

Lake Champlain Bikeway / Island Line Improvement Plan



SUBMITTED TO: The Town of South Hero
 The Town of Grand Isle
 The Town of North Hero
 The Town of Alburgh

SUBMITTED BY: The Island Line Steering Committee

IN ASSOCIATION WITH: Local Motion
 Wilbur Smith Associates
 The Lake Champlain Islands Chamber of Commerce
 The National Park Service Rivers and Trails Program

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I. About the Project

A. Introduction

The Island Line was a railroad route established by the Rutland Railroad in 1901. It was abandoned in 1963, bought by the state in 1964, and briefly considered for development as a “linear park” in 1965. The vision was not to be, however, and about 80% of the railbed was sold within a few years. Pieces of this historic route still remain in public ownership, including the unique and impressive white marble causeways across Lake Champlain. The trains that once traveled along and between the shores of the lake, connecting Burlington, Colchester, and the Champlain Islands are gone, but their story remains as part of the region’s rich history.

The purpose of this report is to consider and recommend enhancement options for the existing section of the bicycle route in Grand Isle County between South Hero and Alburgh on the Canadian border known as the Lake Champlain Bikeway (LCB). This route is entirely on-road, but it parallels and intersects the railbed in many locations. (Opportunities for developing connecting off-road sections are identified in the 2005 report, the Champlain Islands Trail Report). It is anticipated that the improvements recommended herein will:

1. Better orient riders to the historic and natural features of the route,
2. Facilitate the connection between trail users and local businesses,
3. Improve the condition of the trail and provide basic amenities to trail users.

The recommendations are a result of the work done by the Island Line Steering Committee (ILSC) and Local Motion with input and guidance from town boards and public input gathered through the process of creating the Champlain Islands Trail Report in 2005. That report is a study of the feasibility of developing on and off road recreational opportunities along this historic route.

B. Project History

The Island Line Steering Committee (ILSC) was formed in 2002 to pull together the interests of the towns along the Island Line trail route and to work together on a common vision – an historic-interpretive recreation corridor between Burlington and Montreal. The committee has one representative from each town along the route, one from each diverse trail user group, and from regional planning organizations, and State officials. In January 2005, the “Champlain Island Trail Report” was completed by Alta Planning + Design, with assistance from the Rails to Trails Conservancy and Wilbur Smith Associates. The report identified three options for a trail route through the Lake Champlain Islands:

- Alternative 1 – primarily off-road along the old rail corridor;
- Alternative 2 – an on- and off-road hybrid of Alternatives 1 & 3; and
- Alternative 3 – the existing on-road Lake Champlain Bikeways route.

In 2006, the ILSC conducted a formal landowner outreach to primary landowners and abutters along the former rail line through the Islands, to explore the level of interest in Alternative 1. Based on feedback from that process, the committee identified a strategy for near-term work on the trail:

- Enhance on-road sections;

- Pursue high-priority off-road projects; and
- Continue to build good community relations.

The report concluded that the existing Lake Champlain Bikeways (LCB) route will initially be the backbone of the Island Line bicycle route, connecting village centers, businesses and services. Future off-road improvements would be pursued only with the cooperation of private and public landowners.

Also in early 2005, LandWorks completed the Island Line Signage and Amenities Plan, proposing a seamless design theme of on-road signs, pathway signs, safety and directional signs, and rest areas/interpretive displays. This report incorporates these valuable resources into its recommendations.

C. Project Objectives

Local Motion has contracted with Wilbur Smith Associates to assist with the planning and design phases for Island Line improvements and to move the project into the implementation phase. This initial study includes the tasks below that will bring proposed projects to a point where the ILSC could apply for grant funding should the ILSC so desire.

The project's objectives are as follows:

- a) Develop data for a set of different rest areas along the Route, ranging from simple open grassy areas, to more developed locations with rest room, information and other potential amenities.
- b) Conduct site visits to the corridor to identify potential locations for the different types of pausing places and other needed improvements to the existing Lake Champlain Bikeways route between South Street in South Hero and the Canadian border in Alburgh.
- c) Produce information containing the following:
 1. Maps of potential locations for pausing places and road improvements
 2. Conceptual plans of what the different typical pause places and rest areas would look like, and of typical road improvements along the route
 3. Refined descriptions of the standard components of the different types of pause places (signs, amenities, etc.)
 4. Estimated cost for various stages of development for pause places and road improvements
 5. Large color presentation maps of report graphics

II. Summary of Existing Conditions

A. On Road Conditions

Route 2 is the main travel corridor through the Champlain Islands and therefore has the highest average daily traffic volumes. A traffic study from 2003 show that that average traffic volume on Route 2 was 9,000 in South Hero then diminished steadily as it progresses north with a low of

1,900 in Alburgh south of Route 78. North of the Route 2/Route 78 intersection in Alburgh traffic volumes increased again to 4,100.

Route 2 was repaved in the late 1990s and as a result it has a two- to three-foot shoulder for most of its length, which may be considered adequate for experienced cyclists. According to a 1998 Northwest Regional Planning Commission study speeding is a significant problem on Route 2. According to the study nearly 90 percent of observed vehicles were exceeding the posted speed limit of 50 miles per hour. Speeding was more pronounced during the morning and afternoon peak period times. Additionally, trucks comprise a large percentage of total traffic volumes on Route 2. Both high speeds and a high volume of truck traffic can create stressful situations for cyclists.

Average daily traffic volumes on other State Routes and local roads that the Island Line follows are summarized in Table 1. Vermont 314 in South Hero experiences high traffic volume primarily because it serves as the route to the Grand Isle/Plattsburg, New York Ferry Terminal. Parts of West Shore Road in Alburgh also experience high traffic volumes. Anecdotal reports indicate that vehicle speeds are often higher than 45 miles per hour on Vermont 314 which, when combined with the narrow to non-existing shoulders on this road, can make cyclists feel very uncomfortable and put them at risk.

Table 1. Average 2003 Daily Traffic on US Routes, State Routes, & Selected Local Roads

Route	Town	Volume
US 2	South Hero	9,000
	Grand Isle	3,000
	North Hero	2,800
	Alburgh (south of Route 78)	1,900
	Alburgh (north of Route 78)	4,100
VT 314	South Hero	3,200
	Alburgh	1,300
VT 129	Alburgh	730
West Shore Road	South Hero	270
	Alburgh	1,300
South Street	South Hero	890
Griswold Street	Grand Isle	240
Lake View	North Hero	430
Border Road	Alburgh	280

From VTrans Program Development Division, Traffic Research Unit, July 2003

Lane widths on local roads tend to be nine to 12 feet wide with no paved shoulders. Many roads including West Shore Road in South Hero and Quaker Road in Grand Isle are noted as unpaved but in good condition. Posted speed limits are generally 35 to 40 miles per hour.

The Lake Champlain Bikeways Initial Route Assessment report completed in 1995 rated East Shore Road in Grand Isle with the highest aesthetic rating. West Shore Road in South Hero, Grand Isle, and Alburgh had the second highest rating.

B. Existing Amenities and Points of Interest

The 2005 Champlain Islands Trail Report identified a number of amenities along the existing LCB that include schools, recreation areas, food stores, state parks, village centers and other points of interest such as historic places and shops. Many of the stores and villages centers are on or close to Route 2. There are also clusters of points of interest along the lake shore.

Many of the amenities listed in this report were identified in the Champlain Islands Trail Report and others have been added. These sites already exist but most are not known to cyclists using the existing LCB. This report recommends simple ways to attract cyclists to these sites by utilizing signage, and providing additional amenities at proposed bicycle rest areas along the existing LCB route that will make the route more hospitable to cyclists and help to bolster the local economy by encouraging users to stop at the rest areas hosted by local businesses. For a list of points of interest by town see Appendix A.

III. Recommended Improvements

A. Overview

All the improvements recommended in this report are intended to better orient riders to the historic and natural features of the route, facilitate the connection between trail users and local businesses, and/or improve the condition of the trail and provide basic amenities to trail users. Creating opportunities for visitors to learn about the history of the Champlain Islands, experience the natural beauty, and sample the local treasures creates a sense of place. Trail users get to know a little bit about life in the Islands and experience it first hand, which makes the Island Line recreation trail an attractive destination for bicycle tourism. Being an on-road route, the LCB is also highly visible to motorists, some of whom may be users or potential users of the trail. Ensuring that the trail is well maintained and equipped with basic necessities such as water and rest stops also makes the trail friendlier to cyclists of all abilities.

B. Bicycle Rest Areas

1. Types of Bicycle Rest Areas

Eight types of bicycle rest areas have been identified and each presents ways for trail users to enjoy Lake Champlain and the landscape, explore local attractions or commercial establishments, or just rest. The eight different types are:

- Rest stops (R)
- Pocket Parks (P)
- Information Signage (I)
- Trail Head (T)
- Trail Link (L)
- Attractions (A)
- Roadside Stop (RS)
- Other (O)

The letter after each type of rest stop in the list is used in subsequent tables and figures in place of the full name. Table 2 outlines what kinds of amenities will be proposed for each type of rest area, as well as additional features that may be included depending on the size and location of the

site. It also provides a brief description of each amenity. More detailed descriptions with specifications for each amenity are listed in Appendix B

C. Recommended Rest Area Improvements

Table 3 lists the different locations as well as what type of bicycle rest areas are recommended for each location. Figures A, B, C, and D show the geographic locations of these points along the trail. The inventory of locations to study for improvements to the selected alternative of the Champlain Islands Trail was compiled by Wilbur Smith Associates with input and assistance from Local Motion staff, Island Line Steering Committee members, town officials, town staff, and residents.

