

Waldoboro Bicycle-Pedestrian Plan

April 2011



Prepared by

**Waldoboro Bike-Pedestrian Committee
Lincoln County Regional Planning Commission**

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Section 1

Introduction

Waldoboro is a fast-growing community in mid-coast Maine. Historically, it supported a large ship-building industry, was a major lumber producer and port and was the home of one of Maine's largest fishing fleets, which was centered along the Medomak River in and near the village. This is reflected in the many fine, old homes, commercial buildings and walkable streets in the village. In fact, Waldoboro still has a vital role in the state's fishing industry as the leading producer of soft shell clams and it is the largest community by far in Lincoln County.

Two events have greatly affected downtown Waldoboro. With the demise of the wooden ship industry, active commercial uses along the riverfront mostly disappeared. To some extent, this resulted in the community turning away from the downtown riverfront so that there are few points of public access, either physical or visual, along the river.

Perhaps more importantly, in 1933 Route 1 was relocated from Main Street to a new road a half-mile north of the village in an undeveloped area. Because it was not access controlled, this bypass attracted much of the commercial heart of Waldoboro and resulted in the village being somewhat isolated from everyday life in the community.

Much of Waldoboro's recent residential growth has occurred north of Route 1 along state routes and country lanes. There has also been a substantial increase in residences along riverfront, bay and peninsulas in south Waldoboro but many of these were developed as seasonal occupancies. With the exception of Miller Elementary School, which is located within the village, all other schools, including the regional high school and middle school and the Coastal Christian School, are located miles from the village on roads that are not presently suited for bike or pedestrian use.

Waldoboro has a comprehensive sidewalk system in the village but only one sidewalk extends north of Route 1. In addition, with the exception of Route 1 and a very short section of Route 235, no roads have paved shoulders or dedicated lanes suitable for biking. In fact, gravel shoulders, narrow widths, horizontal and vertical curves and, in many instances, poor

travel surfaces make bicycling for all but the most expert riders challenging.

The Town of Waldoboro, Maine Department of Transportation (MDOT) and the Lincoln County Regional Planning Commission (LCRPC) began a bicycle and pedestrian study in the summer of 2010 to determine interest in the community for bicycling, walking and jogging. The study included:

- Addressing the lack of pedestrian access to and along the riverfront
- Evaluating pedestrian and bicycle access to the transportation system including the need, if any, for new or improved sidewalks, crosswalks or road shoulders, bike lanes, off-road routes needed for connectivity or other facilities to enhance safety for pedestrians and bicyclists in Waldoboro.
- Reviewing existing bike-ped-related ordinance and site plan provisions and, if necessary, recommending amendments to address any deficiencies
- Evaluating the current sidewalk/bicycle budget and the funding mechanism for sidewalk/bicycle facility maintenance and capital improvements
- Working with MDOT staff as they develop plans to improve pedestrian access across Route 1

A survey was developed for soliciting input from students and non-students on bicycle and pedestrian issues in the community. Paper surveys were made available at the town office, public library and Medomak Valley Land Trust office and on-line surveys were advertised and linked to the town website. Due to the number of schools in the community, separate paper and on-line surveys designed specifically for students were created.

As part of the study, students and non-students were asked why and where they walked, jogged or biked in Waldoboro, the routes they took, the condition of existing facilities, recommendations, if any, for new or improved facilities, safety concerns and related information. Ninety-seven student surveys and 41 non-student surveys were completed. The results of these surveys, as well as research conducted on existing facilities, meetings with the Waldoboro Bike-Pedestrian Committee, input from

survey respondents who provided contact information and comments from the public, served as the basis for the findings and the recommendations in this plan.

Section 2

The Community

Some of the following information is presented in Waldoboro's 1998 Comprehensive Plan.

