perley Recreation Center by the Students attending the Town of St. Albans Learning Center.

- The lack of comfortable, convenient walking facilities within the Study Area south of the Interstate Access Road other than along Route 7;
- The lack of shoulders or through roads of adequate width to allow comfortable bicycling conditions for casual or young bicyclists;
- The area lies within one of the Town's Growth Centers which will result in the gradual increase in residents as well as locations that are suitable to access via walking or bicycling; and
- The large number of Town residents that already walk at the Recreation Center that cannot easily walk there.

3. PROJECTED USERS

While one of the focuses of the study is to make it easier for students at the learning center to walk or bicycle to the CP Center, the Town would also like to improve bicycling and walking conditions for people of all ages and abilities. 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 1/2 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

In addition to the CP Center and the Town Learning Center, there are several other important destinations within or close to the Study Area for walkers and bicyclists. **Figure EC 2** shows the locations of these destinations.

B. LAND USE

The Study Area includes residential, institutional, commercial and recreational land uses. The largest land use type in the Study Area is residential, except that many of the land uses along Routes 7 and 104 are commercial. Most of the Study Area within the Town is also within the Town's Southern Growth Center. **Figures EC-2** shows the larger land use types and the limits of the Growth Center within the Study Area.

C. TRANSPORTATION FACILITIES

1. OVERVIEW

There are two state highways, one class 1 town highway, two class 2 town highways and roughly thirteen class 3 town highways within the project area. They include:

- VT Route 104 - State Highway,
- Saint Albans State Highway (Interstate Access Road) - State Highway,
- US Route 7 - Class 1 Town Highway,
- Upper Weldon Street - Class 2 Town Highway, and
- Fairfax Street - Class 2 Town Highway.

Figure EC-2 shows the general location of the transportation facilities in the Study Area, including the Class 3 Town Highways and several private roads.

2. ROADWAY DATA

VT Route 104 (Fairfield Rd) runs north to south along the east side of the project area. It is a two lane Major Collector with 11-foot lanes and three-foot shoulders with no pedestrian accommodations. The grades are relatively flat through here. The speed limit is posted at 40 mph.

US Route 7 lies at the west end of the Study Area. This minor arterial has two 16-foot lanes, two eight-foot marked parking areas and five-foot sidewalks with grass strips on both sides of the road that vary in width from three feet to ten feet. The grades on Route 7 are relatively flat. The speed limit is posted at 25 mph.

Connecting the two roadways is St. Albans State Highway, often called the Interstate Access Road. This Principal Arterial is a freeway with two 13-foot wide lanes and ten-foot shoulders with no pedestrian accommodations. Grades are roughly 4% at its steepest point along the western end of the road. The speed limit is posted at 50 mph.

Upper Weldon Street is a Major Collector Class 2 Town Highway located north of Saint Albans State Highway and runs west to east from US Route 7 to VT Route 104. Grades are fairly steep at roughly 5% at the steepest point. West of Thorpe Ave, Upper Weldon has two nine-foot wide lanes and four-foot wide sidewalks with green strips at least ten feet wide on both sides of the roadway. North of Thorpe Ave, Upper Weldon Street has two eleven-foot wide lanes and no pedestrian accommodations. The posted speed limit throughout is 25 mph.

Fairfax Street is a major collector Class 2 Town Highway located south of Saint Albans State Highway and runs east to west from Route 7 to Route 104. The grades are rolling, with the largest dip located at the crossing of Rugg Brook. Fairfax Road has two eleven-foot wide lanes and no pedestrian accommodations. The posted speed limit here is 35 mph.

Several other Class 3 Town Highways are located with the project area and generally are local roads that are generally twenty-two feet wide with a speed limit of 25 mph. There are not sidewalks on these Class 3 Town Highways. (note: most roads north of the interstate access road are 18- to 20-feet wide. Also Diamond Street and Lincoln Avenue both have four-foot wide sidewalks on both sides and Burnell Terrace has a small section of sidewalk on one side.)

Several private roads are also located south of Saint Albans State Highway, which are reached via the Class 3 Town Highways. These roads also vary from eighteen to twenty-two feet wide without sidewalks.

3. RIGHT-OF-WAY WIDTHS

Along both Route 104 and Route 7, the Right of Way (ROW) width is generally ninety-nine feet or six rod wide, centered on the road. Saint Albans State highway has roughly a 150-

foot wide ROW but the ROW extends out as far as 200 feet for turning lanes at either end of the road. The Class 2 and Class 3 Town Highways generally have a three-rod ROW or 49.5 feet on center.

4. TRAFFIC VOLUMES

Table EC-1 summarizes the Average Annual Daily Traffic (AADT) for roads within the study area for which data is available. AADT's are as reported by VTrans Automatic Traffic Recorder Station History 2003-2012.

Table EC-1: AADT by Roadway Segment

	<u>AADT</u>	<u>Year</u>
VT Route 104	10,100	2010
US Route 7	12,000	2011
Saint Albans State Highway	6,500	2011
Upper Weldon Street	1,100	2010
Fairfax Street	2,200	2009

5. CRASH HISTORY

The Study Area or nearby areas include one intersection and three roadway segments that are High Crash Locations (HCL) as reported in the most recent VTrans HCL report from 2006-2010. **Table EC-2** provides a summary from this listing. **Figure EC-2** shows the locations of these HCLs.

These locations are considered to be HCLs because they have at least five crashes over a five-year period and the actual crash rate, the number of crashes per million vehicles, exceeds the critical crash rate. The critical crash rate is based on the average crash rates of similar roadways in Vermont and is related to the functional class of a highway and whether it is located in an urban or rural area.

Over the same five-year period there was a single pedestrian-related crash close to the Study Area reported in the vicinity of the intersection with US Route 7 and Upper Weldon Street. The accident resulted in a possible injury. More recently there was a pedestrian-related crash in the vicinity of the intersection with Upper Gilman Street and US Route 7 in late 2011. The accident resulted in an incapacitating injury to the pedestrian.

Table EC-2: High Crash Information

<u>Ranking (Int/Segment)</u>	<u>Location</u>	<u># Crashes</u>	<u>Injuries</u>	<u>Fatalities</u>	<u>Actual/ Critical Ratio</u>	<u>\$ Damage</u>
#39 (Intersection)	US Route 7 at Upper Weldon St.	34	5	0	1.513	\$16,418
#57 (Segment)	Saint Albans State Highway	27	5	0	2.279	\$18,522
#72 (Segment)	US Route 7 – Mary Ln to Fairfax St	15	4	0	2.114	\$25,923
#584 (Segment)	US Route 7 – Saint Albans State Highway to almost Upper Weldon St.	34	8	0	1.068	\$21,776

D. UTILITIES

Figures EC-2 shows the general location of the utilities in the Study Area.

Utility poles owned by Green Mountain Power (GMP) run along one side of most of the roads in the Study Area.

Water and sewer lines are located underground throughout the Study Area; the specific locations are still being sought from the Town and the City.

E. NATURAL RESOURCES

1. TOPOGRAPHY

The topography in the Study Area slopes gradually downward to the west. The largest changes in grade are along Rugg Brook as well as at the western end of the Study Area, where the slope is more pronounced. **Figure EC-3** shows the general topography in the Study Area as shown by 20-foot contours.

2. WATERCOURSES

The Rugg Brook is the primary watercourse in the Study Area. There are also several smaller drainage ways, generally flowing west, within the Study Area. **Figure EC-3** shows the general location of the smaller intermittent streams.

3. WETLANDS

The several wetlands in the Study Area are associated with Rugg Brook or its drainage areas. **Figure EC-3** shows the location of these wetland areas.

4. WATERBODIES

There are no significant water bodies within the Study Area.

5. FLOODPLAINS.

There are no recorded floodplains within the Study Area.

6. FLORA & FAUNA

The State of Vermont has not identified natural areas of special importance within the Study Area. There are also no deer wintering areas or other important fauna habitats within the Study Area, including rare, threatened or endangered species.

7. SOILS

Attachment EC-1 includes a soils report for the Study Area.

F. CULTURAL RESOURCES

1. OPEN SPACE AND PUBLIC LANDS

The Town of St. Albans Learning Center and the CP Center are the two large publicly owned parcels within the Study Area, in addition to the roadway ROWs. **Figures EC-2** shows the location of these two important open space areas.

G. PLANNING DOCUMENTS

1. 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.