The locations recommended for various levels of improvements and amenities range from rest stops with informational kiosks, water and rest rooms, to simple grassy pull-offs with minimal improvements. Recommended improvements will be connected by way of common signage and amenity design.

Table 4 summarizes what amenities are recommended at each of the proposed bicycle rest areas. A detailed cost-estimate for each amenity is available in Appendix C.

Table 2: Types of Bicycle Rest Areas

Type	Amenities Offered														B, P, R			
	Restrooms	Benches	Regional Info	Trail Info	Trail head	Trail Link to (or close to) Island Line	Donation Box	Advanced Notification or Warning Signs	Scenic Vista	Water (as available)	Lake Access	Larger Park Area	Point of Interest (commercial)	Other individualistic Feature		Up to 3 parking spaces	Bicycle rack	Ownership
Rest stops	X	X	X	X	x	x	X	X	X	x		x	x		X	B, P		
Pocket Parks		X	X	X	x	x	X	X	x	X	x		x	x	X	B, P		
Information Signage			x	X		x			x			x	x			B, P		
Trail Head				X	X									X	X	B, P		
Trail Link						X			x		x	x	x		X	B, P, R,		
Attraction	x	x	x	x		x		X	x	x	x	x	X		x	X	B, P, R,	
Roadside Stop		x							X		x		x				B, P, R	
Other	x	x	x	x		x		x	x	x	x	x	x	X	x	x	B, P, R	
		X	Included in the feature											B	Business Property			
		x	Possibly included in the feature											P	Public Property			
																	R	Private Residential Property
Descriptions:																		
Restrooms -- Permanent restroom facilities or portable toilets																		
Benches -- Park benches or picnic tables																		
Regional Information -- Information about the historical or present day significance of the area																		
Trail information -- Maps or specific information about a particular trail																		
Trail Head -- Entry point to a hiking or biking trail																		
Trail Link -- A secondary route that connects to a specific hiking or biking trail																		
Donation Box -- Secure boxes are available at these sites to make donations to Local Motion																		
Advanced Notification or Warning Signs -- Signs indicating the remaining distance in miles to the next major attraction																		
Water -- drinking water available here (water fountain or hand pump)																		
Scenic Vista -- Overlook point																		
Larger Park Area -- Town or state park																		
Point of Interest -- Local stores and shopping or other commercial attraction																		
Other -- (just list specifically what the attraction is)																		
Parking -- Up to 3 parking spaces available here																		
Bicycle Rack -- Bicycle racks available here																		

Table 3: Proposed Bicycle Rest Areas & Types

Town	Proposed Bicycle Rest Area Locations	Proposed Type(s)
South Hero	1. Sandbar Causeway 2. Apple Island Resort 3. Old Route 2 to Landon Road 4. VELCO power line crossing 5. Round Pond State Park 6. Wells CSA Farm 7. South Street Connection to Railroad causeway, Bike Ferry to Colchester, and South Hero Village 8. Kinney Property 9. Marsh Trail trailhead 10. White's Beach 11. Crescent Bay B+B/stone castles/llamas 12. Snow Farm Winery 13. Willey's shore (at Sunset View) 14. Eagle Camp* 15. West Shore Road + Route 314 triangle	I R L T, L P, A A, P L, O, P, A, T, R P T, L P A A, I P P
Grand Isle	16. LCT Ferry/restaurant 17. Hatchery outfall/shoreline 18. LCBP and the Gordon house 19. Ed Weed Fish Hatchery 20. Wilcox Cove lakeshore and roadside at corner 21. Park-like shore area just to the north 22. Vantine's Fish + Wildlife access area 23. Caboose and lakeshore area 24. Island Line Future Trail Link 25. Den of Antiquities and Wooden Flag Antique Shops 26. Morris Property 27. Pomykala's farm stand 28. Lakeshore hayfield 29. Old Route 2 between E. Shore Rd and Drawbridge	R P, O I, A I, A P, O P R P L I, A P A P R
North Hero	30. North of drawbridge (east shore) 31. Railbed at West Shore Road and South End Road 32. O'Neil shore at Pelot's Point Road 33. Town owned railbed section 34. State garage property 35. Shore Acres Restaurant 36. North Hero Village 37. Birdland 38. Grand Isle Supervisory Union offices with lakeshore 39. Triangle at Lake View Drive 40. Route 2 west side pull-off* 41. Harborside Market and lakeshore 42. North Hero Causeway Fish + Wildlife Access Area	P, O L P T R P, A P A P, O P P, A, I R

Alburgh	43. Alburgh Antique Store with lakeshore	P
	44. Alburgh Dunes State Park entrance overlook	P
	45. Alburgh Golf Course lakeshore	P
	46. Route 129 and West Shore Road	P
	47. Horican Fish +Wildlife Access Area	R
	48. Lake Cheese & Shoreline Chocolates with lakeshore	P, A
	49. Gannon Farm lakeshore area	P
	50. Future Alburgh Town Beach	P, O
	51. Alburgh Village	P, I, A
	52. Alburgh Country Store	P, A
	53. New England Via Vermont	P, A
	54. Vermont Welcome Center	R
	55. Noyan Branch & Historic Marker	T, O
	56. 45 th Parallel (former International Border)	I
57. International Border Crossing	A	
58. Kelly Bay Fish + Wildlife Access Area	I, A	

*Locations that were originally sited as potential rest stops, but are no longer being considered at this time.

D. Roadway improvements

1. Types of Roadway Improvements

The general condition of the roadway is of critical importance to the success of the Island Line Trail. Towards that end, paved portions of the roadway should have adequate shoulders for riders to feel safe when riding with vehicular traffic. There are four general roadway improvements that will improve safety for cyclists:

a. Adequate Shoulders

Shoulders must be a minimum of 4 feet wide in order to accommodate bicycle travel, (AASHTO, 1999).

b. Pavement Quality

The pavement should have minimal potholes, bumps, cracks, joints or drop offs. These conditions can trap the cyclists' wheel, cause them to swerve and potentially come into conflict with motor vehicles, or slow down below a comfortable speed of riding which can increase the cyclists' instability, (AASHTO, 1999).

c. Clear Signage

Clear signage is of critical importance because it lets trail users know where they are supposed to go. The current signage for the Lake Champlain Bikeway does a very good job of highlighting the route of the Trail. As more off road components of the trail are developed, additional directional signage will need to be added so that the two different routes can be clearly distinguished and understood. Signage can also be used to make motorists more aware of cyclists and the need to share the road.

d. Adequate Site Distance

Adequate site distance allows bicyclists to see potential hazards in time to react and avoid them. This includes adequate distance to see past curves in the trail, braking distance on hills, and sight lines at intersections for safe crossing, (AASHTO, 1999).

2. Specific Roadway Improvements

The most pressing need for additional shoulders is on Route 314, where high vehicular speeds, heavy traffic (especially trucks) and narrow shoulders combine to create unpleasant and potentially dangerous conditions for bicyclists. The Northwest Regional Planning Commission's Route 2 Corridor Study recommended the addition of 3-foot paved shoulders on this roadway; that recommendation is still relevant today and is endorsed by this report.

3. Intersection Improvements

Route 314/West Shore Road (GI)

The intersection of Route 314 and West Shore Road also could benefit from an upgrade of the pavement surfaces near the intersection. A significant drop at the edge of the pavement, combined with deep patches of loose gravel on the paved roadway, create difficult situations for bicyclists. A better definition of the roadways edges along the southwestern side of the intersection is also recommended, so that the travel route of motor vehicles can be more predictable for bicyclists.

Route 129/West Shore Road (A)

The intersection of Route 129 and West Shore Road is a particular intersection that could be improved to make it easier to navigate by both motorists and bicyclist. The current alignment creates confusion on the part of both motorists and bicyclists as to who has the right of way. While a more detailed study should be conducted before advancing recommendations for change, it appears as if a roundabout in this location could work well and address current issues. Also at this intersection, there are significant lake views and potential public accesses to the lake both to the east and to the west. The ILSC should work with the Northwest Regional Planning Commission to undertake a more detailed analysis of this intersection.

IV. Implementation

The ILSC must work with partners, town governments and non-profits in the area, to implement this plan. Recognizing that it would be difficult to secure funding to make all the trail improvements at one time, a phased in approach for implementation is recommended. Individual improvement projects are therefore prioritized using the criteria below.

Category 1

Category 1 or first priority improvements are projects that may be considered "low hanging fruit" because they may not require a construction permit and would cost little to build. Typically the area already exists and only needs to be defined by signage, landscaping, or some other designation showing that is it planned stop along the trail. Additionally, the landowner has already been contacted regarding the proposed rest area and is fully supportive of the concept or at least receptive to the concept and no apparent physical conflicts exist at the site.

Category 2

Category 2, or second priority improvements, are sites where the recommended amenities would require a construction or land use permit, or involve developing a water source and therefore would be more costly to implement.

Category 3

Category 3 includes projects that are on-going, require permits, or have other issues that must be addressed in order to move the project forward. Other issues include sites where the landowner has not yet been contacted to discuss the concept or the landowner has been contacted but is not receptive to the concept at this point in time. It is expected that a number of these sites will be redesignated as Category 1 sites upon completion of the landowner contact process. This category also includes road and safety improvement projects.