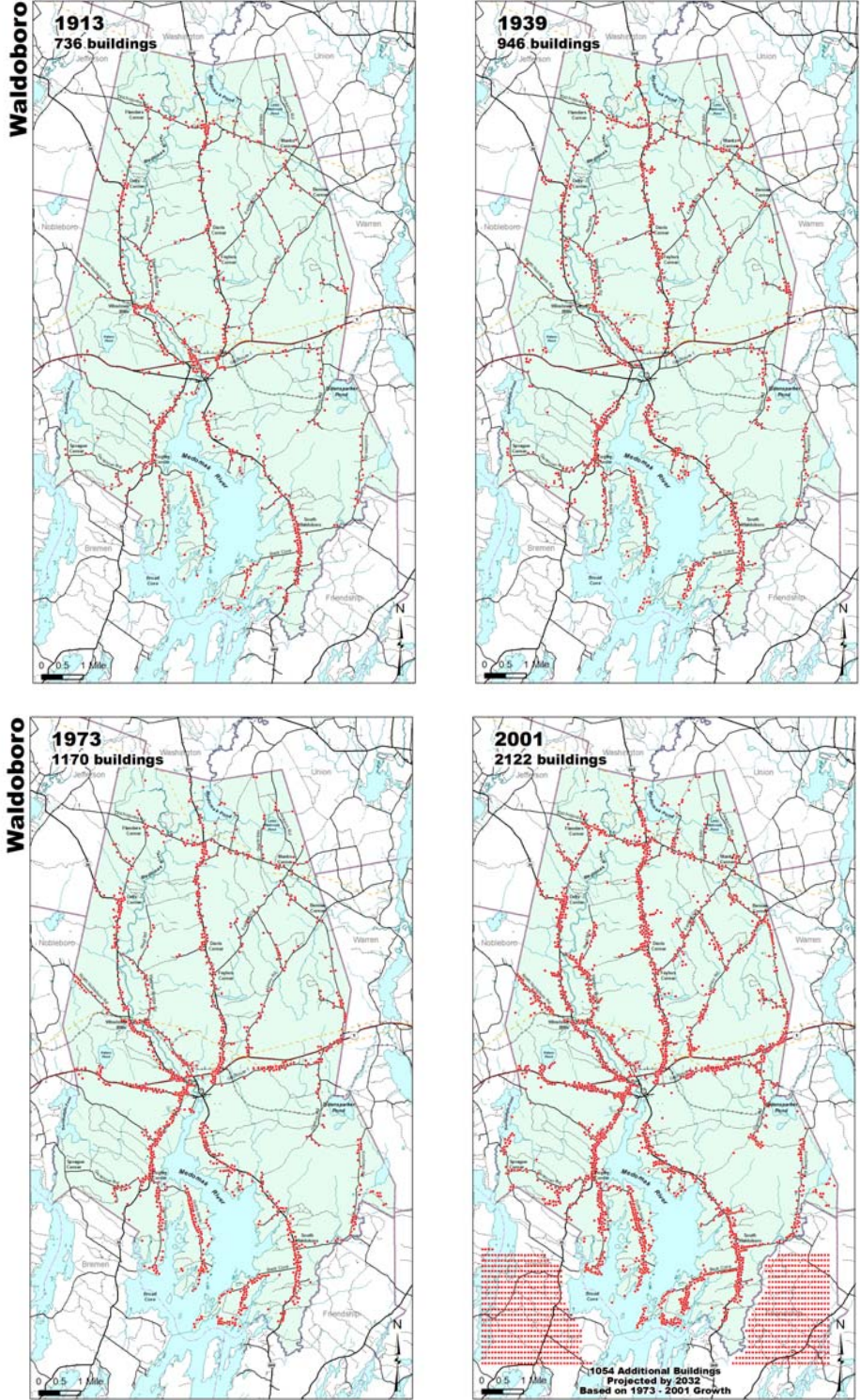
Geographically, Waldoboro is situated in mid-coast Maine 15 miles west of Rockland, 66 miles east of Portland and 28 miles south of Augusta. Route 1 used to run through the village but a bypass which skirts the village itself was built in 1933. The village still has ready physical access to Route 1 but is visually separated from it. Route 32 with direct access to Augusta bisects the town. The Maine Eastern Railroad runs west to east, providing easy access to an industrial park off Route 32, and the Medomak River flows from Medomak Pond in the northern part of the community south to Muscongus Bay. The town consists of 73 square miles, one of the larger towns in the region, including many miles of coastline, acres of forest and abundant open fields. It is fully served by a system of local roads and state highways, providing ready access to all parts of the town.

As is typical of many mid-coast communities Waldoboro's population peaked in the mid-nineteenth century at 4,568 in 1880. The loss of the shipbuilding industry and the opening up of mid-western and western lands to agriculture led to an exodus of residents so that just 50 years later, the population had dropped by half to 2,311. Since 1930, the population has risen and by 1990 it finally surpassed its 1880 peak with 4,601 residents. Since then, the population has steadily increased to 4,916 in 2000 and a projected 5,004 in 2008.

While the population today is not dramatically different from its 1880 peak, housing needs are far different. In 1870, for example, there were 5.14 persons per household in Maine compared to 2.35 persons per household in 2000. This means that it required less than half the dwelling units in the nineteenth century to house an equivalent population in 2000. Additionally, this does not account for the explosion in second homes, which for all practical purposes did not exist in most communities a century ago.

Where have all these new residences with their attendant school age children and automobiles gone? The History of Growth Maps in Figure 1 illustrate the development pattern in Waldoboro since 1913. While it is not possible to determine the number of residences in the village

Figure 1 Waldoboro History of Growth Maps



in past decades, the overall growth pattern is clear. Most new development has occurred along the town's rural highways, well beyond the community's sidewalk system, thereby making village businesses and services inaccessible except by automobile.

