



Student Working on Project, Spring

South Hero Village to Allen Point Access  
Linkage Feasibility and Alignment Study

June 2004

ements may be needed from adjacent landowners along South Street. The utility poles along South Street will not need to be moved as part of the development of the Preferred Alternative.

The amount of water being conveyed in the ditches will need to be examined in more detail as the project moves forward, to determine if the smaller cross section of the ditch will still provide sufficient capacity for the storm water. If it will not, then the ditches need to be widened to provide the needed volume. The widening will proceed towards trees slowly, carefully pruning tree roots that are encountered as part of the widening.

Because there are no wetlands along the sides of South Street, the two-foot widening will not involve disturbing wetlands. The Preferred Alternative should have minimal impacts on the street trees along South Street. Several small shrubs close to the road in the right-of-way may need to be transplanted further away from the road. The Preferred Alternative will not disturb usable agricultural land in the study area. The Preferred Alternative should not encounter hazardous waste sites, based on the current information available from the State on the Active Hazardous Site List. The Preferred Alternative is in conformance with local South Hero plans and policies.

#### D. PRELIMINARY ESTIMATES OF PROBABLE CONSTRUCTION COSTS

The initial estimate of probable construction costs for the Preferred Alternative, based only on the schematic plans presented in this Report, is \$749,500; with design work, contingencies and construction management the estimate total for this project is \$1,114,500.

Based on current funding sources, the Town's portion of this cost would be 20 percent, or \$261,800. The Town can provide this match in numerous ways, including administration of the contract and work, land donations, materials, and actual construction activities, such as the relocation of the ditches, the placement of new signs, or brush clearing or the removal of the trees on the Marsh Trail.

Figure 1 (reduced)  
Study Area Map





this project, the Steering Committee has defined "non-motorized" as land-based modes of transportation other than motorcycles, cars, trucks, and all terrain vehicles. (For this study, the Steering Committee decided to consider snowmobiles as "non-motorized.") Secondly, the project seeks to address conflicts between cyclists and pedestrians and motor vehicles along South Street between the village area and Folsom School.

The need for this project is due to existing conflicts between non-motorized and motorized travelers, especially along the northern portion of South Street. The potential development of a bicycle and pedestrian ferry at the southern end of the Allen Point Access Area is expected to significantly increase non-motorized travel, which is likely to increase the number and severity of motorized-non-motorized user conflicts throughout the Study Area. This ferry will connect the Colchester Causeway Trail with the Allen Point Access Area.

Roadways connect important destinations and residential areas in South Hero. Except for South Street, Landon Road and Lake View Road, which are paved, existing roadways are generally narrow in width and gravel surfaced in keeping with the Town's rural character. Most roadways do not have shoulders. Travel conditions for non-motorized users are good to excellent when motorized traffic is not present. However, there is insufficient roadway and shoulder width when both non-motorized and motorized travelers use the roadway at the same time. Other issues that have been identified as jeopardizing safety include:

- Vehicle speeds greater than the posted speed limit along all roadways;
- Limited visibility at Frechette's Hill and the nearby South Street/Whipple Road/West Shore Road intersections; and
- Unpredictable movements by children and young adults.

The Town and the State of Vermont have implemented permanent and temporary reductions in speed limits at various locations. These changes have had only limited success in addressing excess vehicle speeds.

The existing South Hero Marsh Trail through the South Hero Marsh is narrow – five feet in width for the majority of its length. The Marsh Area provides important fish and wildlife habitat to a large variety of species. The corridor does not currently begin or end at non-motorized traveler destinations, but is a limited destination itself.

## D. EXISTING CONDITIONS

Figure 2 contains a compilation of the various existing conditions in the Study Area. Attachment B contains more detailed information related to existing conditions in the Study Area. The highlights of this information include:

- The existing South Hero Marsh Trail runs north/south through the Study Area between West Shore Road and Station Road on a right-of-way leased from the Vermont Department of Fish and Wildlife;
- A large wetland, a portion of which is in the South Hero Marsh Wildlife Management Area, lies on the east side of the South Hero Marsh Trail;
- Two commercial orchards are located along South Street and abut the east side of the South Hero Marsh;
- The existing South Hero village area extends along either side of the northern end of South Street;
- Most of the roads in the Study Area are between 20 and 22 feet wide and do not have paved shoulders;
- South Street, Landon Road, Lake View Road and Station Road in the Study Area are paved while the remaining roads are unpaved (Table B-1 in Attachment B provides more details about the existing roadway system in the Study Area);
- A average daily traffic (ADT) on South Street, according to traffic counts in 2001, is less than 1,300 vehicles per day;
- Just north of Folsom School, 85 percent of the vehicles were traveling at 40 miles per hour (MPH) or less and 85 percent of vehicle just south of Landon Road were traveling at 41 MPH or less.
- Street trees along South Street are located, for the most part, outside or at the edge of the right-of-way at least 12 feet from the edge of the existing pavement; and
- Frechette's Hill on South Street, south of the intersection with West Shore Road and Whipple Road is the highest spot in the study area – due to its location just south of the intersection, the Hill limits sight distances at the intersection.



## ❖ PREFERRED ALTERNATIVE ❖

### A. DESCRIPTION

Figure 4 depicts the alignment of the Preferred Alternative of the South Hero facility.

The Preferred Alternative begins as an on-road, signed bicycle route heading east from the end of the Allen Point Access Area on Martin Road. There will be no improvements to Martin Road, other than to maintain it in its current condition, keeping holes and ruts to a minimum.