Category 4

Category 4 includes sites that were originally sited as a potential rest area, but were dropped from the list due to the results of landowner contact or the analysis of physical limitations.

Maintenance

Maintenance of the bicycle rest stops is crucial in order to keep them in good condition so that they continue to serve the needs of users for years to come. A good maintenance plan will also ensure that each site will continue to be an attractive addition to the landscape.

Options for maintenance:

- **Adopt a Rest Area:** Similar to the popular Adopt a Highway program, groups, businesses or individuals could adopt bicycle rest areas and provide regular maintenance and beautification services. In recognition of the owners of the rest stop or the volunteer group who adopts it, the destination sign should have a place to write "Site maintained by [name]," or "Site supported by [name]"
- **Boy Scout troops:** Both South Hero and Grand Isle have active Boy Scout troops that have expressed interest in maintaining rest stops as part of their volunteer duties. These troops have been consistently active for the past several years and could be a reliable source of volunteer hours.
- It is suggested that proceeds from the donation boxes be used to offset maintenance expenses.

Funds to cover maintenance activities at the rest stop areas still need to be raised or identified; one option is to establish a reserve fund.

Table 4: Bicycle Rest Areas: Recommendations and Cost Estimates

South Hero			
Name/description	Type	Recommended Amenities	Category
1. Sandbar Causeway	I	<ul style="list-style-type: none"> Regional information signage 	1
2. Apple Island Resort		<ul style="list-style-type: none"> Destination signage Regional signage Bicycle Rack 2 Benches 	1
3. Old Route 2 to Landon Road	L, P	<ul style="list-style-type: none"> Link signage Landscaping 	3
4. VELCO power line crossing	T, L	<ul style="list-style-type: none"> Trail head signage 	3
5. Round Pond State Park	P, A	<ul style="list-style-type: none"> Destination signage Trail signage Bicycle rack Bench 	2
6. Wells CSA Farm	P, A	<ul style="list-style-type: none"> Destination signage Bicycle Rack Bench 	1
7. South Street Connection to Railroad Causeway & Bike Ferry to Colchester, and South Hero Village	L, O, P, A, T, R	<ul style="list-style-type: none"> 2 benches (one on either side of ferry loading area) Informational sign at causeway and in center of town Donation box on either side of causeway (one on either side of ferry loading area) Restroom at Allen Point Fish + Wildlife Area (replacing port-o-lets) 	1

8. Kinney Property	P	<ul style="list-style-type: none"> • Destination signage • Bench 	3
9. Marsh Trail trailhead	T, L	<ul style="list-style-type: none"> • Trail Head sign • Parking for 2 vehicles 	3
10. White's Beach	P	<ul style="list-style-type: none"> • Destination signage • Bicycle Rack 	1
11. Crescent Bay B&B, stone castles, llamas	A	<ul style="list-style-type: none"> • Destination signage • Bicycle rack 	1
12. Snow Farm Winery	A, I	<ul style="list-style-type: none"> • Destination signage • Regional sign • Bench • Bicycle Rack 	1
13. Willey's Shore (at Sunset View)	P	<ul style="list-style-type: none"> • Destination signage • Bench 	3
14. Eagle Camp		<ul style="list-style-type: none"> • No longer on list at this time □ □ 	4
15. West Shore Road and Route 314 Triangle	P	<ul style="list-style-type: none"> • Destination signage • Regional Signage • Bicycle Rack • Donation box • 2 Benches • Fence 	1
Grand Isle			

Name/description	Type	Recommended Amenities	Category
16. LCT Ferry/Restaurant	R	<ul style="list-style-type: none"> • Destination signage • Restrooms (already existing) • Bicycle Rack • Regional signage • 2 Benches • Donation box • Water fountain 	
17. Hatchery outfall/Shoreline	P, O	<ul style="list-style-type: none"> • Destination signage • Information signage • Bicycle Rack • Bench • Landscaping for Waterfall Access Trail 	1
18. LCBP & the Gordon House	I, A	<ul style="list-style-type: none"> • Destination signage • Regional signage • Informational signage • Bicycle Rack • Bench 	1
19. Ed Weed Fish Hatchery	I, A	<ul style="list-style-type: none"> • Destination signage • Regional signage • Informational signage • Restroom • Bicycle Rack • Donation box • Bench 	1

20. Wilcox Cove lakeshore and roadside at corner	P, O	<ul style="list-style-type: none"> • Destination signage • Regional signage • Bicycle Rack • Fence • Bench 	3
21. Park-like shore area just to the north	P	<ul style="list-style-type: none"> • Destination signage • 2 Benches • Landscaping • Lake Access • Donation Box • Fence (rail and post) 	3
22. Vantine's Fish and Wildlife Access Area	I, A	<ul style="list-style-type: none"> • Destination signage • Restrooms • Informational signage • Lake Access • Bicycle rack • Bench 	1
23. Caboose and lakeshore area	P	<ul style="list-style-type: none"> • Destination signage • Bicycle Rack • Bench 	3
24. Island Line Future Trail Link	L	<ul style="list-style-type: none"> • Trail link signage • Destination signage 	3
25. Den of Antiquities and Wooden Flag Antique Shops	I, A	<ul style="list-style-type: none"> • Destination signage (2) • 2 trails (grass, and eventually gravel) 	1

		<ul style="list-style-type: none"> • Bicycle Rack 	
26. Morris Property	P	<ul style="list-style-type: none"> • Destination signage • Bench • Water Fountain • Bicycle Rack 	1
27. Pomykala's Farm Stand	A	<ul style="list-style-type: none"> • Destination signage • Bench • Bicycle Rack 	3
28. Lakeshore Hayfield	P	<ul style="list-style-type: none"> • Destination signage • Bench 	3
29. Old Route 2 between E. Shore Rd and Drawbridge	R	<ul style="list-style-type: none"> • Restrooms • Regional signage • Destination signage • Donation Box • Lake Access • Bicycle Rack • 2 Benches • Water Fountain • Fence (rail and post) 	2
North Hero			
Name/description	Type	Recommended Amenities	Category
30. North of Drawbridge (east shore)	P, O	<ul style="list-style-type: none"> • Destination signage • Lake Access • Bicycle Rack 	3

		<ul style="list-style-type: none"> • 2 Benches 	
31. Railbed at West Shore Road and South End Road	L	<ul style="list-style-type: none"> • Destination signage • Informational signage 	3
32. O'Neil shore at Pelot's Point Rd	P	<ul style="list-style-type: none"> • Destination signage • Bicycle Rack • Bench 	3
33. Town owned railbed section	T	<ul style="list-style-type: none"> • Trail head sign 	1
34. State garage property	P	<ul style="list-style-type: none"> • Destination signage • 2 Benches 	3
35. Shore Acres Restaurant	P, A	<ul style="list-style-type: none"> • Destination signage • Bicycle Rack • Bench 	3
36. North Hero Village	P	<ul style="list-style-type: none"> • Destination signage • Regional signage • Informational signage • Lake Access • Restrooms • Bicycle Rack • 3 Benches • Water Fountain • Donation Box • Fence 	1
37. Birdland	A	<ul style="list-style-type: none"> • Destination signage • Informational signage 	3
38. Grand Isle Supervisory Union	P, O	<ul style="list-style-type: none"> • Destination signage 	3

offices with lakeshore		<ul style="list-style-type: none"> • Lake Access • Bicycle Rack • Fence • Bench 	
39. Triangle at Lake View Drive	P	<ul style="list-style-type: none"> • Destination signage • Regional signage • Bicycle Rack • Fence • 2 Benches 	3
40. Route 2 west side pull-off		<ul style="list-style-type: none"> • No longer on list at this time • Bench 	4
41. Harborside Market & lakeshore	P, A, I	<ul style="list-style-type: none"> • Destination signage • Regional signage • Informational signage • Bicycle Rack • 2 Benches • Landscaping for Lake Access 	1
42. North Hero Causeway Fish and Wildlife Access Area	R	<ul style="list-style-type: none"> • Destination signage • Regional signage • Restroom • Bench • Information sign 	1

Alburgh			
Name/description	Type	Recommended Amenities	Category
43. Alburgh Antique Store with lakeshore	P	<ul style="list-style-type: none"> • Destination sign • Informational sign • Donation box • Water Fountain • Bicycle rack • Bench 	1
44. Alburgh Dunes State Park entrance overlook	P	<ul style="list-style-type: none"> • Destination sign • Informational sign • Donation box • Bicycle rack • Bench 	3
45. Alburgh Golf Course lakeshore	P	<ul style="list-style-type: none"> • Destination sign • Future Lake Access (no landscaping required) • Informational sign • bench 	1
46. Route 129 and West Shore Rd lakeshore	P	<ul style="list-style-type: none"> • Destination sign • Regional sign • Donation box • Lake Access • Bicycle rack • Bench 	1

47. Horican Fish and Wildlife Access Area	R	<ul style="list-style-type: none"> • Restrooms • Destination signage • Regional sign • Lake Access • Bench 	1
48. Lake Cheese & Shoreline Chocolates with lakeshore	P, A	<ul style="list-style-type: none"> • Restrooms • Destination signage • Informational sign • Bicycle rack • Bench 	2
49. Gannon Farm lakeshore area	P	<ul style="list-style-type: none"> • Destination sign • Regional sign • Informational sign • Lake Access • Donation box • Bicycle rack 	1
50. Future Alburgh Town Beach	P, O	<ul style="list-style-type: none"> • Destination sign • Regional sign • Informational sign • Bicycle racks • benches 	1
51. Alburgh Village	P, I, A	<ul style="list-style-type: none"> • Destination sign • Regional sign • Informational sign • Donation box 	1