Waldoboro's most notable resource is the Medomak River yet there are very few opportunities for residents or visitors to explore the river from the shore. In fact, partly because of the history of industrial activities along the waterfront and partly due to geography, the river is largely untouched as it flows through the community. As Figures 2 and 3 demonstrate, however, the river is a lovely part of Waldoboro village.

Figure 2 Medomak River in Waldoboro Village



Figure 3 Medomak River in Waldoboro Village



While the Medomak River may be Waldoboro's most significant environmental feature, Route 1 is its most obvious man-made feature. Although traffic volumes on the highway are not as great as in Wiscasset, they are high enough to impact daily travel routines through and within the community and are far larger than those on any other road in Waldoboro. Table 1 presents average annual daily traffic data (AADT) for selected locations in Waldoboro. The increase in Route 1 traffic during the period 1992-2007 is significant, especially when compared to traffic volumes on other area roadways and within the village. Based on data presented in the Gateway 1 Corridor Action Plan, *summertime* daily traffic on Route 1 (summer average weekday daily traffic - SAWDT) is 20% greater than the AADT. Considering this factor and the 2007 traffic counts presented in Table 1, the summertime daily traffic volume on Route 1 east of Route 32 would be 15,900 vehicle trips. This explains one reason why Route 1 is perceived as a formidable barrier to pedestrian and bicycle use.

Road	1992	2007	Change
Route 1 E/O Depot Street	10,360 ³	12,770	23%
Route 1 E/O Route 220	9,220	11,870	29%
Route 1 E/O Route 235	7,780 ⁴	11,220	44%
Route 1 E/O Route 32	10,140	13,250	31%
Route 32 NW/O Route 1	2,140	2,830	32%
Route 32 S/O Main Street	2,220	2,310	4%
North Nobleboro Road W/O Route 32	1,560	1,710	10%
Main Street NE/O Jefferson Street	3,160	3,020	-4%
Route 220 S/O Main Street	2,740	2,990	5%
Jefferson Street SE/O Route 1	2,360	2,370	9%
Depot Street NW/O Route 1	1,110	1,200	8%

¹ Average annual daily traffic

² Source - Maine Department of Transportation

³ 1993 data

⁴ 1990 data

Route 1 traffic has a negligible impact on village residents. Based on the low traffic volumes on village streets and the minimal increases in traffic over the years (about a 0.5% annual increase vs. 2% on Route 1), the great majority of Route 1 drivers simply bypass the downtown. While this may adversely affect downtown businesses, it will likely increase the effectiveness of any bike and pedestrian improvements proposed off Route 1 due to fewer conflicts with traffic as long as any such facilities are adequately sized and located. Of course, provisions for bike and

pedestrian access across Route 1 and for adequately facilities on rural roads will still remain as a major issues.

Waldoboro's sidewalk system permits residents and visitors to walk to many destinations within the village. Figure 4 and Table 2 illustrate the sidewalk system.

Figure 4 Waldoboro Sidewalks



Of the entire 3.5 mile sidewalk system, all but the Depot Street sidewalk is located south of Route 1 and presently there is no crosswalk connecting the Depot Street and Jefferson Street sidewalks (see Figure 5). Table 2 is based on the results of a sidewalk survey completed by Lincoln County Planner Robert Faunce in 2010. As noted in Table 2, all sidewalks are asphalt. Overall, about a quarter of Waldoboro's sidewalks by length

was rated in the survey as being in poor to fair condition but with none rated as being in poor condition.