The route turns north when Martin Road ends at South Street. South Street itself is widened by two to three feet on either side to create paved shoulders. The additional width is combined with a narrowing of the travel lanes to 10 feet, with the excess going into the shoulder. The widening extends from the intersection with Martin Road to the northern terminus of South Street at Route 2. The current pavement ranges from approximately 20 to 22 feet, with most sections north of Landon Road being 22 feet wide. The variable pavement widening, in combination with the lane narrowing, results in paved shoulders of a uniform width of three feet. Fog lines, the white stripes that delineate travel lanes from shoulder areas, would delineate the shoulders on either side of the travel lane.

This alternative also recommends the lowering of the roadway over Frochette's Hill by approximately five feet. This lowering allows better sight distance over the Hill for motorists approaching from the south. It will bring the roadway closer to the elevation of the property on the east. A stone retaining wall is used on the west side to limit excavation to within the right-of-way and to minimize impacts to adjacent vegetation along the roadside.

In addition to the height reduction on the Hill, the alternative recommends the consideration of the addition of signs on South Street, adding to the "STOP" signs already on Whipple and West Shore Roads. There have previously been concerns that adding "STOP" signs on South Street would make the situation worse, but the better sight distance limits those concerns. Additionally, South Street is the only road into the southern portion of South Hero south of that intersection. Only those vehicles that have gone through the intersection, and presumably noted the presence of a "STOP" sign, would be approaching the intersection from the south over the hill as they leave the area. This is the approach to the intersection that, without lowering the hill, could not see the "STOP" sign until vehicles have topped the hill, close to stopping location.

The Preferred Alternative may involve shifting several ditches further away from the center line of the roadway to make room for the widening, mostly in the vicinity of the two orchards.



## ALTERNATIVE ANALYSIS

### A. OVERVIEW

During the course of examining the Study Area, the project team readily envisioned three alternate routes for a bicycle/pedestrian connection between the Allen Point Access and the Route 2 proposed bicycle/pedestrian facilities in South Hero village. Further study developed an additional two alternatives for a total of five main alternatives, in addition to the "no action" alternative. The Team also examined several mid-route linkages between the five main alternatives routes that could provide connections between routes or destination points. Overall, nine alternatives were examined:

- A. The Lake View Road On-Road Facility,
- B. The South Hero Marsh Trail,
- C. The Orchard Shared Use Path,
- D. The South Street On-Road Facility,
- E. The East Side On-Road Shared Use Path Combination,
- F. The West Shore On-Road Link,
- G. The Power Line Shared Use Path Link,
- H. The School Access Shared Use Path Link, and
- I. No Action.

As part of the analysis of these alternatives, which are shown in Figure 3, WSA, the NRPC, the Committee, and the community examined a wide range of factors, including suitability for the intended users, potential positive and negative environmental impacts, required permits, and contributions to the character of the historic Village. Table 1 summarizes the results of this analysis.

Based on a review of the alternatives analysis and the ways in which each of the various alternatives addressed the Purpose and Need for this project, the Project Team, with public input, generated the Preferred Alternative for the facility. The recommended facility combines Alternative D with a slight modification of Alternative B to create a package that serves each of the intended users, as described in the Purpose and Need Statement.

Several findings lead to the selection of this recommended alignment. One significant finding is that the Alternative I, No Action, does not meet the Purpose and Need Statement because it does not address the on-going concerns about motorized/non-motorized traveler conflicts between Route 2 and Folsom School, and was not acceptable. Another significant finding is that other than Alternative D, none of the

*Alternative I, No Action, does not meet the Purpose and Need Statement. It does not address the existing concern about motorized/non-motorized traveler conflicts between Route 2 and Folsom School.*

alternatives directly serve the needs of the current users on South Street.

The use of Lake View Road in Alternative A would remove bicyclist and pedestrian from conflicts with the vehicular traffic on South Street. It would also provide a scenic route and access to the Town Beach on West Shore Road. Alternative A would provide direct access to the Town Beach. The use of Hall Road and Sunset Beach Road with a short shared use path connecting them would not be easy to achieve; at least one of the owners of the two private roads is not currently inclined to allow the use of the road for bicyclists and pedestrians or the creation of a shared use path next to the road. It would not allow a direct link with some of the destination points along South Street, which is a significant part of the purpose of this proposed project.

Alternative B, the South Hero Marsh Trail, provides a direct route between the Allen Point Access and Station Road near South Hero village. Based on recent discussions with landowners, the development of the lower section between Martin Road and West Shore Road is not currently feasible without condemning for the easement. The northern section along the current South Hero Marsh Trail runs adjacent to the South Hero Marsh. The Vermont Department of Fish and Wildlife manages the former rail bed for the State and leases it to the Town of South Hero for a low use Marsh Trail. The Department does not support a significant upgrade of this path to allow a much higher level of use. The information on the marsh indicates that the higher use would result in serious negative impacts on wildlife using the South Hero Marsh. The Marsh Trail would require the use of Alternative F to allow access to the Town Beach, but would not provide a direct link to the destinations along South Street.



PHOTO COURTESY WSA

South Hero Marsh Trail

Alternative C, the Orchard Shared Use Path, provides a direct route between the Allen Point Access and the Route 2 pedestrian/bicycle facilities in South Hero village. Access to destinations along South Street would be possible either through a back entrance or via a connection along the existing transmission line, described in Alternative G. Access to the Town Beach would be via a portion of Alternative F. Alternative C, while appealing, would probably have the most significant impacts of the five main alternatives. In order to be far enough from the wetlands to avoid impacting it, the shared use path would most likely need to impact the orchards and would most certainly consume prime or statewide agricultural soil. No affected landowners voiced strong disagreement with the alignment, but they were also not directly asked if they would be willing to donate an easement to allow development of the path. (Landowners were only going to be asked about their



The South Hero Water District #2 water line lies more than more than eight feet from the edge of the current pavement along the northern end of South Street and should not be impacted by the proposed widening. Near the orchards, the water line appears to be closer to the edge of the road. This is also one of the locations in which the current storm water ditch along the side of the road may need to be relocated. There is the potential that the water line may have some of its minimal soil cover removed, either on top or to the side of the line, due to the relocation of the ditches. If this is the case, it may be necessary to either add storm drains under a shallower ditch, or relocate the water line in those sections where there is a conflict. Further development of this plan should include a survey of the water line to determine its exact location and depth. This, combined with an analysis of the carrying capacity of the storm drains, will help determine, first if the storm ditches need to be moved to maintain their current size and second if the relocation will affect the water line.