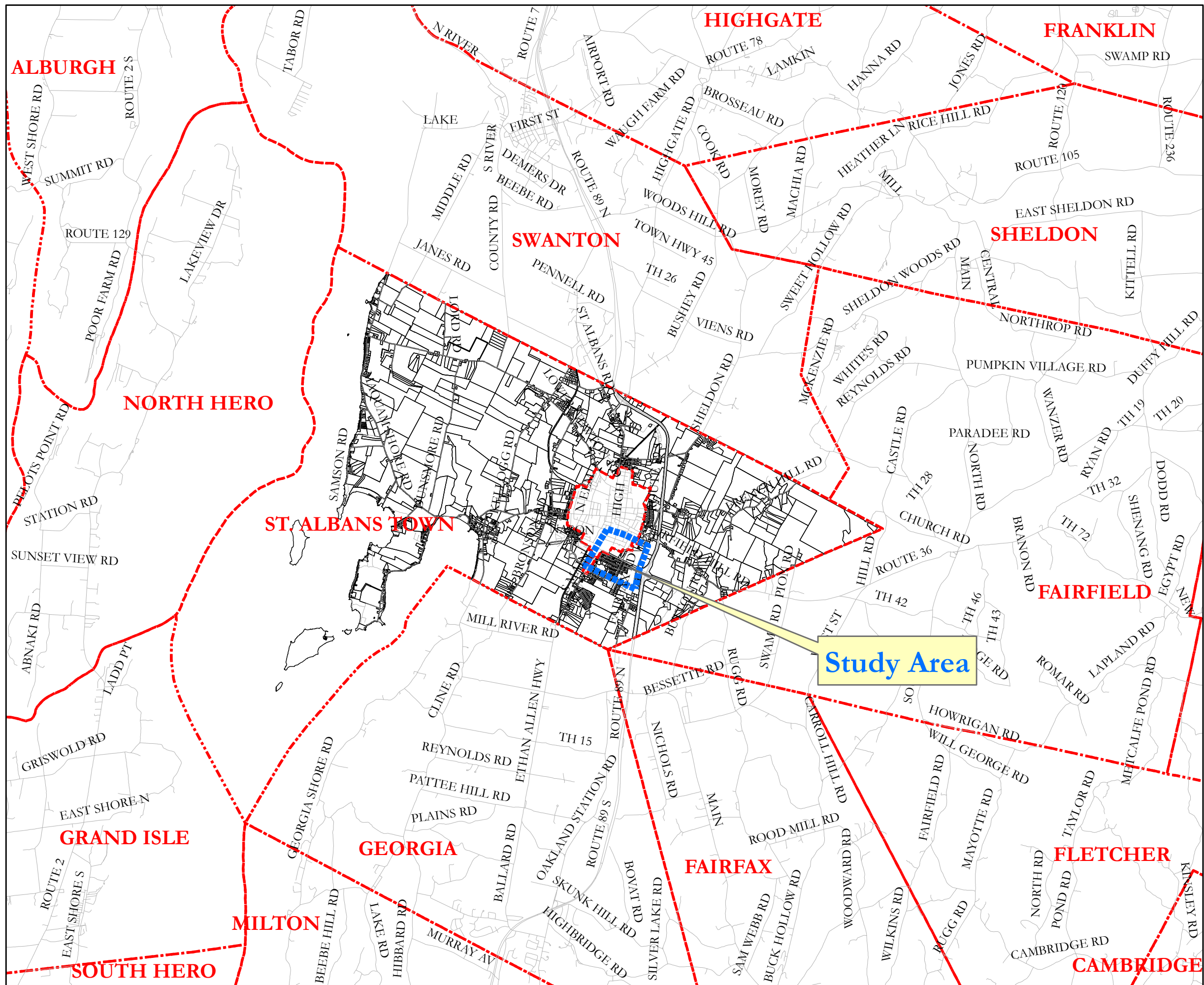
2. OTHER PLANS OR STUDIES

Sidewalk Master Plan

The Town of St. Albans *Sidewalk Master Plan*, developed for the Town in 2003, recommends several sidewalk corridors within the Study Area:

- Fairfax Street,
- Route 104,
- The Saint Albans State Highway, and
- Upper Weldon Street.

Of these, sidewalks on Upper Weldon Street and Fairfax Street the Sidewalk Master Plan rated them as the highest priority, while the State roads were recommended for future conceptual planning.



Conceptual Planning & Feasibility Study for Bicycle & Pedestrian Facilities

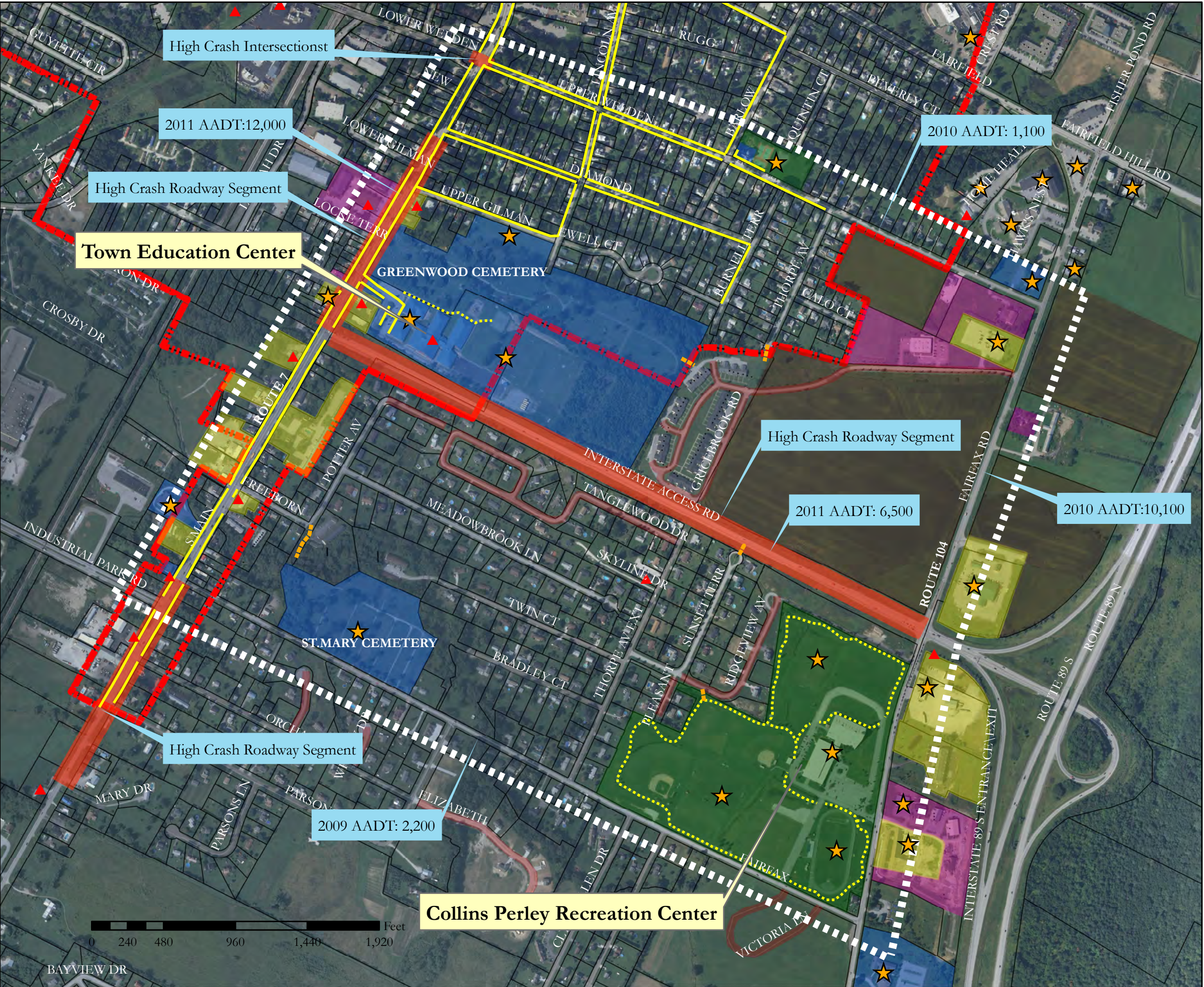
The Town of St. Albans
Vermont



Project Study Area

November 12, 2013

Figure EC-1



Conceptual Planning & Feasibility Study for Bicycle & Pedestrian Facilities

The Town of St. Albans



Note: Land with no overtone within the Study Area is currently in residential use.

The end point of the leads for the AADT information is at the approximate location of the count.