Table 2 Waldoboro Sidewalks

#	Street	Segment		Side	Length (feet)	Type	Width (feet)	Condition	Comments
		from	to						
1	Bremen Road	Main Street	N of school crosswalk	E	1000	asphalt	2.5-3	F-G	dropped catchbasins
2	Mill Street	Bremen Road	bridge	S	1000	asphalt	3	P-F	sidewalk slumped below curb
3	Jefferson Street	Route 1	S of School Street	E	1800	asphalt	5	VG	
4	Jefferson Street	S of School Street	N of Main Street	W	820	asphalt	5	VG	
5	Jefferson Street	N of Main Street	Main Street	E	40	asphalt	5	VG	
6	Main Street	Bremen Road	Jefferson Street	N	2270	asphalt	4-5	F-G	
7	Main Street	Jefferson Street	School Street	N	310	asphalt	6	VG	
8	Main Street	School Street	Old Route 1	N	1660	asphalt	4-4.5	VG	
9	Main Street	Friendship Road	S of Friendship Road			asphalt	5'	G	
10	Main Street	Friendship Road	Sproul Block	S	60	asphalt	3	G	private?
11	Main Street	Pleasant Street	Old Route 1	S	1590	asphalt	4-5	F-G	sidewalk slumped below curb; some cracking
12	Old Route 1	Main Street	Coles Hill	S	220	asphalt	4	F-G	cracking; cold patch repair; groundwater seepage
13	Glidden Street	Main Street	Shady Avenue	E	230	asphalt	4-5	VG	
14	School Street	Main Street	N of Shady Avenue	E	220	asphalt	5	VG	
15	School Street	Main Street	Philbrook Lane	W	550	asphalt	5	VG	
16	Shady Lane	School Street	Glidden Street	N	270	asphalt	5	VG	
17	Friendship Road	Main Street	S of Pleasant Street	W	300	asphalt	8-9	F	
18	Friendship Road	S of Pleasant Street	Osram	W	3560	asphalt	4	P-F	dropped catchbasins; transition to poor paved shoulder
19	Friendship Road	Main Street	S of Pleasant Street	E	270	asphalt	8-9	F	
20	Pleasant Street	Main Street	Friendship Road	E-S	610	asphalt	4	G	
21	Pleasant Street	Friendship Road	Sproul Block	N	70	asphalt	7	P-F	
22	Marble Avenue	Pleasant Street	E of Oak Street	S	620	asphalt	4	F-G	
23	Depot Street	Route 1	S of RR crossing	E	1100	asphalt	4	G	

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There are some gaps in the village sidewalk system, notably Main Street between Old Route 1 and Route 1, Route 32 between the Miller School and Route 1 and Main Street between Route 32 and the entrance to the new recreation complex. As noted earlier, sidewalks north of Route 1 are almost non-existent and, unfortunately, there are no sidewalks at all to the public school complex on Manktown Road or Coastal Christian School on North Nobleboro Road (see Figures 6 and 7). In fact, with the absence of paved shoulders on these and all other public roads in Waldoboro (except Route 1 and a very short section of Route 235), safe pedestrian activities outside of the village are not possible.

Figure 5 Route 1 at Jefferson Street and Depot Street

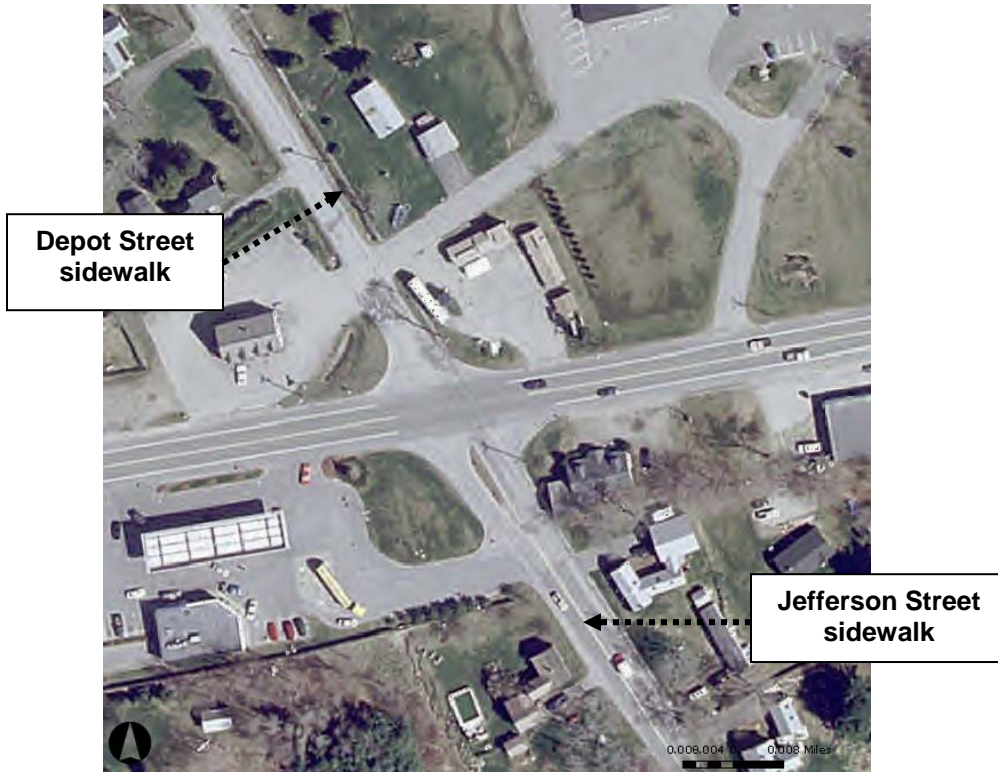


Figure 6 Manktown Road in Vicinity of Public School Complex



Figure 7 North Nobleboro Road in Vicinity of Coastal Christian School



Limitations for pedestrians are generally the same ones as for bicyclists. Except as previously noted, paved shoulders are absent on all state and local roads in Waldoboro. Route 32 is a major connector between Route 17 and Route 1 and consequently carries heavy truck traffic in addition to local and commuter traffic. Figure 8 shows typical gravel or vegetated shoulders on Route 32 north of Route 1 while Figure 9 presents views of Route 32 south of the village.