The Water District does not know the exact location of the water line in the southern section between Landon Road and Whipple Road, it may lie as close as 16 feet away from the center line of the road, which is approximately five to six feet off the edge of the pavement. If its exact location lies within 17 feet of the centerline of the road, two options are possible to allow the installation of the proposed facility without paving over the water line, verbally as requested by the Water District at a discussion with them about the preferred alternative. The widening can be reduced so that the edge of the pavement is more than three feet away from the center of the waterline. This would result in narrower paved shoulders, probably about two feet wide, for these areas. Alternatively, the road can be shifted out of the center of the right-of-way away from the water line, to maintain the paved shoulders at a consistent width. The modification of the center line would need to be well documented, so that it would be clear in the future that the limits of the right-of-way in this location do not follow the center line of the road itself. Future work on this project should include the services of a consultant that can accurately specify the location and depth of the water line with unobtrusive measurements.

The utility poles along South Street should not need to be moved as part of the development of the Preferred Alternative, because they should still be four feet away from the edge of the pavement. If, however, South Street is shifted from the centerline of the right-of-way to avoid impacts to the waterline, some utility poles may need to be relocated further away from the edge of the roadway. The specific number of poles can only be determined once the length of the off-center segments, if needed, is determined.



Angled parking at Folsom School

PHOTO COURTESY: NADPC



Angled parking on South Street at the southern end of the Folsom School may be impacted by the proposed shoulders, as they will be shortened by approximately two feet. This can be remedied by one of two alternatives.

As part of the first alternative, the spaces that are not close to the existing street trees can be extended by two to three feet. This would also require relocating the small hedge between the parking spaces and the school grounds. The current hedge consists of barberries, which are on the State of Vermont's invasive plant list; they should be replaced with a different, acceptable species if this alternative is pursued.

The second alternative involves relocating the spaces to the property adjacent to the school recently purchased by the Town. Moving the spaces would enhance the safety of the pedestrians and bicyclists in this high traffic area, and could possibly be funded as part of this project. It could also potentially be funded separately as part of a safety grant.

#### 4. Stormwater

The amount of water being conveyed in the ditches will need to be examined in more detail as the project moves forward, to determine if the smaller cross section of the ditch caused by the road widening will still provide sufficient capacity for the storm water at acceptable, non-eroding velocities. If it will not, then the ditches need to be widened to provide the needed volume. In those cases where the widening will proceed towards street trees slowly, tree roots that may be encountered as part of the widening will be carefully trimmed. This minimal root pruning should not harm the trees.

#### 5. Natural Resources

**Wetlands** – Because there are no wetlands along the sides of South Street, the two-foot widening will not involve disturbing wetlands. The clearing of the Marsh Trail along South Hero Marsh is also not expected to have significant impacts on wetland, but the potential increased traffic from bikers, mountain bikes, and horses might result in the introduction of nuisance exotic plants such as purple loosestrife and *Phragmites*. The Department reserves the right to restrict activities or temporarily close the trail if such impacts are detected. The South Hero Marsh Trail should be closely monitored and any exotic plants removed immediately by hand pulling. This conclusion is supported by the Army Corps of Engineers and Agency of Natural Resources. Attachment D contains copies of letters from these agencies.

**Waterbodies** – The Preferred Alternative is not going to be constructed close to a waterbody. It should also not result in significant increases in concentrated stormwater runoff. Therefore, no impacts on waterbodies are anticipated.



**Watercourses** - The Preferred Alternative is not going to disturb or construct a new crossing over a watercourse and is therefore not anticipated to have impacts on watercourses.

**Floodplains** - The Preferred Alternative is not going to involve filling flood prone areas and so impacts to these areas are anticipated.

**Flora** - Due to the Preferred Alternative's minimal disturbance to flora in the Study Area, it should have minimal impact on them, including almost, if not all, of the street trees along South Street.

There are approximately five trees currently within ten feet of the edge of the South Street between Route 2 and Martin Road. These trees may potentially be impacted by the proposed widening, but the chances are minimal unless new or wider side ditches are needed. The shifting of the drainage ditches may impact several other older trees. Careful root pruning of their exposed roots prior to the actual construction of the ditches, combined with the small percentage of aerial roots that will need to be pruned or disturbed, minimizes the chances that this disturbance will cause long term harm to the trees.

There are also approximately four hedges perpendicular to roadway, which may need to be trimmed to keep the end more than four feet from the edge of the widened roadway. The Town will need to maintain the hedges at this distance. An alternate solution would be to remove the last plant in the hedge to move the end of the hedge permanently away from the roadway.

Several small shrubs close to the road in the right-of-way may need to be transplanted further away from the road. The transplantation would retain the aesthetics or screening value the vegetation now has.

**Fauna** - It is anticipated that the modifications to the existing Marsh Trail will not significantly increase public use and negatively impact wildlife using the South Hero Marsh. The introduction of exotic plants, if not detected and controlled, could impact fish and wildlife by crowding out more desirable native vegetation. The Vermont Department of Fish and Wildlife and the Town of South Hero should continue to work together to prevent these impacts from occurring. The Department reserves the right to restrict activities or temporarily close the trail if such impacts are detected.