Legend

Destinations	★
Existing Sidewalks	—
Existing Path	---
Informal Path	- - -
Private Road	—
High Crash Area	—
Hazardous Waste Site	▲
Agricultural Land Use	—
Public/Service Land Use	—
Commercial Land Use	—
Office Land Use	—
Recreational Land Use	—
Approximate Study Area	---
Town Boundary	---
Property Line	---

BROADREACH
Planning & Design

Stantec

Heritage Landscapes
Preservation Landscape Architects & Planners

Existing
Conditions:
Cultural
Features

November 21, 2013

Figure EC-2

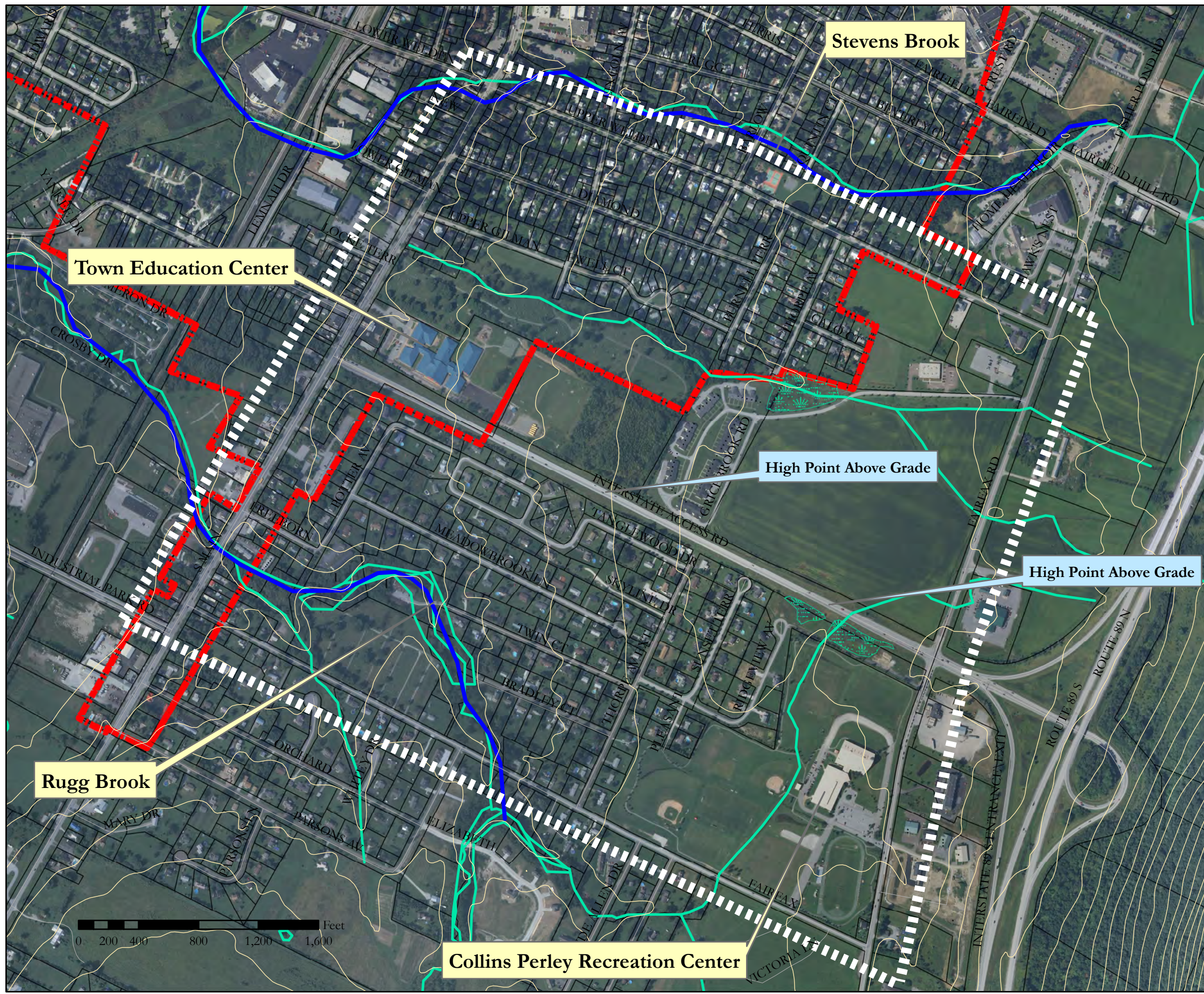
Conceptual Planning & Feasibility Study for Bicycle & Pedestrian Facilities

The Town of St. Albans



Legend

- Twenty Foot Contours
- Watercourse
- Wetland
- Unmapped Wetland
- Town Boundary
- Property Line
- Approximate Study Area



BROADREACH
Planning & Design

 **Stantec**


Heritage Landscapes
Preservation Landscape Architects & Planners

November 21, 2013

**Existing
Conditions:
Environmental
Resources**

Figure EC-3

Appendix B Alternatives Summary

Town of St. Albans

**Conceptual Planning & Feasibility Study
for Bicycle and Pedestrian Facilities**

Alternatives Analysis



Submitted by:
Broadreach Planning & Design

In conjunction with
Stantec Consulting
Heritage Landscapes, LLC
University of Vermont Consulting Archeology Program

June 10, 2014

A. INTRODUCTION

1. OVERVIEW

The Town of St. Albans has been working to enhance bicycling and walking options between the Town's Educational Center and the Collins Perley Recreation Center for many years. A feasibility study completed in 2003 was not able to develop a viable link along Fairfax Street. The Town also envisions a larger network of bicycling and walking facilities throughout the Town and a link between the Educational Center and the Collin Perley Recreation Center could serve as a significant piece of this system.

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The Town organized a Steering Committee (SC) for the project of local officials and citizens to provide direction for the study. After circulating a Request for Proposals, the Town selected a consulting team consisting of Broadreach Planning & Design, Stantec Consulting Service, Heritage Landscapes LLC and the University of Vermont Consulting Archeology Program (the BRPD Team).

The Study Area for this project extends approximately to the east side of Route 104, the north side of Weldon Street, the west side of Route 7 and the south side of Fairfax Street. **Figure EC-1** shows the general extent of the Study Area. It includes areas in both St. Albans Town and City. If during the course of the work a viable option appears to exist outside of this defined Study Area, it will still be considered.

After a thorough analysis of existing conditions in the Study Area, the SC and the BRPD looked a variety of alternatives to addressing the purpose and need of the Study. This summary report is the second product of the work of the SC and the BRPD Team, which summarizes the development and analysis of alternatives. The report is formatted for double-sided printing; blank pages are intentional.

2. PURPOSE AND NEED

The purpose of the St. Albans bicycle and pedestrian facility between the Town Educational Center and the Collins Perley Recreation Center is to allow easy, convenient and safe walking and bicycling between the two facilities for walkers and bicyclists of all ages and abilities, especially school children.

Needs for the improvements include:

- The regular use of the athletic fields at the Collins Perley Recreation Center by the Students attending the Town of St. Albans Educational Center.
- The lack of comfortable, convenient walking facilities within the Study Area south of the Interstate Access Road other than along Route 7;
- The lack of shoulders or through roads of adequate width to allow comfortable bicycling conditions for casual or young bicyclists;
- The area lies within one of the Town's Growth Centers which will result in the gradual increase in residents as well as locations that are suitable to access via walking or bicycling;
- The High Crash Highway Segment on Route 7 directly in front of the school entrance and the route that students need to walk or ride to enter and exit the school on their way to the Collins Perley Center or anywhere else;
- The congested nature of the school entrance in the morning and afternoon when school is starting or ending that currently places walkers and bicyclists in direct contact with motor vehicles and buses entering or exiting the school campus; and
- The large number of Town residents that already walk at the Recreation Center that cannot easily walk there.

3. ALTERNATIVES DEVELOPMENT PROCESS

Once the BRPD Team, with assistance from the Town, examined the existing conditions they held an initial public work session on November 26, 2013 in conjunction with the Town of St. Albans Planning Commission. After consideration of the comments received at the meeting, the BRPD Team led a work session with the SC to identify as many alternatives as possible for improving walking and bicycling conditions between SATAC and BFA and the Collins Perley Recreation Center. The group worked together to do an initial analysis of the alternatives to refine or eliminate those that did not meet the purpose and need or were otherwise unsuitable. Subsequently, the BRPD Team conducted a more detailed analysis of the remaining alternatives and developed a concise, viable set for public discussion. They prepared an initial comparison matrix to help in reviewing and understanding the various initial alternatives. **Table AL-3** includes information on the various initial alternative alignments and evaluation conclusions.

Figure AL-1 shows the location of the alternatives initially developed by the BRPD Team; **Figure AL-2** shows the alternatives that remained viable after the initial analysis. **Tables AL-1** and **AL-2** provide comparisons of the different remaining alternatives. **Figure AL-3** provides more information on the issues or impacts associated with the remaining alternatives.