		<ul style="list-style-type: none"> • Water Fountain • Bicycle rack • Bench 	
52. Alburgh Country Store	P, A	<ul style="list-style-type: none"> • Destination sign • Picnic table 	1
53. New England Via Vermont	P, A	<ul style="list-style-type: none"> • Destination sign • Bench 	1
54. Vermont Welcome Center	R	<ul style="list-style-type: none"> • Restrooms (already existing) • Destination sign • Regional sign • Informational sign • Donation box • benches • Bicycle rack 	1
55. Noyan Branch and Historic Marker	T, O	<ul style="list-style-type: none"> • Trail link sign • Destination sign • Informational signage • Donation box • Fence • Bicycle rack • Bench 	3
56. 45th Parallel (former International Border)	I	<ul style="list-style-type: none"> • Informational signage 	1
57. International Border Crossing	A	<ul style="list-style-type: none"> • Destination sign • Regional sign 	1

- Informational sign

58. Kelly Bay Fish + Wildlife Access Area	I, A	<ul style="list-style-type: none"> • Destination sign • Regional sign • Informational sign • Restroom • Bicycle rack • Bench 	3

Appendices

- A. Points of Interest by Town (to be added)
- B. Rest Area Amenity specifications
- C. Cost Estimates for Bicycle Rest Area Amenities
- D. Maps

Appendix B: Rest Area Amenity Specifications

Restrooms

Rest stops should be equipped with permanent restroom facilities whenever possible with at least one stall for men and one for women. If the cost of restroom facilities is prohibitive, another alternative is to provide one or more unisex portable toilets. Portable toilets could be rented from June through September.

The Champlain Islands Chamber of Commerce is planning to utilize the National Scenic Byways Program to locate portable rest rooms at four locations along the Route 2 corridor, recently officially designated the Lake Champlain Scenic Byway. These efforts must be considered when planning Island Line rest stops so as not to duplicate efforts.

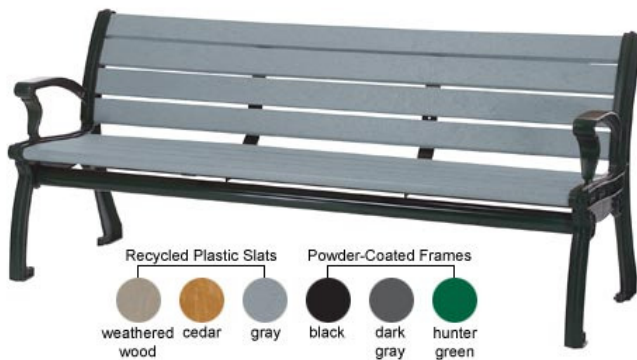
Benches

Rest stops and pocket parks should be equipped with at least one park bench that is six feet long. Benches can be free standing to reduce installation costs. Benches may be secured to a permanent object with a chain where there is concern that a bench will be moved or stolen.

The bench material should be chosen to fit the aesthetics of the Island Line bicycle route and be weather resistant. Three different types of possible benches are shown below. Each bench will cost approximately \$750.



Option A: 6' free-standing cast iron bench with cedar seat, \$760.



Option B: 5' free-standing recycled plastic bench. Comes in a variety of colors. \$730.



Option C: 6' free-standing steel rib bench, powder-coat finish. \$780.

The Island Line Sign and Amenities Plan called for a two sided railroad style bench that cost \$2,100 in 2005 when the Plan was completed. Cost estimates in this report were done with a cost of \$800 per bench, based on the prices of benches shown above.

Some sites may have a 6' picnic table instead of a bench. The cost ranges from \$375 for a table with a galvanized frame and yellow pine seats and top to \$450 for colored anodized aluminum seats and top. Both options are shown below. They are free-standing picnic tables so may be secured to a permanent object with a chain where there is concern that the table will be moved or stolen.

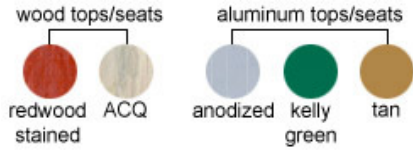


Yellow pine (above)



Anodized aluminum (above)

Colors for the wood and for the anodized aluminum are also shown.



Bicycle Rack

Sites with bicycle racks will have at least one wave/ribbon style bike rack with an in-ground mount. The size of rack may vary depending on size and limitations of area, but 9-loop rack is preferred because it provides 11 bicycle parking spaces and cost between \$500 and \$600 each depending on the type of finish (galvanized or powder-coat). Three loop racks hold 5 bicycles each and cost approximately \$350 each.

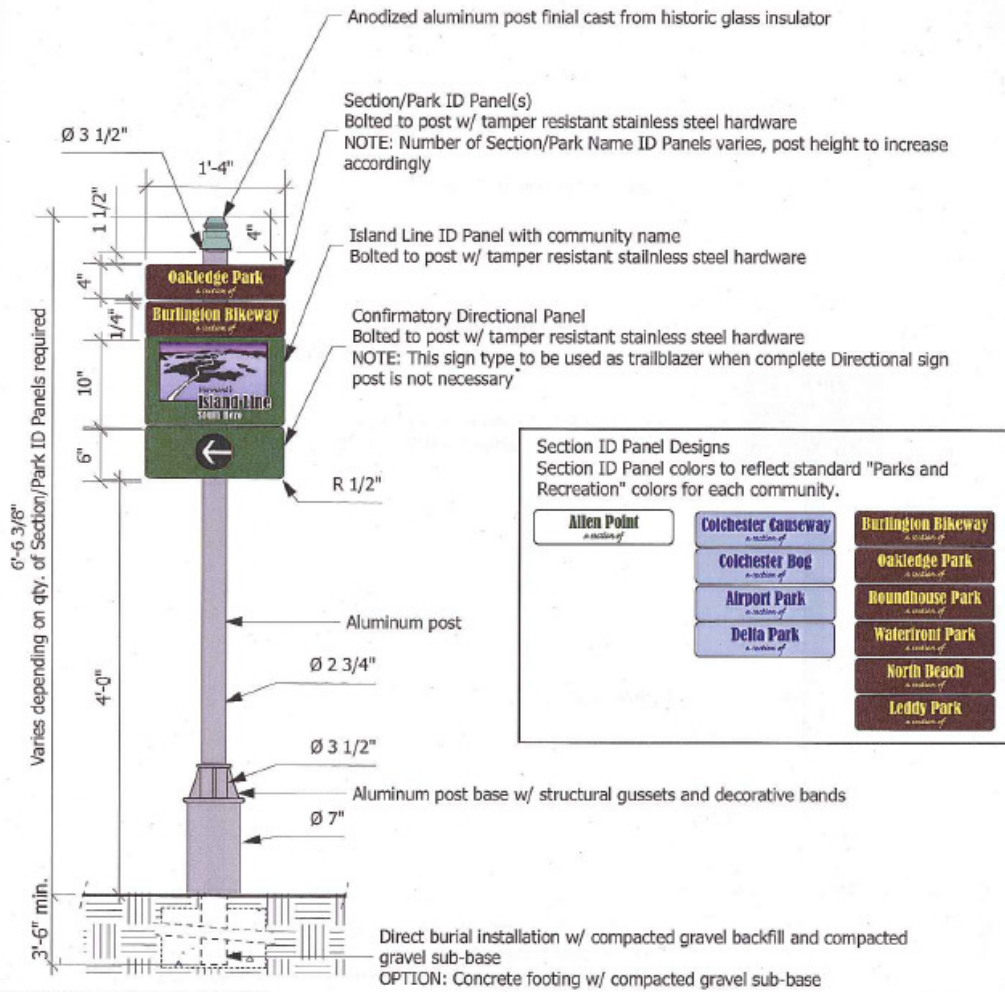


Picture: 3-loop heavy-duty challenger rack by MADRAX

Custom made racks are available and they may be shaped to reflect the overall design scheme of the Island Line Trail. However, custom racks are not recommended due to cost. Very simple custom racks can sometimes be found for around \$500, but most cost thousands of dollars.

Confirmatory Directional Sign

This sign will be posted at rest areas to tell visitors where they are and confirm that they are still on the Island Line trail. The sign with the rest area name will be a 6 x 16" sign located at the top-most position on the pole. The Island Line ID panel with community name is a 10 x 16" sign that will be second in position. The bottom-most sign will be 6 x 16" and display the appropriate directional arrows. At rest stops where the site is owned by a private owner, or maintained by a specific volunteer a sign should be added that says "Site maintained by [name]" or "Site supported by [name]."