**Endangered Species** - The preferred alignment should have no impacts on rare, threatened, or endangered species due to no or very limited disturbance to areas near the identified habitats. A letter from the Vermont Non-Game and Natural Heritage Program supports this conclusion included in Attachment D.

## 6. Cultural Resources



**History** - No impacts are anticipated to historic resources.

**Archaeological** - Although no impacts to archaeological resources are anticipated, in locations of archaeological sensitivity, the widening can be constructed by adding filter fabric to the surface and minimally disturbing the soil underneath it.

**Cultural Landscapes** - No significant impacts to important cultural landscapes are anticipated.

**Public Lands** - The Preferred Alternative will use an existing Town transportation right-of-way and a former railroad bed leased from the State for use as a Marsh Trail. The proposed use is in line with their existing use. No other public land will be used as part of the Preferred Alternative.

**Agricultural Lands** - The Preferred Alternative will not disturb usable agricultural land in the study area. The Vermont Department of Agriculture, Food & Markets supports this conclusion in a letter included in Attachment D.

## 7. Hazardous Waste

The Preferred Alternative should not encounter hazardous waste sites, based on the current information available from the State on the Active Hazardous Sites List.

## 8. Local Plans

The Preferred Alternative is in conformance with local South Hero plans and policies, including the 2002 Future Needs Study, 1999 Town Plan, and village traffic-calming project. See Attachment B for more information.

## 9. Regional Plans

The Preferred Alternative is in conformance with regional plans, including the Northwest Regional Long-Range Transportation Plan, activities of the Lake Champlain Islands Chamber of Commerce, and efforts to develop the Island Line facility. See Attachment B for more information.

## 10. State Plans

The Proposed Alternative is in conformance with State plans, including the 1996 Vermont Bicycle and Pedestrian Plan and plans for the Allen Point Access Area. See Attachment B for more information.





**TABLE 2**  
**Initial Estimate of Probable Construction Cost**  
**Preferred Alternative, November 2003**

**CONSTRUCTION**

South Street (13,625 ft) addition of two feet of paved shoulder / side (Based on \$55/feet)	\$749,500
Frechette's Hill reduction (based on \$17/Cy for Rock Removal)	\$75,000
Tie removal, clearing and widening of Marsh Trail	<u>\$20,000</u>
<i>Subtotal</i>	<i>\$844,500</i>

**PLANNING AND ENGINEERING**

Contingency (15%)	\$126,656
Engineering (10%)	\$84,500
Municipal Manager (5%)	\$42,219
Construction Services (2%)	<u>\$16,898</u>
<i>Subtotal</i>	<i>\$270,273</i>

**Total** **\$1,114,575**

This initial estimate does not include the costs associated with the possible relocation of the angled parking on South Street near the Folsom School.

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**Table 3**  
**Development Scenario**  
**Preferred Alternative**

	<i>Task</i>	<i>Prerequisite</i>	<i>Time To Complete</i>
1.	Preliminary Design - South Street	Funding	6 months
2.	Final Plans, Construction Drawings, & Permits - South Street	Scoping and Preliminary Design	1 Year
3.	Clearing and Widening Marsh Trail	Funding & Location for Railroad Tie Disposal	1 Year
4.	Construction - South Street	Construction Drawings & Funding	6 Months

➤ **ATTACHMENT A** ➤  
**Public Work Session Notes**

**JUNE 25, 2003 PUBLIC MEETING SUMMARY**

*7:00-9:00 p.m. at the South Hero Congregational Church*

**Meeting Attendees:** Don Smallwood, Dorothy Wi-Lareh, Ron Hackett, Jim Mogan, Cathy Frank, Joe Frank, Mary Harwood, Chuck Woessner, Mary Jane Wirsing, Steve Had, Dick Leydew, Joan Urie, Bob Buermann, Dolf Wirsing, Ethelyn Dubuque, Ken Clark, Peg Clark, Kinda Fishell, Ken Fishell, Robert Skinner, Lou Breese, Jordan Davies, Jim and Howard Schapiro, Phil Reynolds, Im Trombley, Bill Crenshaw, Bev Blakely, Alice Wells, Susie Preseon, Stephanie O'Rourke, Jonathan Wells, Chapin Spencer, Ray and Muriel Jacoby, Warren Steadman, Stephanie Zehler and Jim Donovan (Wilbur Smith Associates), Bonnie Wansinger (NRPC)

Note: Several people did not sign in on the meeting attendance sheet. A total of 47 people were counted shortly after the meeting began.

**Introductions and Project Background**

Select Board member Warren Steadman welcomed everyone to the meeting and provided a history of past efforts, including the existing South Hero Marsh Trail, the 1980s South Street sidewalk effort, the village traffic calming effort, the Allen Point Access Area trail effort, and the proposed Colchester-South Hero bicycle ferry. He introduced Bonnie Wansinger, from the Northwest Regional Planning Commission, who provided a brief update of the Commission's role in the project and activities completed to date. The Town hired the Commission to complete the study, with the understanding that technical portions of the project would be subcontracted to an engineering firm. The Commission hired Wilbur Smith Associates for the technical work.

Bonnie reviewed the project progress to date. Commission staff began meeting with the Town's project committee in November 2002. Over several months, the Study Committee refined the Commission's scope of work for the project, reviewed a Request For Proposals for technical services, participated on the subcontractant proposal review committee, and developed a short-term public involvement plan. Commission staff has been compiling information on existing conditions in the study area, meeting with and interviewing members of the community, and reviewing past studies related to the project. The end product of these activities is the maps depicting existing conditions in the study area that were reviewed by participants at the meeting. Bonnie reviewed existing bicycle and pedestrian studies and activities currently underway in the Islands that related to this project. She then introduced Jim Donovan, who is the project manager for Wilbur Smith Associates.