B. ALTERNATIVES

1. INTRODUCTION

The following descriptions of the alternatives typically begin on the north or west side of the Study Area and head east or south. The BRPD Team organized the numerous alternatives into a series of small linking segments that could be combined in a variety of ways to create one or more routes between the schools and the Recreation Center. To make it easier to understand and review the numerous alternatives, the BRPD Team also organized the Links into similar types of facilities:

- Shared Use Paths (Identified with narrow-spaced dash line),
- Bicycle Lanes and Sidewalks (Identified with double narrow lines),
- Shared Lanes and Sidewalks (identified with wide-spaced dash line), and
- Road Crossings (Identified with solid lines).

Identifications refer to how the Links are shown on **Figure AL-2**.

The preferred alternative should include at least one road crossing. It might ultimately include a mix of elements from several alternatives, parts of one alternative or several different alternatives grouped together.

2. SHARED USE PATH ALTERNATIVES

a. Link #1: Shared Use Path Route 7 - BFA to SATEC - This would be a eight- to ten-foot-wide shared use path along the east side of Route 7. There are two options for the actual alignment of the path - the edge of the path closest to the road is:

- Approximately two feet in from the existing curb or
- Aligned with the outer edge of the existing sidewalk, extending towards the house on the east side of the path.

The option closer to the existing road would necessitate the relocation of existing utility poles and the removal of some street trees. The option further from the road would necessitate the modification of several of the front yards of existing house along the road as well as the removal of numerous street trees. Either of the alignments would cross numerous residential driveways as well as one set of commercial driveways and the access to the Greenwood Cemetery. They both would be contained within the existing Route 7 Right-of-Way (ROW).

b. Link #2: Shared Use Path Route 7 & SASH - SATEC to Potter Avenue - This alternative would be located approximately two feet from the existing curb and extend eight to ten feet away from the curb towards the outer edge of the ROW. It would cross the two access drives to the gas station and then cross the St. Albans State Highway (SASH) via a new crosswalk installed as part of the future upgrading of the intersection to link with the Federal Street extension. The path would then turn east along the southern side of the

SASH ROW. It would extend eastward approximately 550 feet to a spot opposite the turn in Potter Avenue.

c. Link #3: Shared Use Path SATEC to Bridge to Potter Avenue - The path would begin at the entrance to SATEC on Route 7 following the alignment of the sidewalk on the south side of the driveway. The path would turn south along the school property line to the west of the existing parking area. It would around the parking area and driveway until it was approximately opposite the southwest corner of the school building. At that point it would switch back to the west, going into the SASH ROW, heading towards a bridge over the SASH itself. The path would be rising at no more than a five percent grade as it made its way towards the bridge. On the south side of the bridge, the path would turn east and descend at no more than a five percent grade back down to the outer edges of the SASH ROW opposite the turn in Potter Avenue (the same ending as Link #2).

d. Link #4: Shared Use Path Upper Welden Street & Route 104 - Link #4 would be a ten-foot-wide shared use path beginning on the south side of Upper Welden Street east of the intersection with Thorpe Avenue. It would extend east along the outside edge of the Upper Welden ROW to the intersection with Route 104 where the path would turn south following the outer edge of the Route 104 ROW. It ends at the Route 104 intersection with SASH.

e. Link #5: Shared Use Path Thorpe Ave. Ext. ROW North of SASH - This ten-foot-wide shared use path would begin at the south end of Thorpe Avenue and head west to the SASH ROW. It would cross Stevens Brook via a small prefabricated bridge and then follow the south side of the existing ROW. If necessary, depending on the ownership of the ROW, the path could also be aligned on the adjacent parcel directly to the east of the ROW.

f. Link #6: Shared Use Path Thorpe Ave to SASH/Route 104 Intersection through Future Development - This path would be incorporated into the development being contemplated for the parcel of land on the northwest corner of the Route 104/SASH intersection. It would like the southern end of Thorpe Avenue with the intersection as a continuous ten-foot-wide facility. The specific routing of the path would be determined as plans for the parcel are developed. Because this alignment is dependent on the development of the parcel, the actual timing of its completion would be not be controlled by the Town.

g. Link #7: Shared Use Path SASH North Side - Route 7 to Thorpe Ave Ext. ROW - This ten-foot wide path would lie primarily on the outer, northern edge of the SASH ROW, moving in from the edge only when necessary to avoid rock outcrops or other natural features best avoided when possible. The path would always be at least ten feet away from the edge of the SASH pavement. The path would run from Route 7 to where the SASH ROW meets the southern end of the Thorpe Avenue Extension (Gricebrook Road) ROW.

h. Link #8: Shared Use Path SASH North Side - Thorpe Ave. Ext. to Potential Tunnel - Link #8 is a small section of ten-foot-wide shared use path the continues from the eastern end of Link #7 to the location of a potential pedestrian and bicycle tunnel under the SASH.

It would lie at the outer edge of the SASH ROW unless the ROW is used by VTrans for stormwater mitigation purposes. In that case, the shared use path would shift north to the outer edge of the adjacent private parcel.

i. Link #9: Shared Use Path SASH North Side - Tunnel to Route 104 - This ten-foot-wide shared use path would lie at the outer, northern edge of the SASH ROW. It would begin at the location of a potential pedestrian and bicycle tunnel under SASH and extend east to the SASH intersection with Route 104.

j. Link #10: Shared Use Path SASH South Side - Potter Ave to Tunnel - This link would create a ten-foot-wide shared use path on the southern edge of the SASH ROW running from the location north of the turn in Potter Avenue (at the end of Links 2 and 3) to the location of a potential tunnel under the SASH.

k. Link #11: Shared Use Path CP Path - Tunnel to Ball Field - This link converts the portion of the existing running path around the perimeter of the CP that runs north south just to the east of Ridgeview Avenue in the northwest corner of the property. The path would be eight to ten feet wide. It would extend south to the location where the path splits to head east of west to the west of the CP building.

l. Link #12: Shared Use Path CP Path - Ball Field to CP Building - Link #12 converts the portion of the existing running path around the perimeter of the CP that heads east from the end of Link #11 west of the CP and makes its way around the south side of the building. It turns north on the west side of the south vehicular access road and extends to the front of the CP building.

m. Link #13: Shared Use Path Route 104 & CP Path - SASH to CP Building - This link would add a ten foot wide shared use path on the west side of Route 104 south of the SASH intersection. The path would lie at the outer edge of the Route 104 ROW until it reaches the northern edge of the CP. At that point the path would shift onto the property using the alignment of the eastern edge of the running path. As it reaches the northeast corner of the building, the new shared use path would run along the east side of the CP building to the main building entrance.

3. SHARED LANE AND SIDEWALK ALTERNATIVES

a. Link #14: Shared Lane Potter Ave. - Meadowbrook Lane - Thorpe Avenue Extension - Sunset Terrace To Shared Use Path - This link mostly uses existing roadways to create a route to the CP. It would start in the SASH ROW east of the curve on Potter Avenue. It would cross private property as an eight-foot-wide shared use path to reach Potter Avenue at its bend. The route would then convert to shared lanes for bicyclists with pedestrian routes along the edges of the roadway, following Potter Road south to the intersection with Meadowbrook Lane. The route would head east on Meadowbrook Lane to its eastern end where it would again convert to a shared use path that would link with Thorpe Avenue Extension, using an existing, unused ROW. The route would head south a short distance on Thorpe to the intersection with Sunset Terrace where it would turn east.

At the bend in Sunset Terrace, the route would move back onto a shared use path heading east adjacent to Ridgeview Avenue using an unused ROW to the western edge of the CP. Once on the CP property, the shared use path would follow the alignment of the perimeter running trail east to the point where it divides.

b. Link #15a: Shared Lane Thorpe Avenue - This link would create a bicycling route along Thorpe Avenue from the intersection with Upper Weldon Street to its southern end. Bicyclists would share the existing road with motorists. New share the road and bicycle route signs would be added to the road but there would be no widening of the roadway itself. To accommodate pedestrians, a new sidewalk would be added within the Thorpe Avenue ROW along one side of the road also extending from the existing sidewalk on Upper Weldon Street south to the roads end.

c: Link #16: Shared Lane Upper Weldon Street - Route 7 to Thorpe Avenue - This link would create a bicycling route along Upper Weldon Street from Route 7 east up the hill to the intersection with Thorpe Avenue. Bicyclists would share the existing road with motorists. New share the road and bicycle route signs would be added to the road but there would be no widening of the roadway itself. Pedestrians would use the existing sidewalks along both sides of the road.