SIGN PANEL MATERIAL OPTIONS:

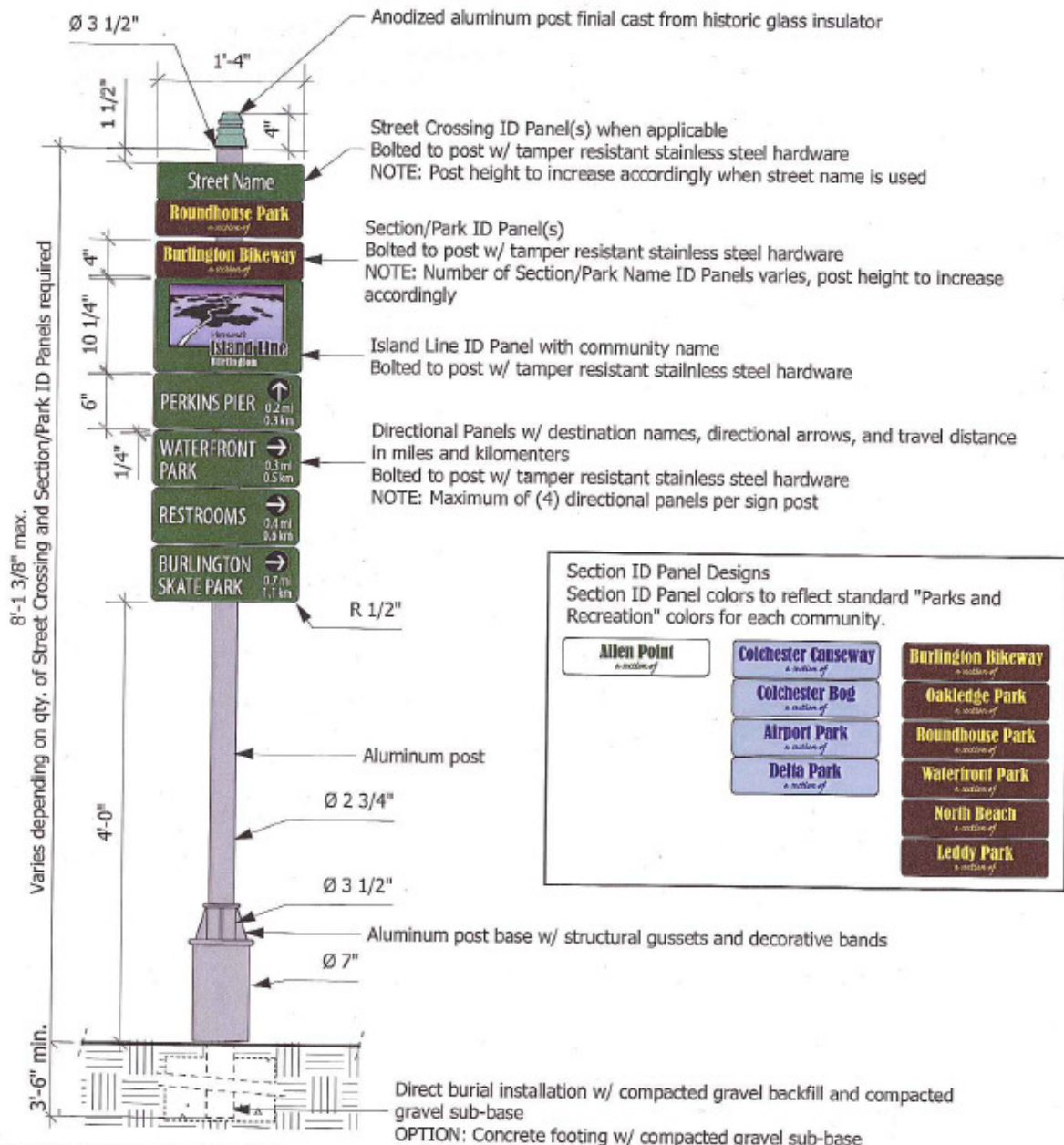
1) Embedded fiberglass w/ full color graphics; or 2) Powder coated aluminum w/ exterior grade cut and/or full color vinyl graphics

NOTES:

- 1) See §8. Proposed Sign and Amenity Location Maps and §9. Proposed Sign Schedule for specific locations and message required
- 2) All artwork for logo, messages, arrows, and symbols to be provided by LandWorks
- 3) Signs to be double-sided unless otherwise noted in §9. Proposed Sign Schedule
- 4) Colors shown are representational only

Advanced Notification or Warning Signs (Directional Signs)

These signs are called 'Directional Signs' in the LandWorks Island Line Signage and Amenities Plan. They are 6 x 16" signs indicating the remaining distance in miles to the next major attraction. Signs will be designed to be consistent with the LandWorks Island Line Signage and Amenities Plan (shown below).



SIGN PANEL MATERIAL OPTIONS:

- 1) Embedded fiberglass w/ full color graphics; or 2) Powder coated aluminum w/ exterior grade cut and/or full color vinyl graphics

NOTES:

- 1) See §8. Proposed Sign and Amenity Location Maps and §9. Proposed Sign Schedule for specific locations and message required
- 2) All artwork for logo, messages, arrows, and symbols to be provided by LandWorks
- 3) Signs to be double-sided unless otherwise noted in §9. Proposed Sign Schedule
- 4) Colors shown are representational only

Donation Box

Donation boxes are secure lock boxes found at rest stops and pocket parks or other locations along the Island Line trail where trail users may make donations to support the trail and its facilities. The donation box pictured below is used by the Massachusetts Department of Conservation and Recreation. They were built by inmates in Massachusetts, and painted by a local artist. The estimated cost of building the donation box and installing it is \$900. The Massachusetts DCR is willing to provide the blueprints on how to make them. They could be built by local welders, or they could be purchased from the Massachusetts Department of Corrections by a Vermont state agency for use on the Island Line bicycle route.



Fence

Fences will be used at some bicycle rest areas to designate the area as an official pausing point on the Island Line trail, and provide a barrier between trail users and hazards such as the road, drop offs in the terrain, or to delineate the line between the pausing point and private property.

The type of fence chosen should fit the aesthetics of the Island Line bicycle route and be weather resistant. Four different types of possible fences are shown below.

Type A: Two-rail split rail fencing (locust posts, hardwood rails)



(Three-rail split rail fence shown above, 2 rail photo not available)

Hawk Creek Fence Company

Ferrisburgh, VT

\$9.20 per foot, includes installation

Type B: Two-rail cedar slip fence



(Three-rail cedar fence shown above, 2 rail photo not available)

Hawk Creek Fence Company

Ferrisburgh, VT

\$12.00 per foot, includes installation

Type C: post & rail fence



Pictured above:

Red Cedar Rail fence

Rails = 10' long

Posts: 5'4" – 1/3 of which goes in ground

1 post and 2 rails costs \$34.50

does not include installation cost

F.E. Hart Fence Company, Inc

Williston, VT

Type D: Cedar split rail fence



Pictured above:

No digging required

Cedar rails: \$10.80 per 10 foot rail

Cost does not include installation cost

F.E. Hart Fence Company, Inc.

Landscaping

Landscaping involves cutting back brush or implementing erosion control measures to provide safe access to an area. The most common use for landscaping is to provide access to Lake Champlain. A ballpark cost of \$1,000 was used.

Other

Bicycle rest areas that fall into the “other category” will need to have signage listing what the attraction is. The signage will be consistent with the Confirmatory Directional Sign in the LandWorks Island Line Signage and Amenities Plan.

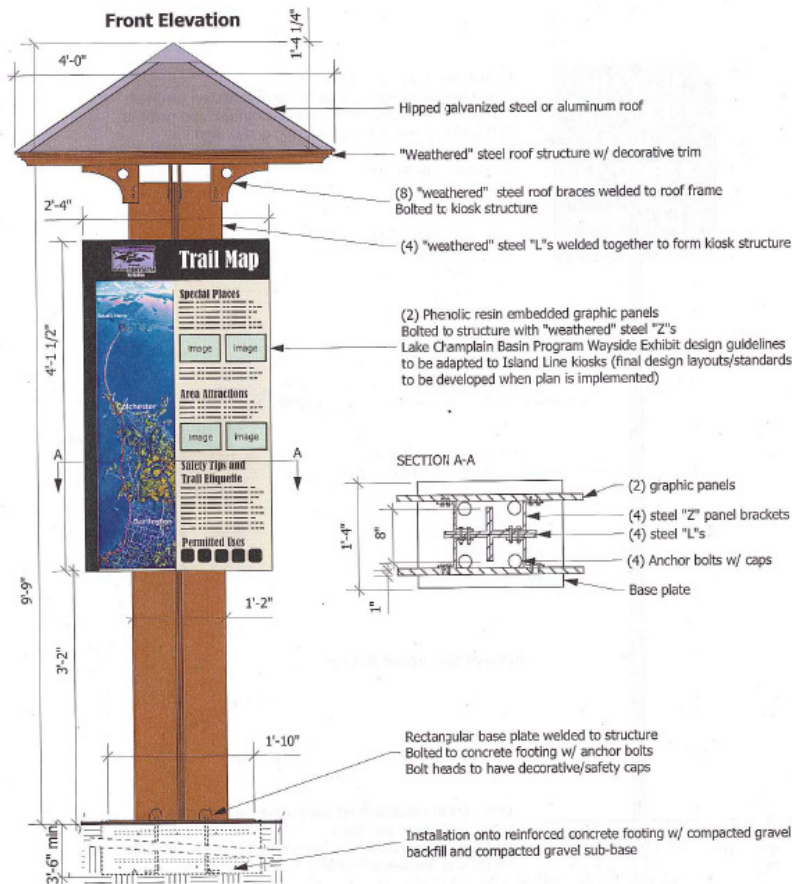
Parking

Bicycle rest areas that offer parking will have up to 3 parking spaces available. At least one edge of the parking area will be marked with a fence (see fence description below). The fence will most likely separate the parking area from the trail head with a gap where the official entrance is.