- Paving makes traffic go faster, so does road widening. It also reduces the attractiveness for bicycle and pedestrian use.
- Maintenance issues for sidewalks – who does it in winter? (Winter maintenance varies among communities. The study will outline options used in other communities.)
- Would using the Marsh Trail in the Wildlife Management Area and using the power line corridor provide a safer alternative? (This wouldn't solve all the problems. Also, it's private property under the power line so there would be a need to negotiate with landowners.)
- It was noted that the car ferry in Grand Isle is a destination; however there are problems reaching it. Rt. 314 is very busy with little to no shoulders. An alternative route is needed. Also, the Rt. 2/Rt. 314 interaction has rumble strips, which are awful for cyclists.
- Since South Street's width is 24 feet, could we mark shoulders instead of building a separated path? (The study will look at the minimum amount need for improvements. It was noted that narrow lanes tend to slow traffic, but you have to paint lines more often.)
- Striped shoulders are a sign to cyclists and motorists of shared use.
- Creating superhighway shoulders (4 feet or greater) makes it hard to get hit, but even small shoulders are of some assistance. No shoulders makes it hard to escape vehicles. Continuous shoulders get longer season maintenance.
- Do something about South Street even if we don't have a path.
- If we have a trail off-road, we still need to accommodate on-road users, especially on South Street.
- Is there a potential for a path between the Wildlife Management Area and South Street?
- Will there be conflicts between non-motorized users and hunters if an off-road path is developed?
- We need restrooms!!!
- It was suggested that a comprehensive sign plan for the entire town be developed for all roads with bicycle and pedestrian travel.

## Next Steps

Next steps include developing potential alignments, determining their impacts, holding a community discussion of ideas with the hope of choosing one alternative, explore this one alternative in more depth, and hold a community discussion on this alternative.

## Parking Area at Martin Road

Information on the proposed (now permitted) parking area for the Allen Point Access Area at Martin Road was provided. The parking area will provide eight parking spaces, one of which will be handicapped accessible. It will have less than 3,000 SF of impact, and require an additional curb cut on Martin Road. There will be a separate ingress/egress for bicycles and pedestrians.

## South Street Entry to Allen Point Access Area

Fish and Wildlife is working on a conceptual proposal to provide a new access to the Allen Point Access Area. There will be a notice in the newspaper when the town reviews the proposal. The corridor will continue to be a shared motorized/non-motorized corridor, but separate, parallel routes will be developed from the parking area to the causeway. Jim Mogan noted that at its last meeting, the South Hero Marsh Trail Committee voted to oppose motorized use of the corridor.

## Funding

- How was this study funded? (The study was funded by a grant from the Vermont Agency of Transportation Bicycle and Pedestrian Program. The grant match was provided by the South Hero Marsh Trail Committee and Local Motion.)
- What funding was used to upgrade the Allen Point Access Area for non-motorized travel? (The upgrades were completed by the Vermont Dept. of Fish and Wildlife through pass-through funding from the Vermont Agency of Transportation.)
- What funding is used on the existing South Hero Marsh Trail? (The Town maintains the West Shore to Station Road portion. Approximately \$400 per year is spent from the road budget. The Town has not contributed funding to the Allen Point improvements.)
- The South Hero Recreation Committee, which is different and separate from the South Hero Marsh Trail Committee, looks at use and funding issues for recreational resources in town.
- Warren Steadman noted that the Select Board said "no property tax funding should be used to maintain the Allen Point Access Area trail." This could change at taxpayer request. The existing trail is maintained by grants, private volunteers, the South Hero Marsh Trail Committee, and Local Motion.
- What do most other towns do to fund maintenance? (It is variable by town. This will be addressed in the final report.)



Side. Finally, WSA believes that the first five options could be maximized if cross route connections were made to existing destination, so Paths G, H, and F were developed.

### Public Comments

Jim solicited public input by opening the floor to questions and comments. Comments were generally centered on two areas: technical issues related to path design and location and expressions of support/non-support for particular alternatives with reasons why.

### Path Design and Location Comments and Questions:

- Why does the Marsh Trail need to be 10 ft wide? [Guidelines for path development require a path width of ten feet with 2-foot shoulders on each side. This only applies if federal funds are used for construction. The path width can be reduced to 8 feet, but this is not preferred since it is the minimum distance needed for cyclists to pass one another.]
- Why would a three foot wide shoulder be needed on Lake View Road and South Street? [South Street currently has no shoulder, and has quite a bit of traffic. Lake View has less traffic, but the consultant assumed a "worse case impact" to calculate land impacts.]
- Do all the routes involve paving a path? [No. If the Town wishes to access federal funding for construction costs, any alternative would need to meet accessibility standards. Gravel paths meet these standards. Pavement has a higher initial cost; gravel has a higher maintenance cost.]
- Alternatives A,B,C, and E end at Rt. 2. Are you assuming the Rt. 2 shoulders are wide enough? [The Town's village center traffic calming study is addressing Rt. 2.]
- South Street has a mixed use benefit. Is a three foot shoulder wide enough? [Three feet is considered "safe" as a paved shoulder, but it is not considered a bicycle lane. A bike lane needs to be 5 feet wide, but this has many more physical and visual impacts.]
- Can the shoulder width vary from 3-5 feet? [Probably, but it would be "safer" to keep a consistent width. A white line helps restrict the vehicle lane.]
- Are there other standards for a mixed use shoulder? [No.]
- Could the road be moved over and a buffer and trail created on one side? [No. Five feet is not wide enough for two-way use and safety is decreased by encouraging bicyclists to ride against traffic. A fully separated path was considered, but it had more impacts and might decrease safety.]
- The Marsh Trail width varies on the existing segment in Colechester and South Hero. A six feet width was comfortable riding; four feet was uncomfortable for two-way traffic. [We can try proposing a six foot width; however, if the Town wishes to access federal funding, the Town will need federal approval. The environmental impacts might work as an argument.]
- Could a boardwalk be constructed across the wetlands to reduce the impact? [The impacts from improvements to the Marsh Trail are not from filling of a wetland, but rather from disturbance to wildlife and habitat.]
- This is true for South Street too, except it is people not animals who will be disturbed. Can we lower the speed to 35 mph from Martin to Landon Roads and 25 mph from Landon Road to Rt. 2? I'm concerned that adding shoulders will make the road seem wider, which could increase traffic speeds.