Figure 8 Route 32 North of Route 1

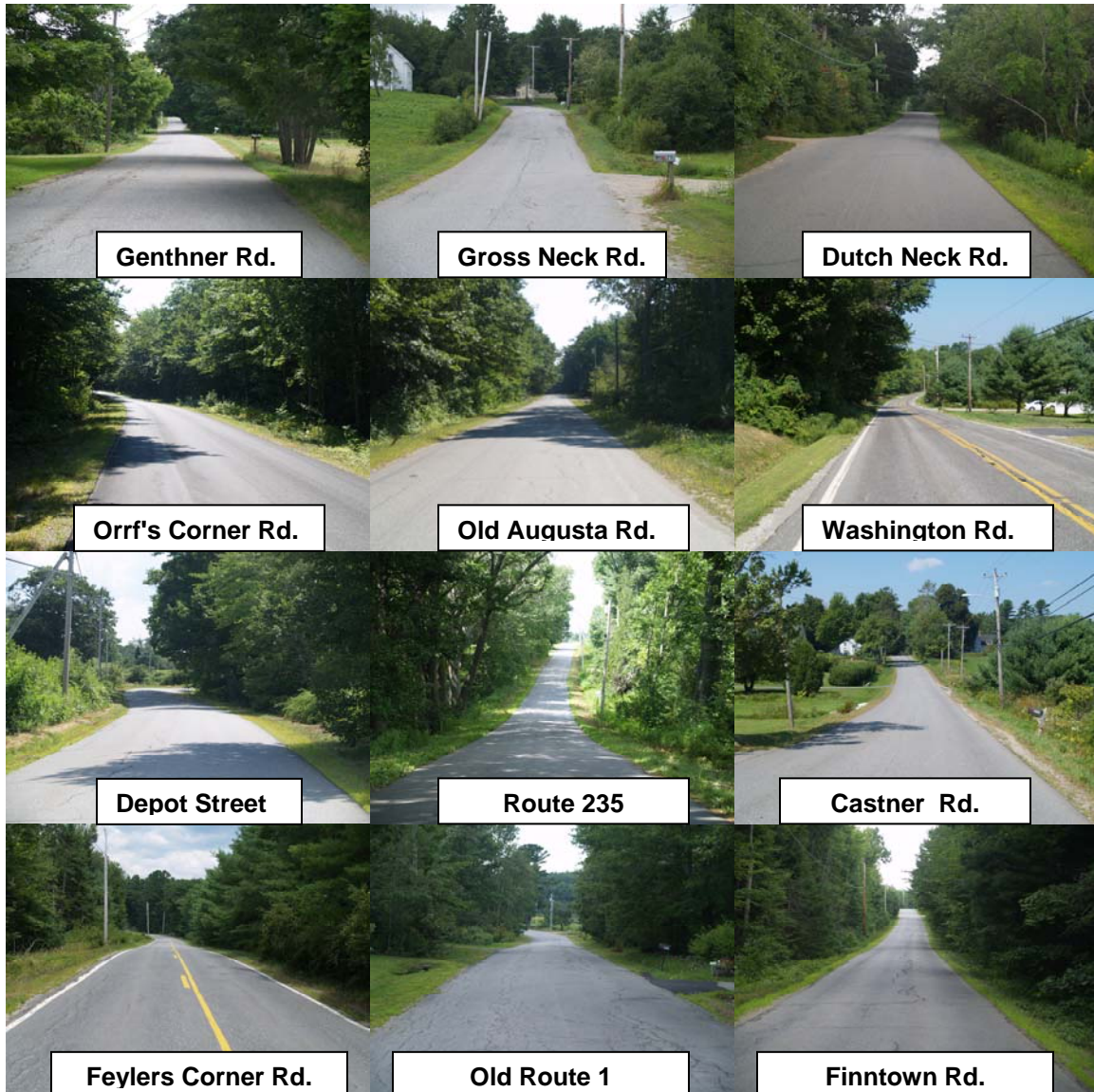


Figure 10 presents views of typical rural Waldoboro roads. While some have relatively good travel surfaces, many have narrow travel lanes, lack paved shoulders and are not suitable for bike or pedestrian use. However, relatively low traffic volumes, together with limited truck use, compensate to some extent for surface and shoulder conditions.