Regional Information Signage

The regional information signage will be similar to the Trail Head with Trail Information sign described above but the display board will be larger (4' 2 1/2 " by 2' 11"). The sign will display text and graphics with the historical and present day significance of the area and the second side of the kiosk will have an area for temporary information displays.

6e: Island Line Small Kiosk (SK.)



- NOTES:**
- 1) See §§ Proposed Sign and Amenity Location Maps and §9. Proposed Sign Schedule for specific locations and message required
 - 2) All artwork for logo, messages, arrows, and symbols to be provided by LandWorks
 - 3) Signs to be double-sided unless otherwise noted in §9. Proposed Sign Schedule
 - 4) Colors shown are representational only

Restroom

Restrooms for this cost estimate are for Port-o-let rentals only at this time. The price for one regular portable toilet between the months of June and September (including delivery and weekly service) is \$340 each. For a handicapped accessible portable toilet between the months of June and September (including delivery and weekly service) is \$500 each. Further discounts may apply depending on the volume of units requested.

There are also optional restroom shelters (designed by LandWorks that could also be included. The estimated cost per restroom shelter is \$10,000. This cost was not included in the estimate since a permanent restroom facility is preferred.

Restroom Structure

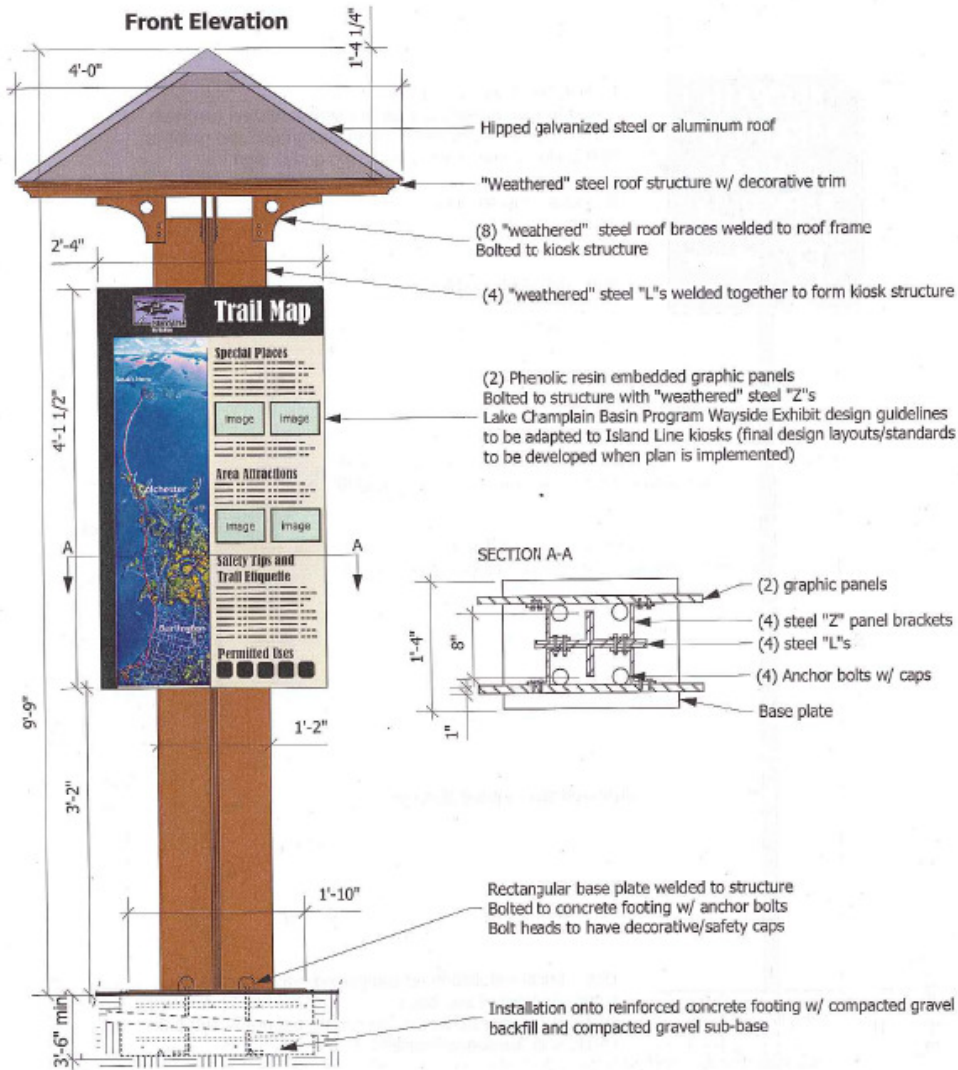
- Metal structure with roof and corrugated metal "walls" inspired by historic railroad architecture, following same design pattern as kiosk structures
- Restroom structure designed to disguise seasonal port-o-lets where recommended on path
- Structure allows port-o-let to be removed for winter and/or entire structure to be dismantled; Open roof allows for adequate ventilation



Trail Head with Trail Information Sign

Trail information signage will include maps or other specific information about the trail or link. The display board will be 4'1 1/2" x 2' 4" as shown on the Island Line Small Kiosk design in the LandWorks Island Line Signage and Amenities Plan. To minimize cost, the sign will be mounted with two aluminum sign posts, one on either side of the sign. This is not reflected in the sketch shown below.

6e: Island Line Small Kiosk (SK.)

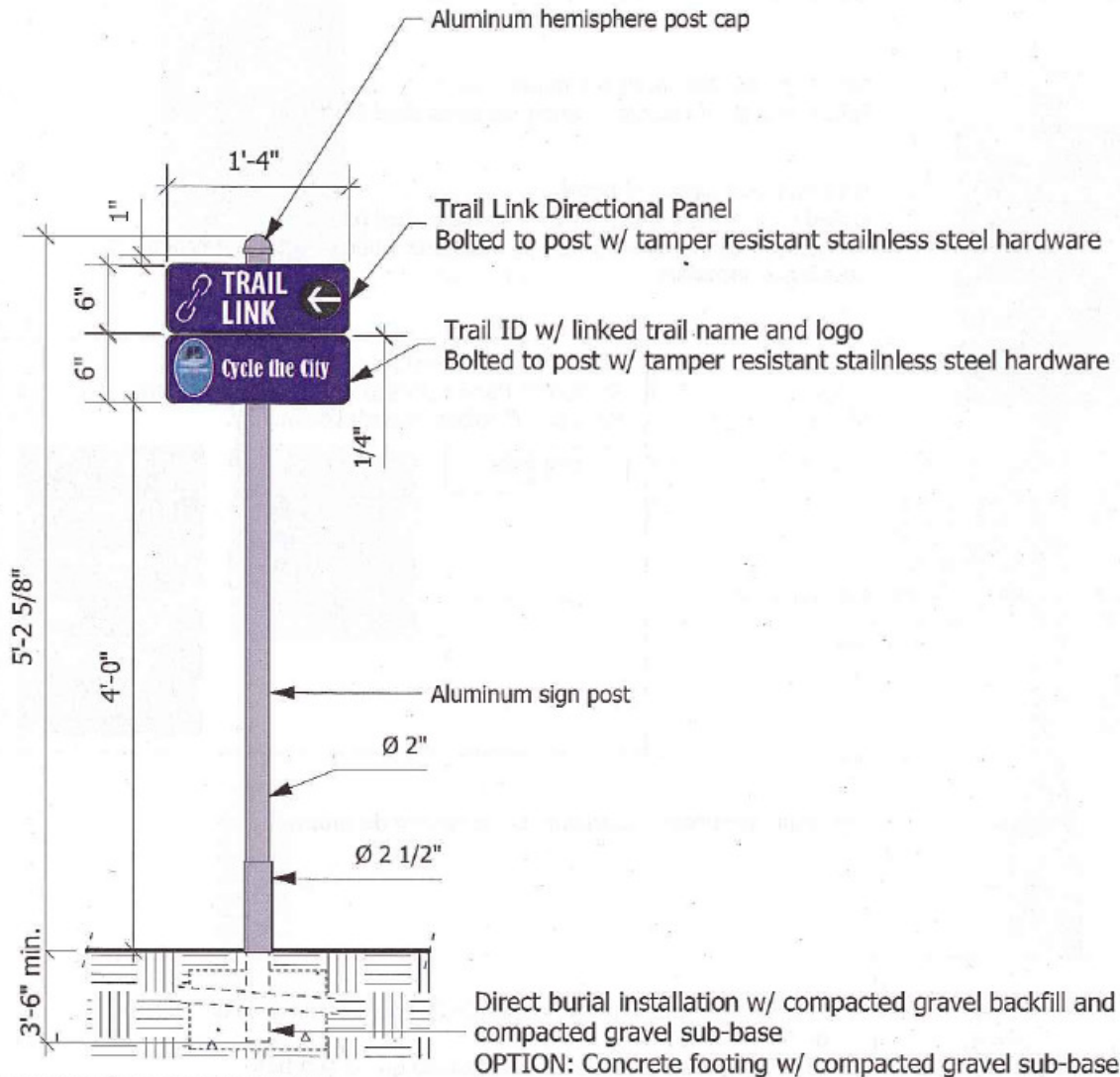


NOTES:

- 1) See 88. Proposed Sign and Amenity Location Maps and 89. Proposed Sign Schedule for specific locations and message required
- 2) All artwork for logo, messages, arrows, and symbols to be provided by LandWorks
- 3) Signs to be double-sided unless otherwise noted in 89. Proposed Sign Schedule
- 4) Colors shown are representational only

Trail Link

Trail links are secondary routes that connect the Island Line trail to other designated hiking or biking trails. The secondary route will be marked with signage indicating where the link starts and ends. The link may be on the shoulder of a road, or be a separated path. It will be marked with appropriate signage consistent with the LandWorks Island Line Signage and Amenities Plan.