- C is on the east side of the wetlands. Will it disturb the wetlands? [No. It would be designed to be outside the buffer area of the wetlands.]
- Could a four-way stop be added at the West Shore Road/South Street intersection? [It might create a safety hazard if you can't see the stopped cars as you come over the hill. It might be possible to cut the hill down to increase visibility.]
- No thanks! (in response to the lowering idea)
- Could a narrow separated path be created to go around the hill? [Possibly]
- Could the Marsh Trail be graded and brushed to improve it a little (using town and private funding)? [The Town is urged to follow path standards and required to follow accessibility standards.]

### Landowner Contact and Property Impact Comments:

- On South Street, drivers are generally courteous although there is some speeding. Cyclists are not always courteous; they ride two abreast. The impact to South Street residents is not fair, and it pits visitors against residents.
- Have property owners along the Orchards alternative been contacted? [The consultant tried to notify them that something was proposed for their properties, but we did not ask permission yet.]
- How does the Orchards route impact the Allenholm airport location? [It would be preferable to have the path go around it on the west side.]
- The Marsh Trail alternative has environmental impacts. Has Fish and Wildlife been contacted for comment? [Not yet. If this route is selected as the preferred alternative, they will be contacted for comment.]
- How many landowners are involved with alternative C? [6-8 landowners]
- The property owner of the former rail corridor between from Martin Road and West Shore has already expressed that he was not interested in having his property used as a trail. He is concerned about illegal motorized use.

### Comments on a Preferred Alternative:

- Could the South Street alternative be extended to include the area south of Martin Road? [Yes. This project was originally defined as extending from the proposed parking area on Martin Road to the village center, but it could be extended further south.]
- The Marsh Trail is beautiful, but rough. South Street is my favorite because it solves the lack of sidewalks along the street.
- It is important to improve safety conditions on South Street, so D is my priority.
- A paved route is preferred, whether the route is improved or not. D is preferred.
- D is preferred, and both locals and visitors speed.
- South Street needs safety improvements, but the Marsh Trail (B) is preferred with some improvements on South Street.
- D is a priority: kids rollerblade along the street.
- C is a priority. It is a direct route, parallels D. The School Access or Power Line Access should be developed along with C.
- A property owner said he was not in favor of alternative C. When school lets out, kids spread out on the road.

**Figure A-8**  
**August 26, 2003 Meeting Attendees by South Hero Address Location**



**NOVEMBER 13, 2003 PUBLIC MEETING SUMMARY**  
*6:30-7:30 p.m. at the South Hero Congregational Church*

**Meeting Attendees:** Hoonie Wainiger (NRPC), Don Smallwood, David Bothwick-Leishe, Harrison Lebowitz, Chuck Wassner, Gayle Ahare, Robert A. Straight, Eric Saxon, Robert E. Straight, Jonathan Wells, Aerie Wells, Warren Steadman, Matthew and Masa Jensen, Bob Britt, Phil Reynolds, Gail Wheeler, Reim Warren, Bev Blakely, Edeley Dubuque, Everett Dubuque, Arthur Robinson, Fraser Robinson, Diane Leyden, Dick Leyden, Christine Forde (CCMPO), Gwen Hobbs, Dave Hobbs, Todd Cox, Pat Arwood, Ron Phelps, Anne Quinn, Roland Tremble, Amy Bell, Brian Costello, Craig Della Penna, Paul South

**South Street Alignment Review**

Jim Donovan quickly reviewed the alternative alignments presented at the August public meeting and summarized the key comments from the meeting that lead to the refinement of South Street as the preferred alternative. The refined recommendation for South Street includes:

- Adding four feet shoulders from Rt. 2 to Landon Road;
- Adding three foot shoulders from Landon Road to Martin Road;
- Add fog lines to South Street and narrow the vehicle travel lanes;
- Do nothing to Martin Road;
- Shave the height of Frechette's Hill approximately 4-5 feet to increase visibility towards the intersection; **and**
- Clear the existing South Hero Marsh Trail between West Shore Road and Lakeview Road to a six foot width to better accommodate equestrian and non-motorized use. The surface would be grass or fine gravel.

**Public Comments**

Jim solicited public input by opening the floor to questions and comments. Comments included the following (text in italics indicates responses to questions posed by meeting participants):

- Since the water line is adjacent to South Street, what impacts would the widened shoulders have? Would construction cause damage, for instance, by crushing connections? *The exact location of the water line is unknown. Based on above ground structures that are visible, it appears that the water line is well out of the area of impact for the actual facility. There may be construction impacts. This will be considered in the final recommendation.*
- Who will pay the cost of the project? *Bicycle and pedestrian improvements are usually funded through a combination of state and federal grants, municipal funds, and in-kind services. Because the widened shoulders are a roadway improvement for non-motorized travelers, the project would be eligible for the Agency of Transportation Enhancement Program and Bicycle and Pedestrian Program.*



Figure A-3  
November 13, 2003 Meeting Attendees by South Hero Address Location



ATTACHMENT B  
Existing Conditions

TRANSPORTATION FACILITIES AND PATHS

Several roads run through the Study Area. Table B-1 provides an overview of the various elements of the roads that are important to this study, including shoulder and travel lane widths and surface types.