Figure 9 Route 32 South of Waldoboro Village



Figure 10 Typical Rural Waldoboro Roads



Exceptions to this are Routes 235 and 220, which carry heavy gravel truck traffic.

Route 220 (Friendship Road) has a sidewalk but it is deteriorated in areas and the presence of one or more depressed grates creates a safety concern for bicyclists using the narrow paved area between the travelway and the sidewalk. Route 220 from Route 1 to Friendship is part of the East Coast Greenway but the absence of a paved shoulder, moderate traffic and limited sight distance in some locations present challenges to even experienced bicyclists. See Figure 11 for examples of depressed grates on Friendship Road and Bremen Road.

Figure 11 Depressed Grates on Friendship Road and Bremen Road



Route 1, of course, is the major transportation corridor in Waldoboro. That portion of the highway between the Nobleboro town line and Main Street is part of the East Coast Greenway. Route 1 has wide paved shoulders and accommodates experienced bicyclists. As shown in Figure 12, however, there are several locations where the paved shoulder disappears and bicyclists must merge into the travelway. These are at the beginning of the upgrade east of Main Street, at the Route 32 intersection (east-bound), at the Route 32 bridge (west-bound) and along the upgrade to the Route 220 intersection (east-bound). In addition, there are no marked and signed pedestrian crossings of Route 1. This is especially problematic at the Route 1-Jefferson Street-Depot Street intersection, effectively making the Jefferson Street and Depot Street sidewalks discontinuous. MDOT has proposed improvements to this intersection that, preliminarily, would include a pedestrian activated light and crosswalk.

Figure 12 Route 1 Paved Shoulders



As previously noted, Waldoboro village has only limited physical or visual access to the Medomak River (see Figure 2). Except for a public landing and float on the westerly side of the river below the Main Street bridge, there are no points of physical access within the village. While grades, vegetation and private property restrictions limit pedestrian access to the village riverfront to areas immediately adjacent to the bridges and a small rest area off Route 32, the river represents a significant environmental asset as demonstrated in Figure 13.

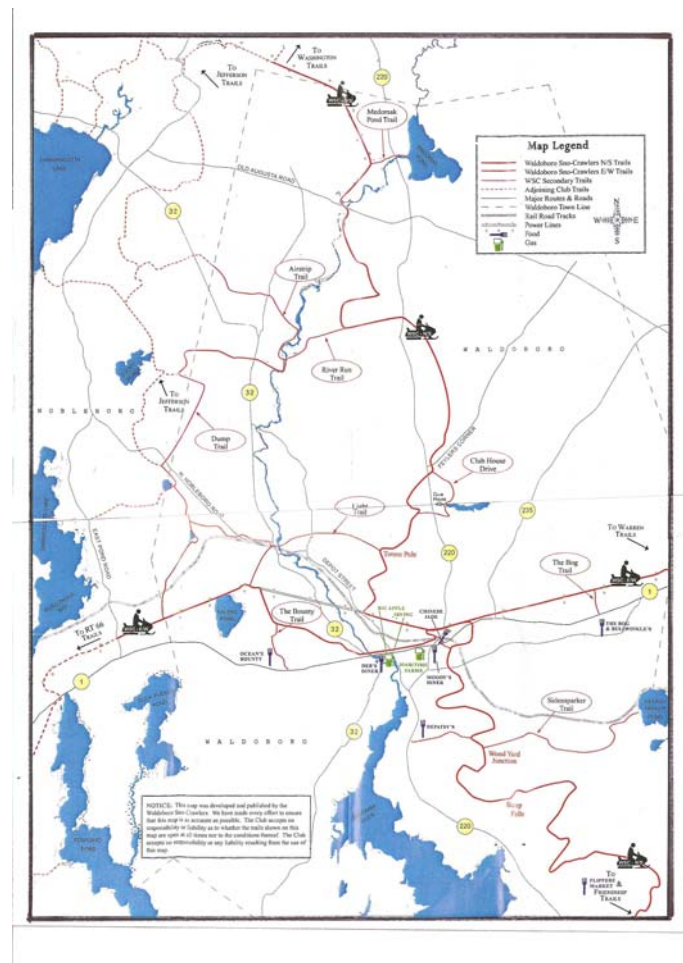
Figure 13 Views of the Medomak River in Waldoboro Village



A long-standing desire of the community has been to improve access to the river from the village south to Muscongus Bay. This possibility was discussed a length at the first of three community forums held in the summer of 2010. It is also documented in ReThink, ReImagine, ReVitalize Waldoboro, prepared by the Town of Waldoboro, the Community Visioning Steering Committee and Bruce Hyman Planning. One of the "big ideas" presented in this plan is to "create a Riverwalk that provides access to the river and links the various areas of town from Route 1 through the village, connecting a series of small parks and open spaces."