SIGN PANEL MATERIAL OPTIONS:

1) Embedded fiberglass w/ full color graphics; or 2) Powder coated aluminum w/ exterior grade cut and/or full color vinyl graphics

NOTES:

- 1) See §8. Proposed Sign and Amenity Location Maps and §9. Proposed Sign Schedule for specific locations and message required
- 2) All artwork for logo, messages, arrows, and symbols to be provided by LandWorks
- 3) Signs to be double-sided unless otherwise noted in §9. Proposed Sign Schedule
- 4) Colors shown are representational only

Water

Rest stop and pocket parks, as well as attractions and other bicycle rest areas will offer pedestal drinking fountains whenever possible.

A basic pedestal fountain, like the one shown at right, will cost around \$400 each, not including installation.



A concrete Americans with Disability Act (ADA) compliant pedestal fountain like the one shown below will cost approximately \$1,800, not including installation.

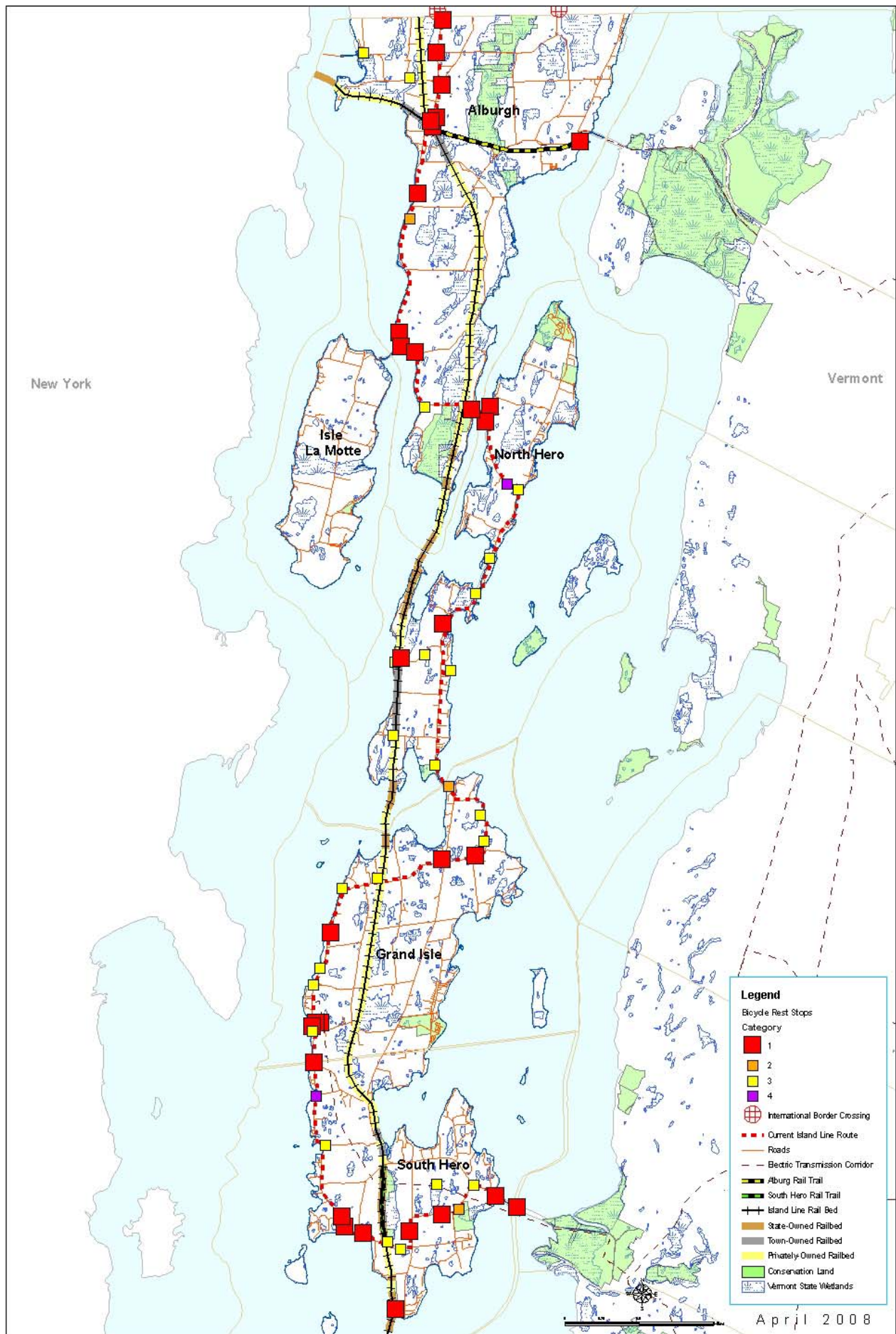


An ADA compliant stone aggregate pedestal drinking fountain like the one shown below will cost approximately \$1,584, not including installation.



Appendix C: Cost Estimates for Bicycle Rest Stop Amenities

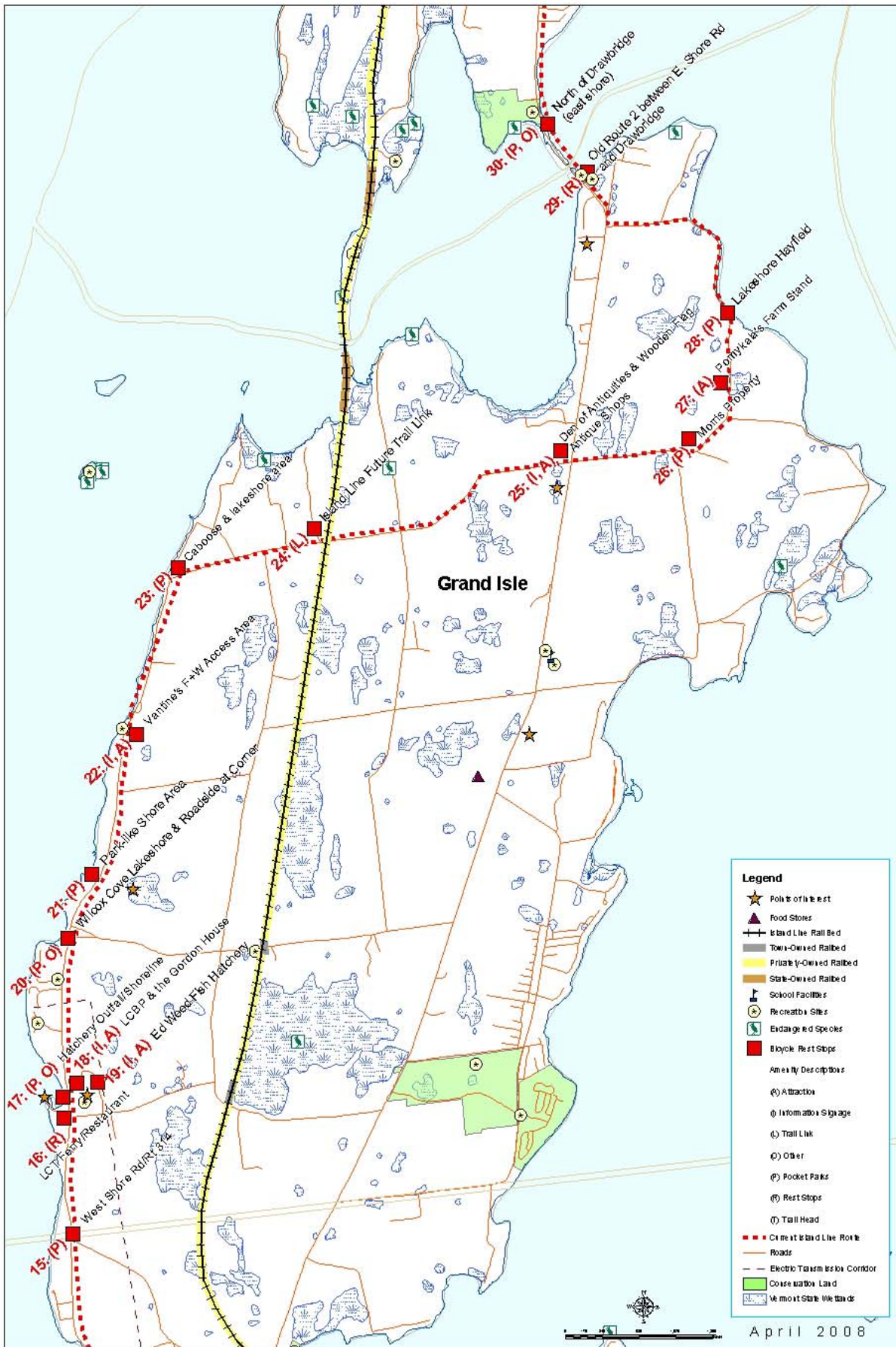
Amenities - Costs	2007 unit prices
Simple small kiosk	\$3,050.00
Simple large kiosk	\$5,850.00
Simple Island Line Directional (8 panels front and back)	\$1,900.00
Simple Island Line Directional (4 panels, front and back)	\$1,500.00
Simple Island Line Directional (2 panels, front and back)	\$800.00
Low sitting stone wall*	\$5,500.00
Restroom structure*	\$10,000.00
Railroad style bench*	\$2,310.00
Informational sign (small kiosk)*	\$3,300.00
Regional Signage (large Kiosk)*	\$7,700.00
Destination Sign (4 panel front/back) BASIC	\$1,500.00
Bicycle rack	\$550.00
Bench (free-standing)	\$800.00
Water fountain (not ADA compliant)	\$400.00
Donation box (MA DCR type)	\$900.00
Fence (10 ft segments)	\$92.00
Other sign (e.g.: Lake Access)	\$600.00
Landscaping	\$1,000.00
Trail Link directional sign	\$600.00
Trailhead Sign	\$600.00
Portable toilet (regular, includes delivery, weekly service June - Sept.) from Complete Septic Services, Isle La Motte, 309-1069	\$340.00
Picnic Table (free-standing)	\$340.00
Portable toilet (handicapped accessible, includes delivery, weekly service June - Sept) from Complete Septic Services, Isle La Motte, 309-1069	\$500.00