4. BICYCLE LANE & SIDEWALK ALTERNATIVES

a. Link #15b: Bicycle Lanes on Thorpe Avenue - Link 15b would widen Thorpe Avenue by approximately five feet to allow the addition of four-foot-wide bicycle lanes on each side of the road. This would leave two eight-foot-wide travel lanes for vehicles. It would also eliminate parking on the pavement along the sides of the avenue.

5. ROADWAY CROSSING ALTERNATIVES

a. Link #17: Bridge Crossing over SASH - The bridge over the SASH would be located at the western end of the roadway where the bridge could take advantage of the higher elevations on either side of the roadway. These higher elevations would provide height for the bridge without the need to for support structures and would minimize the necessity for unnatural ramps that would need to rise up to a bridge placed on level ground. The ramps on either side would rise naturally with the grade, as described in Link #3. The bridge would be approximately 12 to 14 feet wide and would be prefabricated, most likely of some sort of steel to withstand winter conditions better.

b. Link #18: Tunnel Crossing under SASH - The tunnel under the SASH would be located at a spot where the SASH itself is on fill approximately 10 feet higher than the adjacent natural grades. This condition would allow the tunnel to be located at grade, eliminating the requirement of having long ramps descending to the tunnel. If there is not enough clearance between the top of the tunnel and the SASH, the roadway surface can be raised slightly to provide the needed separation. The length of the tunnel would be kept to the minimum necessary to pass under the roadway to allow for maximum light penetration

into the tunnel. The tunnel would be approximately 14 feet wide and eight to ten feet high inside. It would most likely be constructed from precast concrete forms.

c. #19a: Crossing Link Crosswalk at Route 4 Signalized Intersection - This link would create a crosswalk on the SASH on the west side of Route 104. The crosswalk would include a pedestrian signal incorporated into the existing traffic signal. It is anticipated that it can be added to the overall cycle with minimal impacts to existing levels of service for the motor vehicles. The crosswalk would be approximately 70 feet long.

d. Link #19b: Crossing Crosswalk at Route 4 Roundabout - This link would create a crosswalk on the SASH on the west side of Route 104 across the ingress and egress lanes for the roundabout. The two portions of the crosswalk would be separated by the separated island that is a regular portion of the roundabout. Each of the segments of cross walk would be approximately 16 feet long. **Illustration 1** shows the general layout of Link #19a.

Illustration 1: Schematic Layout of Link #19a



Image taken from "Exit 19/SASH/VT 104 Intersection Scoping Study Update, completed by Lamoureux & Dickinson Consulting Engineers, Inc.

C. IMPACTS & ISSUES

Each of the links has associated issues and potential impacts. **Tables AL-1** and **AL-2** provide a comparison of several issues and impacts of the different Links. **Figure AL-3** shows the locations of various issues and potential impacts of the different links. There are several common issues that are shared by many of the links. The following text briefly presents these issues, which should be considered when comparing and analyzing the different links and evaluating which combination would be the most appropriate solution for the Town of St. Albans.

B. PURPOSE & NEED

Because this Town would like this project to provide improved bicycling and walking circulation within the Study Area for users of all ages and abilities, those links that most likely will not serve all these users are considered to not meet the purpose and need of the project on their own. The on-road facilities typically will not serve beginning bicyclists or inexperienced or circumscribed walkers. Shared use paths do not always meet the needs of experienced bicyclists when their alignments are not as direct as on-road facilities or when they are congested with slower walkers or bicyclists. This does not mean that these types of links do not have merit. They may, in combination with other links, meet the purpose and need, such as an on-road paved shoulder or shared lane in combination with an off-road shared use path both leading towards the same destination.

C. HIGH CRASH LOCATIONS

The links that are located adjacent to portions of Route 7 of the entire length of the SASH are located near high crash locations. Because the links in these particular locations are not interacting directly with the roadway but are situated adjacent it, the issues associated with these particular high crash location should not directly affect the users of the shared use paths adjacent to them.

D. FRONT YARDS & RIGHT-OF-WAYS

In numerous locations around the Study Area, the right-of-way extends into the apparent front yards of the adjacent residential units. Several links include the construction of new sidewalks or the widening of roadways to accommodate walkers or bicyclists. In each case, the expansion of the facility should be able to be accommodated within the existing ROWs. This may not be readily apparent to the adjacent landowners, who may believe that the expansion is impacting their personal property. Due to this perception, the disturbance of front yards, whether in or out of the ROW, is included as part of the analysis. The level of disturbance can be evaluated in more detail if the particular links that include these disturbances are considered to be part of the preferred alignment(s).

E. ACCESS TO ALTERNATE DESTINATIONS

Few of the links, on their own, would provide access to alternate destinations. In combination with other links, they would make it easier to get to many of the alternate destinations within or close to the Study Area.

Attachment AL-1: Initial Alternative
Central Vermont Regional Planning Commission
Conceptual Planning & Feasibility Study for Bicycle & Pedestrian Facilities
Janaury 2014