**South Street**— South Street, a Town road, runs south from Route 2 in South Hero village towards the southern shore of the Town. It ranges from 22 feet wide close to Route 2 to approximately 20 feet wide close to the intersection with Martin Road. South Street is generally flat, except where it passes over Frechette's Hill south of the intersection with West Shore Road. It is lined by village houses and churches at its northern end. Closer to South Street, it is lined by orchards and more widely spaced houses and barns. Ditches line the road only in a few locations. Street trees are located along the northern end of the street, but almost all are at least 12 feet away from the edge of the pavement.

The Town researched the right-of-way for South Street in 2003. The surveyor hired by the Town to do the research indicated that no records of the specific width of the right-of-way could be found. In cases such as this, the surveyor indicated that State law allows the Town to consider the right-of-way to be three rods (approximately 50 feet) wide, centered on the centerline of the roadway. This is what the surveyor submitted as the width of the South Street right-of-way.

The Northwest Regional Planning Commission conducted a 48-hour traffic study from 1 p.m. on October 31 through 1 p.m. on November 2, 2001 at two locations along South Street. At the "35 MPH" sign just north of Folsom School, the Average Annual Daily Traffic (AADT) was 1,283 vehicles. The average speed of the vehicles was 33 miles per hour (MPH). Fifty percent of vehicles were traveling at 34 MPH; 85% at 40 MPH or less; and 95% at 44 MPH or less. At the "40 MPH" sign just south of Landon Road, the AADT was 1,116 vehicles. The average speed was 30 MPH. Fifty percent of vehicles were traveling at 28 MPH; 85% at 41 MPH or less; and 95% at 45 MPH or less. Based on the information from this study, the proximity of the school to the roadway, and the ages of children attending the school, the roadway could be designated as a "school zone."

**Landon Road**— Landon Road is a paved road and is approximately 20 feet wide. It passes through farm land with occasional residences set off the road. There are few street trees along Landon Road.

**West Shore Road**— Running along portions of the southern and western shores of South Hero, West Shore Road is a gravel road with ditches lining each side. It varies between 20 and 22 feet

Hackets Orchard and on the east side of South Street in the location of the Allenholm Orchards. Culverts pass under the roads at several locations, but none are very large or carry significant flows, other than the flow north under Station Road from the South Hero Marsh Wildlife Management Area.

## SECTION 6F PROPERTIES

Section 6F properties are properties that have been developed or acquired with federal Land & Water Conservation Fund (LWCF) grant money. These properties, or specific portions of them, are protected by a permanent conservation easement and cannot be converted to any use other than public outdoor recreation uses.

The Fobom School grounds on South Street are the only Section 6F property in the Study Area. Section 6F Land and Water Conservation Funds helped to develop the playground and fields.

## NATURAL RESOURCES

**Topography** - Figure 2 shows ten-foot contours. There are no significant areas of topographic change within the Study Area. The most noticeable rise in elevation is at Frechette's Hill, a small rise south of the intersection of South Street with West Shore and Whipple Roads. South Street passes over this hill just to the east of the highest point. The road rises about ten feet on the north side approach and rises about 30 feet on the south side approach to the top of the hill.



Frechette's Hill from Whipple Road

PHOTO CREDIT: WILDFIRE

**Wetlands** - There is a large, significant wetland in the center of the Study Area, to the east of the South Hero Marsh Trail, between Route 2 and West Shore Road. Portions of this wetland are part of the South Hero Marsh Wildlife Management Area, managed by the State of Vermont Department of Fish and Wildlife.

Other significant wetlands are situated:

- Approximately 1,500 feet east of Fobom School on South Street
- West of Frechette's Hill, south of West Shore Road.
- North of the Town Beach, north of West Shore Road; and
- Between the end of Hochetaga Road and the end of East Shore Road (in the vicinity of Kaez Deep Road) extending north from the lakeshore.

**Waterbodies** - There are several small ponds within the Study Area, but no significant waterbodies, other than Lake Champlain itself.

**Watercourses** - Numerous smaller streams drain through the study area towards Lake Champlain. The largest stream drains north from the South Hero Marsh into Keeler Hay. The others are relatively small and most are intermittent.

**Floodplains** - The only noted flood prone area on within the Study Area is at the northern end of the South Hero Marsh, where its drainage stream passes under Station Road.

**Flora** - Much of the Study Area was formerly in agricultural use, so, except for the wetland, there are no older natural vegetated areas remaining. While much of the agricultural use of the land has ended, two large orchards are still maintained on either side of South Street between Landon Road and Route 2. Despite the historic disturbances to the natural flora, diversity has returned to the area with the decline in agricultural use. Much of the land has been reverting to forest or marsh and fairly diverse stands of vegetation now exist within the Study Area. Vegetation within the Study Area now includes forest stands of various ages, meadows, orchards, vineyards, and marshes. Hedgerows also divide many of the properties. Many of these hedgerows end within ten feet or less of the edge of the roadway pavements.

**Fauna** - The Study Area contains the usual collection of suburban/rural Vermont fauna, including deer, smaller mammals, turkeys, songbirds, hawks, owls, ducks, geese, fox, frogs, toads, and snakes. The minimal extent of the forests within the Study Area makes it unlikely that any animal species that require large undisturbed tracts of forest land habitat are found within the Study Area. Further information on the extent of wetland fauna in the South Hero Marsh can be obtained from the Vermont Department of Fish and Wildlife.

**Street Trees** - Street trees line both sides of South Street between Route 2 and Landon Road and continue southward an additional 1,200 feet. There are also street trees near the intersection with West Shore and Whipple Roads. These trees are generally a minimum of 12 feet from the edge of the existing pavement; however, approximately four street trees are within ten feet of the edge of the pavement.