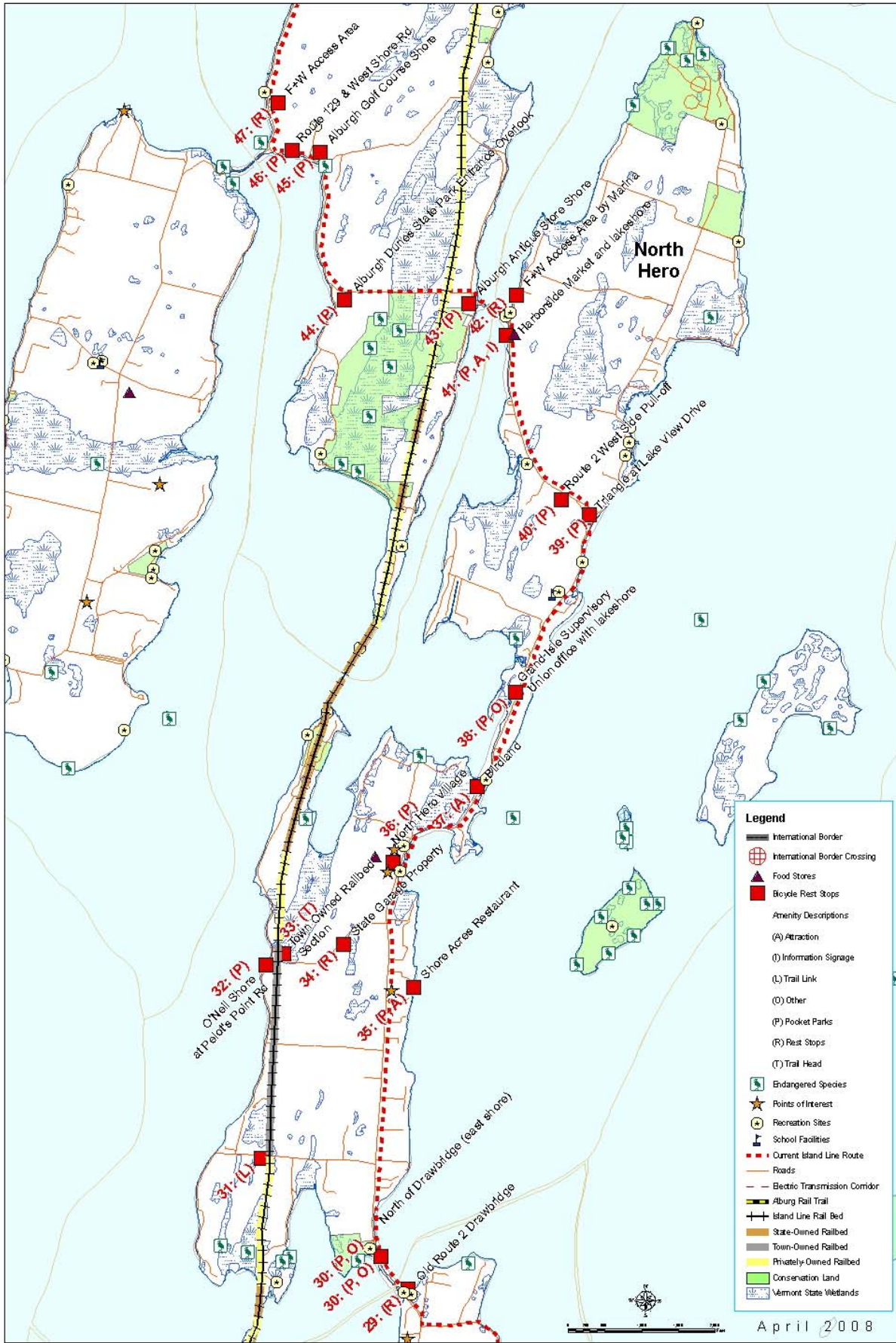
Island Line Bicycle Trail Bicycle Rest Stops—Champlain Islands



Island Line Bicycle Trail Bicycle Rest Stops South Hero

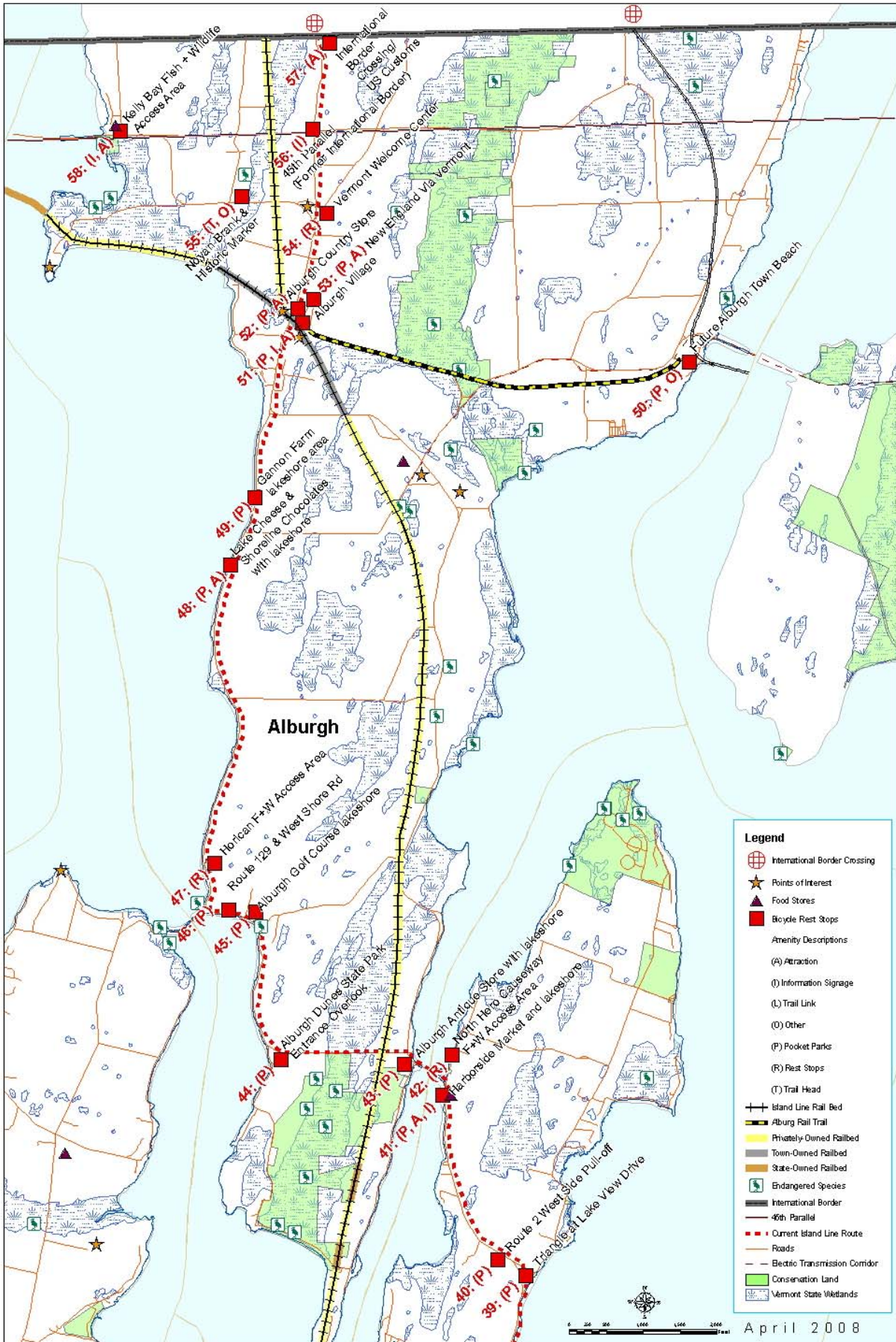


Island Line Bicycle Trail Bicycle Rest Stops Grand Isle



April 2008

Island Line Bicycle Trail Bicycle Rest Stops - North Hero



Island Line Bicycle Trail

Bicycle Rest Stops - Alburgh