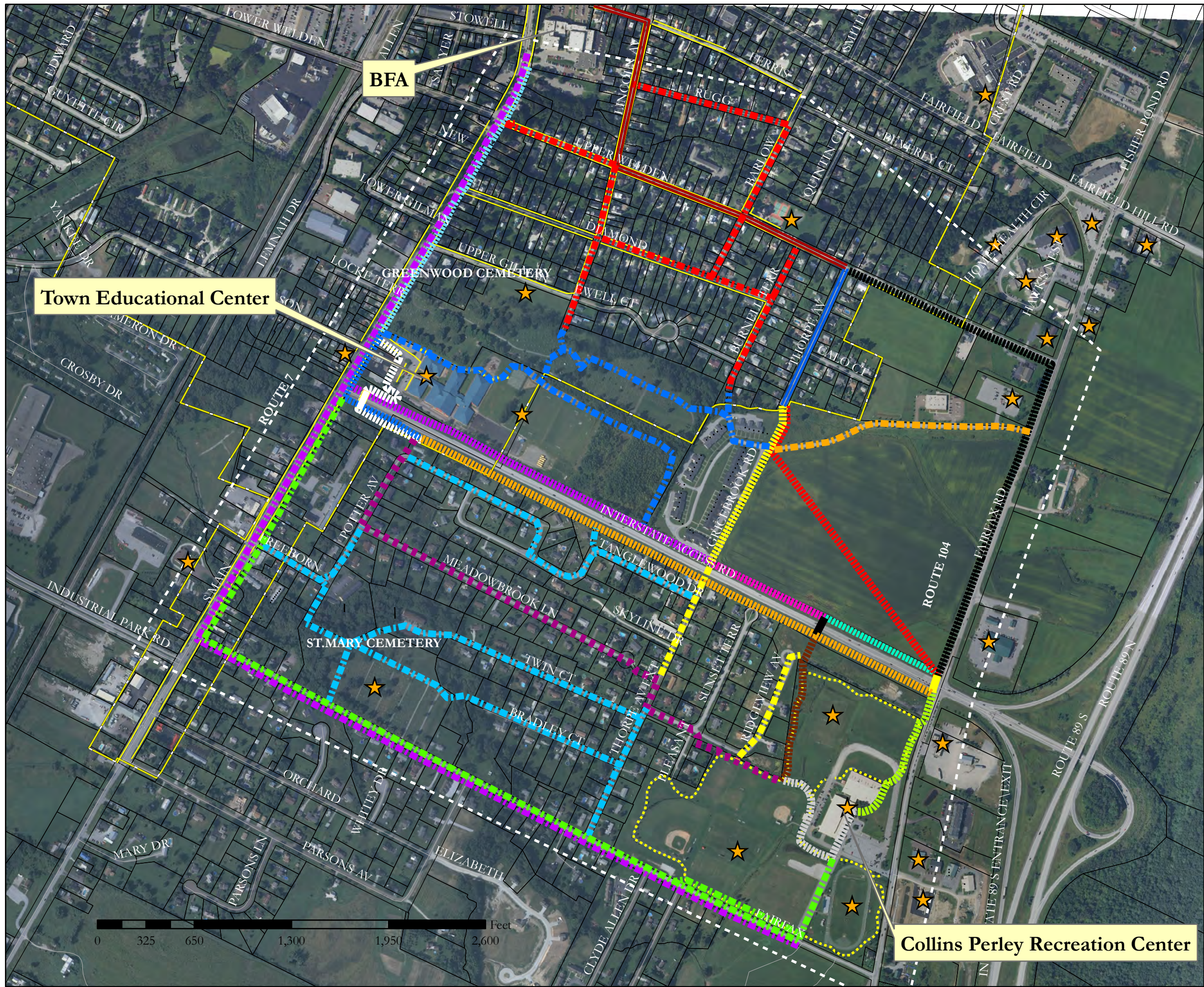
Initial Alternative Designation	Description	Disposition	Final Alternative Designation
Link #1	Shared use path on the east side of Route 7 from BFA to SATEC	Eliminated due to Ssafety concerns of the many driveways to cross, the impacts to front yards and trees, and the need to move numerous utility poles.	Deleted
Link #2	Shared use path on the east side of Route 7 from SATEC to SASH and then on the South side of SASH to Potter Avenue.	Kept as an alternative but split into three sections, the Route 7 section to the north side of SASH - Alt. #1, the SASH section - Alt. #2, and the	Alt. #1, Alt. #2 & Alt. #14
Link #3	Shared use path from SATEC to bridge over SASH to the south side of SASH to Potter Avenue	Kept as an alternative	Alt. #3
Link #4	Shared use path on the south side of Upper Welden from Thorpe Avenue to Route 104 and along the west side of Route 104 to SASH	Eliminated due to Ssafety concerns of the many driveways to cross, the impacts to front yards and trees, and the need to move numerous utility	Deleted
Link #5	Shared use path on the south side of Thorpe Avenue Extension north of SASH	Kept and incorporated into Alt. #12	Part of Alt. #12
Link #6	Shared use path incorporated into the future development of the parcel on the northwest corner of Route 104 and SASH, linking Thorpe Avenue and the Route 104/SASH intersection	Eliminated due to the need to relinquish control over when the path is built to the future, uncertain development schedule of the parcel	Deleted
Link #7	Shared use path along the north side of SASH between Route 7 and Thorpe Avenue Extension	Kept	Alt. #7
Link #8	Shared use path along the north side of SASH between Thorpe Avenue Extension and the potential underpass location	Kept	Alt.# 8
Link #9	Shared use path along the north side of SASH between the potential underpass location and Route 104	Kept	Alt. #9
Link #10	Shared use path along the south side of SASH from Route 7 to Route 104	Kept but split into two sections	Alt. #4 & Alt. #5
Link #11	Shared use path following the alignment of a portion of the Perley Collins walking path	Kept	Alt. #11
Link #12	Shared use path following the alignment of a portion of the Perley Collins walking path and then extending to the front of the building	Kept	Alt. #10
Link #13	Shared use path along the west side of Route 104 south of SASH, then following the alignment of a portion of the Perley Collins walking path and	Kept	Alt #6
Link #14	Mixed facility path starting on the south side of the SASH east of Potter Avenue with a shared use path linking to Potter, then an on road shared lane facility on Potter and Meadowbrook Lane, then a shared use path linking to Thorpe Avenue, then a shared lane on Sunset Terrace and then to a shared use path to the split in the Collins Perley walking path west of the building	Kept	Alt #13
Link #15a/#15b	A shared use lane on Thorpe Avenue with a new sidewalk	Kept and incorporated into Alt. #12	Part of Alt. #12
Link #16	Shared lanes Perris Street, Lincon Avenue and Upper Welden to Thorpe Avenue	Kept	Part of Alt. #12
Link #17	A bridge over SASH just east of Route 7	Kept	Alt #15
Link #18	An underpass beneath SASH that is at grade on either side of the SASH	Kept	Alt. #16
Link #19	A crosswalk on SASH at the Route 104 intersection, either with the existing configuration and the addition of a pedestrian signal or with a new roundabout configuration	Kept	Alt #17a/#17b
Link #100	Various alignments of shared use paths that lead east from the school through school property or Greenwood Cemetery and Grice Brook Condos	Eliminated due to the security issues of routing a public shared use path through the school property; the indirect nature of the route through Greenwood Cemetery and the need to use a portion of the Grice Brook Condo property and roadway system, running close to the buildings	Deleted
Link #101	Shared lanes on the various streets south and east of BFA	Eliminated due to the indirect nature of the routes	Deleted
Link # 102	Shared lane on Grice Brook Drive from the Grice Brook Condominiums to Route 104	Eliminated due to the indirect nature of the route	Deleted
Link #103	A surface crossing of SASH at Thorpe Avenue, and shared lane use of Thorpe Avenue, Sunset Terrace or Ridgeview Avenue	Eliminated due to the unsafe nature of the SASH crossing	Deleted
Link #104	A shared use path along the east side of Route 7 south of SASH and a shared use path along Fairfax Street leading to a shared use path heading into Collin Perley	Eliminated due to the safety issues of a driveway conflicts on Route 7 and the indirect routing	Deleted
Link #105	Shared lanes on the various streets south of SASH not considered in other links, connected as needed by shared use paths through St. Mary Cemetery	Eliminated due to the indirect nature of the route	Deleted
Link #106	Bicycle lanes on Route 7 from BFA to Fairfax Street and on Fairfax Street to the entrance to Collin Perley	Eliminated due to the difficulty of crossing Route 7 to get to the proper side of the road for riding and the need to significantly widen Fairfax Street.	Deleted

TABLE A-2: Shared Use Path Alternative Analysis
Town of St. Albans
Conceptual Planning & Feasibility Study For Bicycle and Pedestrian Facilities
January 12, 2014

	No Action	Alternative #1	Alternative #2	Alternative #3	Alternative #4	Link #5	Alternative #6	Alternative #7	Alternative #8	Alternative #9	Alternative #10	Alternative #11
		Route 7 -SATEC to SASH	SASH - Route 7 to Potter Ave.	SATEC to Bridge to Potter Ave.	SASH South Side - Potter Ave to Underpass	SASH South Side - Underpass to Route 104	Route 104 & CP Path - SASH to CP Building	SASH North Side - Route 7 to Thorpe Ave Ext. ROW	SASH North Side - Thorpe Ave. Ext. to Underpass	SASH North Side - Underpass to Route 104	CP Path - Ball Field to CP Building	CP Path - Underpass to Ball Field
Project Description												
Length	0	425 FT	600 FT	1,200 FT (excludes bridge)	3,000 FT	1,100 FT	1,000 FT	2,700 FT	900 FT	830 FT	1,100 FT	1,015 FT
Number of Residential Driveway Crossings	0	0	0	0	0	0	0	0	0	0	0	0
Number of Non-Residential Driveway Crossings	0	3	0	0	0	0	1	0	0	0	1	0
Number of Road Crossings	0	0	0	0	0	0	0	0	0	0	0	0
Number of Culvert Extensions/Bridges	0	0	0	0	1	1	0	1	0	1	1	1
Length in Existing ROW	NA	425 FT	600 Ft	460 FT	3,000 FT	1,100 FT (Debatable)	200 FT	2,700 FT	900 FT	830 FT	0	40 FT
Private Property Temporary Easements		1	0	Requires Easement from SATEC	0	1 Potential	Needs Easement from Colins Perley	0	0	0	Needs Easement from Colins Perley	Needs Easement from Colins Perley
Private Property Permanent Easements	0	0	0	Requires Easement from SATEC	0	1 Potential	Needs Easement from Colins Perley	0	0	0	Needs Easement from Colins Perley	Needs Easement from Colins Perley
Location & Responsibility		City	City	City (Town)	Town & City	Town	Town	Town & City	Town	Town	Town	Town
Significant Physical Constraints	NA			Approaches to bridge may need blasting to bring back to grade.		None		The rocks at the edge of the ROW will most likely require some blasting.	VTrans is contemplating a stormwater mitigation project in the ROW which could require the path to move onto the adjacent private property for a portion of the 900 FT	VTrans is contemplating a stormwater mitigation project in the ROW which could require the path to move onto the adjacent private property for a portion of the 900 FT		
Environmental/Cultural Constraints												
Disturbs Front Yards		No	No	No	No	No	No	No	No	No	No	No
Disturbs Wetland or Wetland Buffer	No	No	No	No	Yes	No	Possibly	Possibly	Possibly	Possibly	No	Yes
Uses Agricultural Land	No	No	No	No	No	No	Yes	No	No	No	No	No
Disturbs Steep slopes	No	No	No	Yes	No	No	No	No	No	No	No	No
Affects Historic Resources	No	No	No	No	No	No	No	No	No	No	No	No
Adjacent to High Crash Areas	No	No	Yes	No	No	No	No	No	No	Yes	No	No
Disturbs Utilities	No	Yes	No	No	No	No	No	No	No	No	No	No
Has ADA Issues	No	No	No	Yes	No	No	No	No	No	No	No	No
Disturbs Street Trees	No	No	No	No	No	No	No	No	No	No	No	No
Disturbs Flood Plain	No	No	No	No	No	No	No	No	No	No	No	No
Disturbs Hazardous Material	No	No	No	No	No	No	No	No	No	No	No	No
Project Attributes												
Meets Purpose and Need Statement by Itself	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Types of Users Served	Experienced Bicyclists	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Yes	Yes
Separates Motorized and Non-Motorized Users	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Provides Access to Alternate Destination	No	Possibly All Users	Possibly All Users	No	No	No	Yes	No	No	No	No	No
Order of Magnitude Cost	\$0	\$145,000	\$205,000	\$400,000 (excluding bridge)	\$990,000	\$365,000	\$330,000	\$980,000	\$90,000	\$275,000	\$365,000	\$335,000
Other Issues												
General Comments		Makes other alternatives available to BFA students	Makes other alternatives available to BFA students	Slope on path leading to and from bridge might need to exceed 5%	Requires cooperation from Vtrans	Requires cooperation from Vtrans	Requires Collins Perley Cooperation	Requires cooperation from Vtrans	Requires cooperation from Vtrans	Requires cooperation from Vtrans	Requires Collins Perley Cooperation	Requires Collins Perley Cooperation
Positive Considerations												
Negative Considerations												
Neutral												