Street trees also line both sides of West Shore Road, from Hall Road to Lake View Road. Portions of Lake View Road itself are lined with street trees, mostly in the middle sections between its north and south ends. Station Road is lined with street trees along its northwestern side close to the intersection with Lake View Road. These trees are generally at least 12 feet from the edge of the pavement or gravel edge of the road. Denser trees line most of the southern edge of Martin Road between South Street and the Allen Point Access. Similarly dense trees line the north side of Martin Road, between its western end and a point about halfway between South Street and the Allen Point Access.

rely on the recommendations of this report to develop a connection to the Allen Point Access parking area proposed at Martin Road.

Local Motion, Inc. is spearheading an effort to develop the Island Line, a route currently comprised of the Burlington Waterfront Bike Path, the Colchester Causeway Trail, and the Allen Point Access Area. As noted in the previous paragraph, the Island Line may be expanded into Grand Isle County using on- and off-road alignments. Attachment F describes the Island Line concept and on-going efforts.

#### STATE PLANS

1998 VTrans Bicycle and Pedestrian Plan includes several objectives and directives that directly support the completion of this facility, including:

- The State should work with regional planning entities to develop a coordinated, statewide system for bicycle and pedestrian travel.
- Reinforce bicycle and pedestrian needs in downtown and village centers

The Department of Fish and Wildlife has developed construction plans for the Allen Point Access Area that facilitates travel by motorized and non-motorized users. For the past two years, the Department of Fish and Wildlife has granted permission for a bicycle ferry to use the Allen Point Access as a docking point for one weekend each summer. For 2004, that permission has been extended to four weekends in August. The recommendations in this report facilitate travel between South Hero village and the Allen Point Access.

**Table B-1**  
**Roadway Characteristics**  
(As of August 2001, Measurements in Feet)

Section Number	Road Name	Shoulder Left	Lane Left	Lane Right	Shoulder Right	Surface Type
1	Lakeview Rd.	0	10	10	0	Paved
2	Lakeview Rd.	0	11	11	0	Paved
3	Lakeview Rd.	0	10	10	0	Paved
4	Lakeview Rd.	0	10.5	10.5	0	Paved
5	West Shore Rd.	0	10	10	0	Paved
6	West Shore Rd.	0	10	10	0	Gravel
7	West Shore Rd.	0	11	11	0	Gravel
8	West Shore Rd.	0	9	9	0	Gravel
9	West Shore Rd.	0	11	11	0	Gravel
10	West Shore Rd.	0	11.5	11.5	0	Gravel
11	West Shore Rd.	0	10	10	0	Gravel
12	SH Marsh Trail	0	Overall Width 9.5	0	0	Crushed Rock
13	SH Marsh Trail	0	Overall Width 5	0	0	Grass
14	South St.	0	10.5-11	10.5-11	0	Paved
15	South St.	0	10-10.5	10-10.5	0	Paved
16	Allen Point Access Area	0	Overall Width 9.5	0	0	Crushed Rock
17	Landon Rd.	0	10	10	0	Paved
18	East Shore Rd.	0	10.5	10.5	0	Paved
19	East Shore Rd.	0	10	10	0	Paved
20	East Shore Rd.	0	11	11	0	Paved
21	East Shore Rd.	1	10	10	1	Paved, with Gravel Shoulders

#### Notes:

- All lane and shoulder width measurements are in feet.
- Shading is for ease of reading only.



the "STOP" sign could make the situation worse. The Committee also considered avoiding Frechette's Hill by using a portion of Alternatives C and F.

A final recommendation included with this alternative is the request to reduce the speed limit along South Street. This alternative includes a speed study to determine if it is possible to reduce the existing speeds along the widened street by an average of 5 miles an hour.

#### ALTERNATIVE E: EAST SIDE ON-ROAD/SHARED USE PATH COMBINATION

Alternative E also begins as a signed bicycle route heading east on Martin Road. A crosswalk on the south side of the intersection on South Street helps bring pedestrians across South Street. The route continues north on South Street, again as a signed bicycle route heading north to Whipple Road. At Whipple Road, the signed bicycle route heads east on Whipple Road. A crosswalk on South Street on the north side of the intersection brings pedestrians across the roadway. The route continues east for approximately 2,750 feet east of the South Street intersection, at which point the route turns north on a ten-foot wide shared use path that follows as much as possible the location of the current informal equestrian trail.

As this path intersects Landon Road, it heads east on Landon Road as a signed bicycle route. Signs on both streets and a crosswalk on Landon Street help pedestrians cross the roads. The route again converts to a ten-foot wide shared use path at the Town-held right-of-way to the former Town landfill. The shared use path would follow the right-of-way north, cross the landfill parcel along its western end and continue north on the Lavin Parcel to Route 2, which the Town has already considered acquiring. The specific location on the Lavin Parcel would be identified to limit the impact on the remaining development potential on the property.

#### ALTERNATIVE F: WEST SHORE ROAD LINK

This alternative includes the simple development of a signed bicycle route on West Shore Road, from its eastern terminus at South Street to its intersection with Hill Road. No modifications to the road are included in this alternative. West Shore Road is already signed as a part of the on-road Champlain Bikeway route.

#### ALTERNATIVE G: POWER LINE LINK

Alternative G is a ten-foot wide shared use path that follows the route of the high power electric transmission line. It runs between the proposed alignment of Alternative E and Alternative C. A crosswalk would bring pedestrians across South Street.

#### ALTERNATIVE H: SCHOOL ACCESS LINK

Alternative H is a shared use path that would link Alternative E with the Folsom Elementary School. It could follow the eastern alignment of Alternative G close to Alternative E before breaking from the alignment to head more directly towards the School property.

#### ALTERNATIVE I: NO ACTION

The no action alternative would leave things as they are now, with no modifications or improvements.