There are many miles of snowmobile trails in Waldoboro, most located on private land, both by easement or by permission only. Additional trails are located on Central Maine Power Company transmission line right of way. See Figure 14 for a snowmobile map courtesy of the Waldoboro Sno-Crawlers.

Figure 14 Snowmobile Trails in Waldoboro



Section 3

The Planning Process

The Waldoboro Board of Selectmen appointed a Bike-Pedestrian Committee to oversee the project. Additional appointments were made by the Town Manager. Members included:

Alan Lowe	Connie Hammermeister
Heather Brown	Heidi Sawyer
Lynn Lackoff	Andy Lackoff
Mary Mabry	Scott Davis
Misty Gorski	

At the recommendation of the Lincoln County Planner, the committee decided to solicit input from the community via electronic and paper surveys. Both school and non-school residents were surveyed with the committee approving survey questions and formats. Local public and private schools were contacted to determine their interest in participating in the survey and their preferences for paper or electronic surveys.

One news article and three survey announcements were carried in the Lincoln County News. Each announcement provided links to the school and non-school electronic surveys and information on where to obtain copies of the paper surveys. Paper school surveys were distributed to the Miller School, Medomak Valley Middle School and the Coastal Christian School and students at the Medomak Valley High School were provided links to the electronic survey. Paper non-school surveys were available at the Town Office, Library and Medomak Valley Land Trust office. In order to ensure that the public and students had sufficient opportunity to provide input, the survey period ran for two months between October and December, 2010.

At the end of the survey period, survey responses were tallied. Ninety-seven completed student surveys and forty-one non-student surveys were received.

Although fewer completed surveys were received than anticipated, this should not be viewed as a negative. As illustrated in Figure 4 and Table 2, Waldoboro has a comprehensive village sidewalk system in overall good condition. It has relatively few gaps and residents can walk to

most places in the village on a sidewalk. In addition, very few students currently live within reasonable walking or biking distance of the middle and high school complex on Manktown Road or Coastal Christian School on North Nobleboro Road. The potential addition of walking or biking facilities to these schools, therefore, may not have been perceived as a realistic outcome of the survey so participation in the survey may have been affected.

The committee held a meeting on March 29, 2011 to review the results of the survey and prioritize recommended improvements to bicycle and pedestrian facilities in Waldoboro. Also invited to attend the meeting were survey respondents who provided contact information and expressed interest in participating in the project. The committee also discussed other recommendations, all of which served as the basis for the final Waldoboro Bicycle-Pedestrian Plan as presented in this document.

Section 4

Existing Plans and Ordinances and Budgeting

Waldoboro does not currently have a bicycle and/or pedestrian plan. The 1998 Comprehensive Plan states that:

"Most all of the important destinations in Waldoboro are within this central village area. On Main Street are the Post Office, the Library, the Waldo Theater, and the Historical Society Museum. The A.D. Gray Junior High School is on School Street, and the Miller Grade School is on Kalers Corner Street. Also off this road is a 51 unit mobile home park and the town's only supermarket. Throughout the central village are residential areas, including a large housing facility for the elderly. The pharmacy is on the corner of Main Street and Friendship Road, and there are doctors' offices on Mill Street and Kalers Corner Street. There is a small riverfront park within the loops, and the Town Office is located just across Route 1 from the Jefferson Street intersection.

Yet, pedestrians face barriers to each of these sites. There are limited sidewalks near the schools, most ending in commercial area parking lots. The Shop 'n Save shopping plaza is adjacent to the trailer home park, yet is inaccessible due to ditching, an embankment and a stream. Most residents drive their cars around the block. Moody's Diner, one of the most active business in town, has no pedestrian access."

The following policy and goals were included in the Comprehensive Plan:

Policy 4. Bicycle/Pedestrian Facilities. Provide for a system of bicycle and pedestrian facilities within Waldoboro.

Strategy A. Pedestrian Access. Undertake a comprehensive study of pedestrian access, but meanwhile, initiate work as soon as possible on the four sidewalk priority areas: Jefferson Street between Bear Hill and Route 1 (since completed); Depot Street; Main Street west from the Main Street bridge to the top of the hill; and the north side of outer Main Street.

Strategy B. Bicycle, Pedestrian Needs. Recognizing the importance of pedestrian use to quality of life, consider pedestrian and bicycle

needs in connection with future bridge construction/reconstruction, with emphasis on in-town bridges. Seek grant funds to assist with this.

Strategy C. Winter Sidewalk Maintenance. Within the village, clear and maintain sidewalks for pedestrian use and obtain appropriate snow removal equipment.