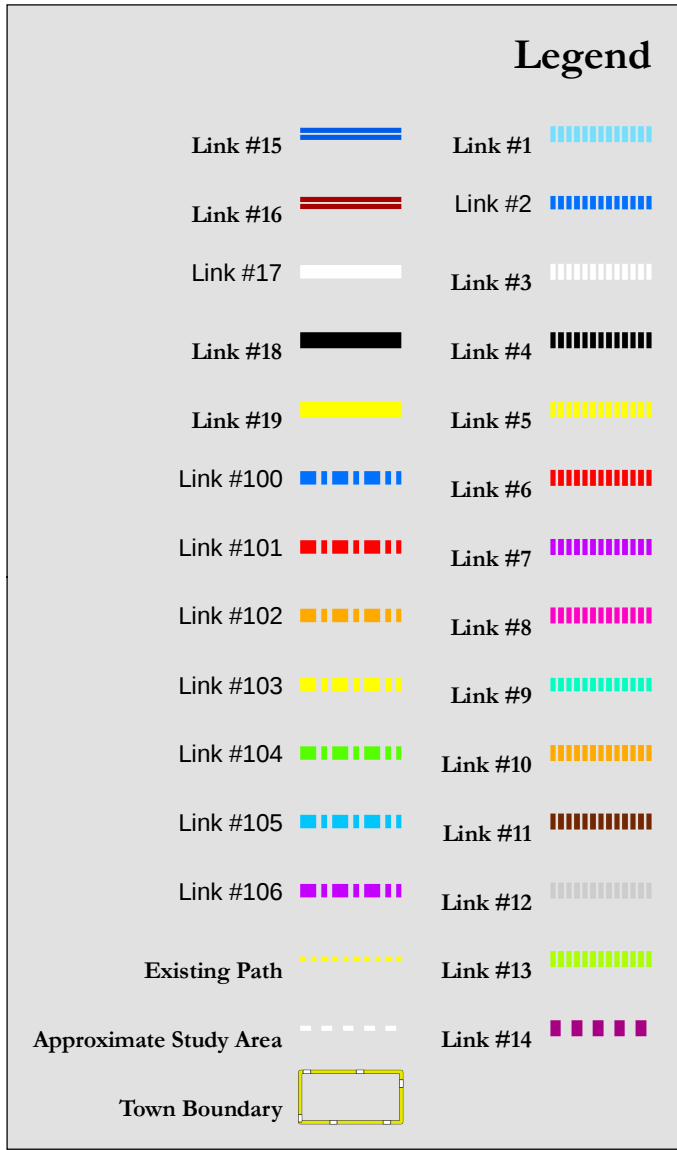
TABLE A-3: Alternatives Analysis
Town of St. Albans
Conceptual Planning & Feasibility Study For Bicycle and Pedestrian Facilities
Janaury 12, 2014

	No Action	Alternative #12a	Alternative #12b	Alternative #13	Alternative #14	Alternative #15	Alternative #16	Alternative #17a	Alternative #17b
		Ferris, Lincoln Upper Weldon and Thorpe with on-Road & Sidewalks, Thorpe Ave Extension Shared Use Path	Ferris, Lincoln & Upper Weldon with on-Road & Sidewalks, Shared Lanes on Thorpe Ave. & Thorpe Ave Extension Shared Use Path	Potter, Meadowbrook, Thhorpe & Sunset with Shared Use Paths as Links	Crosswalk on SASH at Route 7 Intersection	Bridge over SASH	Underpass beneath SASAH	Crosswalk at Signalized Route 104 Intersection	Crosswalk at Route 104 Roundabout
Project Description									
Length	0	5,200 FT	5,200 FT	4,225 FT	65 FT	175± FT	100± FT	70 FT	30 FT
		4,100 FT Shared Lanes & 1,100 FT Shared Use Path	4,100 FT Shared Lanes & 1,100 FT Shared Use Path	3,200 FT Shared Lanes & 1,025 FT Shared Use Path					
Existing Roadway Width	NA	22 FT (19 FT Thorpe)	22 FT (19 FT Thorpe)	22 FT	NA	NA	NA	NA	NA
Proposed Roadway Width	NA	22 FT (19 FT Thorpe)	22 FT	22 FT	NA	NA	NA	NA	NA
Existing Sidewalk	NA	Yes except on Thorpe	Yes except on Thorpe	No	Yes	NA	NA	No	No
New Sidewalk	NA	Yes on Thorpe	No	No	No	NA	NA	No	No
Number of Road Crossings	NA	0	0	2	NA	0	0	1	1
Number of Culvert Extensions/Bridges	NA	1	1	0	0	0	0	0	0
Private Property Temporary Easements	0	Up to 13	0	1	0	0	0	0	0
Private Property Permanent Easements	0	1	1	1	0	0	0	0	0
Location and Respponsibility		City & Town	City & Town	Town	City	City (Town)	Town	Town	Town
Significant Physical Constraints		Access to BFA school via new path into campus to compliment stairs; no modificalotns to Ferris, Lincoln or Upper Welden except addition of signs; new sidewalk added to Thorpe Avenue	Access to BFA school via new path into campus to compliment stairs; no modificalotns to Ferris, Lincoln or Upper Welden except addition of signs; new sidewalk added to Thorpe Avenue	Separation between houses on curve of Potter Ave. & need to bring path from SASH ROW to Potter Ave; The use of undeveloped ROW between Meadowbrook Ln. and Thorpe Ave. Ext. and from Sunset Ter. to CP	The length of the crossing is long especially until a signal is added to the intersection	Existing grade allows bridge to be built without ramps leading up to it that rise above existing grade	Existing grade allows underpass to be built without ramps leading down to it		
Environmental/Cultural Constraints									
Disturbs Front Yards	No	Yes (Thorpe)	No	Yes	No	No	No	No	No
Disturbs Steep slopes	No	No	No	No	No	Yes	No	No	No
Affects Historic Resources	No	No	No	No	No	No	No	No	No
Adjacent to High Crash Areas	No	No	No	No	No	No	No	Yes	Yes
Disturbs Utilities	No	No	No	No	No	No	No	No	No
Has ADA Issues	No	No	No	No	No	Yes	No	No	No
Disturbs Street Trees	No	Yes (Thorpe)	Yes (Thorpe)	No	No	No	No	No	No
Disturbs Flood Plain	No	No	No	No	No	No	No	No	No
Disturbs Hazardous Material	No	No	No	No	No	No	No	No	No
Project Attributes									
Meets Purpose and Need Statement by Itself	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Types of Users Served	Experienced Bicyclists	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users	Possibly All Users
Separates Motorized and Non-Motorized Users	No	No	No	No	No	Yes	Yes	No	No
Provides Access to Alternate Destination	No	No	No	No	NA	NA	NA	NA	NA
Order of Magnitude Cost	\$0	\$385,000	\$425,000	\$406,500	\$15,000	\$800,000	\$900,000	\$15,000	Included in Roundabout
Other Issues									
General Comments		Thorpe Avenue remains at the same width but a sidewalk is added on one side	Thorpe Avenue is widened to be the same width as other streets in the Alternative	The south side route is a combination of on-road walking and riding and shared use paths. The change from one facility to the other occurs at corners for safe non-motorized transitions. Could be considered out of the way					
Positive Considerations									
Negative Considerations									



Conceptual Planning & Feasibility Study for Bicycle & Pedestrian Facilities

The Town of St. Albans



BROADREACH
Planning & Design

Stantec

Heritage Landscapes
Preservation Landscape Architects & Planners

Initial
Alternatives

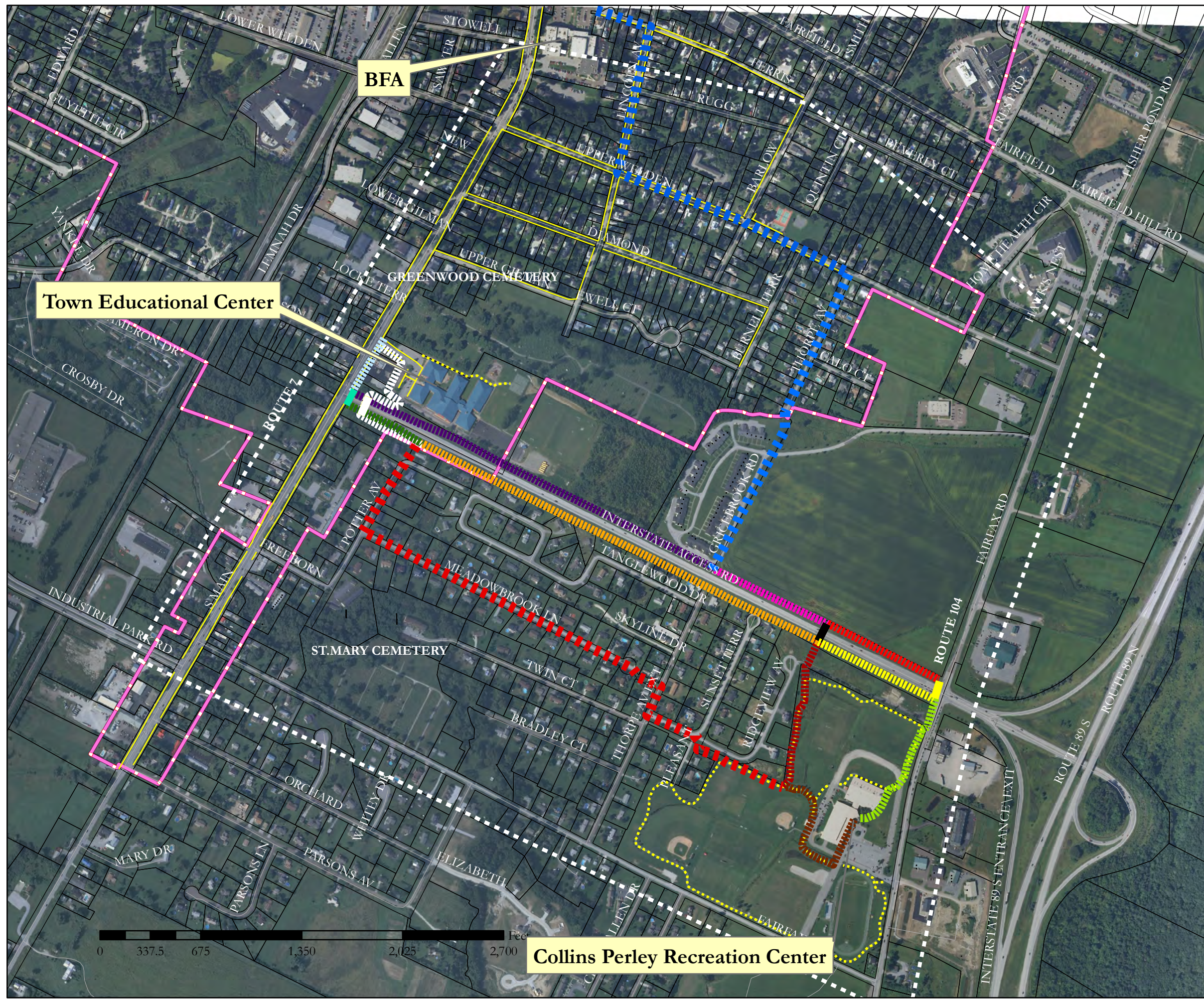
January 10, 2014

Figure AL-1

Conceptual Planning & Feasibility Study for Bicycle & Pedestrian Facilities



The Town of St. Albans



Legend

Alternative #10	Alternative #1
Alternative #11	Alternative #2
Alternative #12	Alternative #3
Alternative #13	Alternative #4
Alternative #14	Alternative #5
Alternative #15	Alternative #6
Alternative #16	Alternative #7
Alternatives 17a/17b	Alternative #8
Existing Path	Alternative #9
Town Boundary	Existing Sidewalks
	Study Area

BROADREACH
Planning & Design

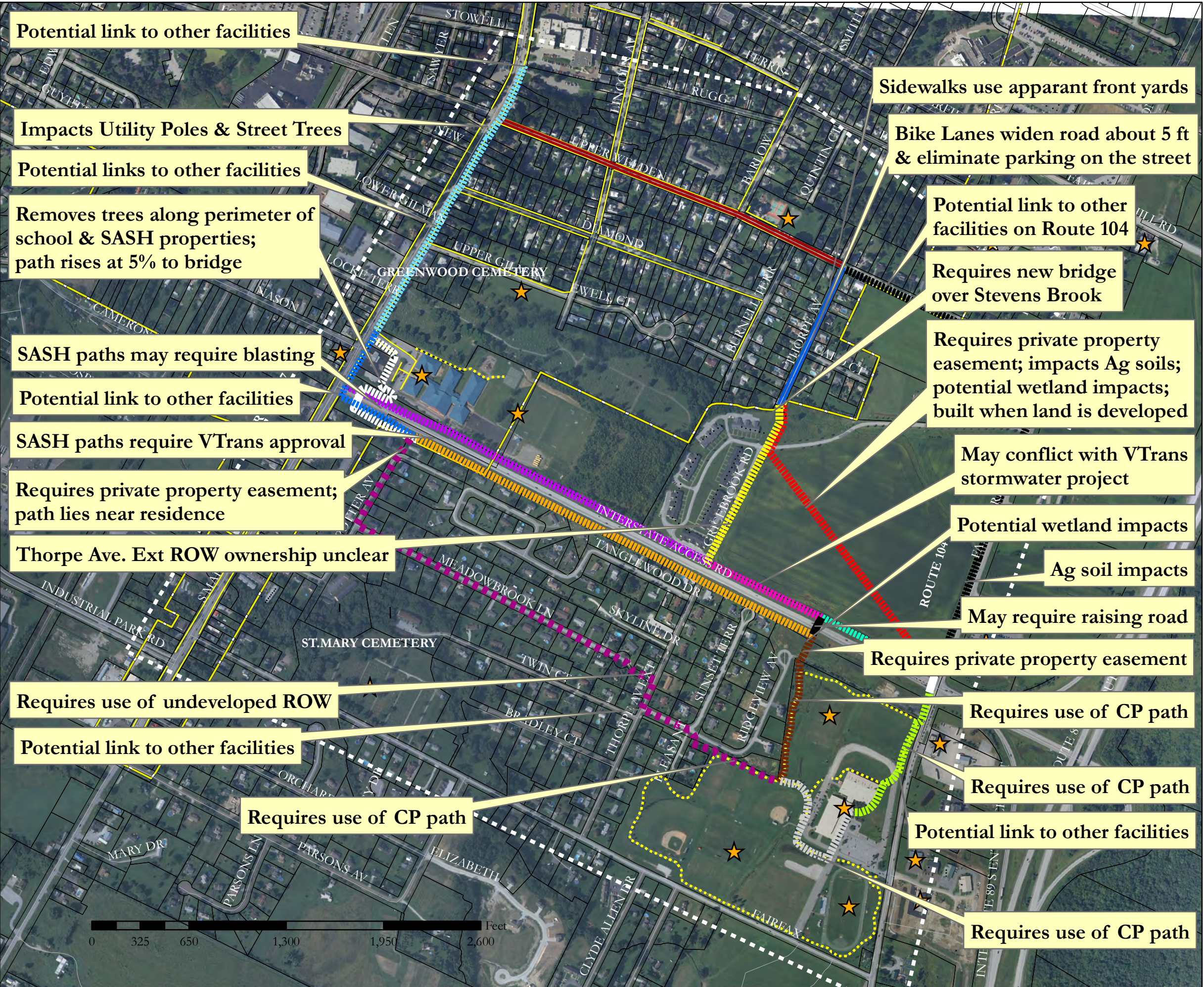
Stantec

Heritage Landscapes
Preservation Landscape Architects & Planners

Alternatives

January 12, 2014

Figure AL-2



Conceptual Planning & Feasibility Study for Bicycle & Pedestrian Facilities



The Town of St. Albans



Impacts, Issues & Opportunities

BROADREACH
Planning & Design



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Heritage Landscapes
Preservation Landscape Architects & Planners

UVM
CAP