Section 4.T.14.I of the Land Use Ordinance states that "sidewalks shall be installed within all proposed development within the urban compact area as shown on the Maine Department of Transportation Compact Area Map 1984." While the ordinance includes construction standards for sidewalks, no portion of Waldoboro is currently within an urban compact area so this provision has no effect. The Land Use Ordinance is silent on bicycle facilities.

Waldoboro has a sidewalk capital reserve account for improvements and repairs to the system. Over the past five years, \$113,000 has been spent on new or improved sidewalks on Jefferson, Main and Mill Streets. Summer and winter maintenance of sidewalks is part of the Public Works budget and is not separately broken out.

Section 5

Goals, Objectives, Strategies

Pedestrian/Bicycle Vision for Waldoboro

Waldoboro has a comprehensive sidewalk system but traffic on Route 1 and the absence of crosswalks on this major transportation corridor affect the ability of residents who live north of Route 1 to access the village. In addition, with the exception of paved shoulders on Route 1, bicycle-friendly facilities are lacking in the community. Other than Miller School, public and private schools in Waldoboro are essentially inaccessible for those wishing to walk or bicycle to school. For these reasons as well as the desire expressed by many residents and students to be able to walk and bike safely within their neighborhoods and around the community, improved pedestrian and bicycle facilities are important for Waldoboro's future.

Goals, Objectives and Strategies

Goal 1: Safety: Provide safe routes for pedestrians.

Objectives

1A: Create and maintain pedestrian crosswalks in key locations in the community.

Strategies

- Work with Selectmen, Planning Board, citizens and the business community to identify areas of critical needs
- Improve existing pedestrian crossing locations in the village and on Route 1 at Routes 32 and 220 and Jefferson Street
- Create new pedestrian crossings wherever new sidewalks are developed.

1B: Expand existing sidewalk system to improve pedestrian mobility in the community.

Strategies

- Expand sidewalk system in key locations such as on Bremen Road to Route 1, Main Street (Route 220) to Route 1 and on Route 1 between Route 32 and the railroad overpass.
- Require new developments that are within walking distance of an existing sidewalk to provide a sidewalk connection.

1C: Ensure safe routes between neighborhoods and along routes with significant bicycle and pedestrian usage.

Strategies

- Install paved shoulders on local roads where feasible when they are slated for reconstruction or major improvements.
- Request that MDOT install paved shoulders wherever feasible when it schedules state and state-aid roads for reconstruction or significant improvements
- Sweep paved road shoulders at least annually

1D: Use signage and other traffic calming measures to enhance safety on key routes.

Strategies

- Install 'bike route' signs wherever existing or newly constructed paved shoulders satisfy state standards and install 'share the roads' signs on all other roads regularly used by bicyclists as well as all segments of the East Coast Greenway.
- Consider installing traffic calming devices, such as narrowed shoulders, to allow safer pedestrian crossings on such roads as Main Street, Bremen Road, Friendship Road and Jefferson Street. (Figure 15 shows "bump-outs" on Route 9 in China that reduce the effective length of the crossing for pedestrians. In addition, by placing structures close to the edge of the travelway, they also result in lower traffic speeds.)

Goal 2: Education and Awareness: Educate the public about bicycle and pedestrian facilities and issues, the health benefits of walking and biking and facilitate easy access to information.

Objectives

2A: Build awareness of existing bicycle/pedestrian assets.

Strategies

- Create and maintain a publicly accessible website or link to the town website with local bicycle/pedestrian information and maps.
- Develop and install signage for trails and walking/biking routes.

2B: Provide educational programs about bicycle/pedestrian safety.

Strategies

- Encourage schools to promote bicycling and walking to school.
- Engage the Bicycle Coalition of Maine to conduct bike events at Waldoboro's public and private schools.
 - Bike rodeos
 - Bike safety classes
 - Bike to school week
 - "Walking Bus" program
- Work with local businesses and sponsors of existing community events to create special promotions and incentives for bicyclists and pedestrians

2C: Hold public events that encourage use of bicycle and pedestrian infrastructure.

Strategies

- Locate bike racks in destination areas in the village, schools and recreation areas.
- Partner with the Waldoboro Recreation Department, other local recreation organizations and other organizations to hold bicycle and pedestrian friendly events.

Goal 3: Connectivity & Infrastructure: Modify the transportation infrastructure to provide safe bicycle/pedestrian access to and between significant destinations and neighborhoods and enhance connections to the network of other bicycle/pedestrian facilities.

Objectives

3A: Create routes to key destinations.

Strategies (off-road routes, shoulders suitable for bikes)

- Medomak River path
- Extend Main Street sidewalk to recreation complex and Route 1
- Install sidewalk on Route 1 between Route 32 and Route 220
- Install Route 1 crosswalks at Jefferson Street, Route 32 and Route 220

**Figure 15 Pedestrian Highway Crossing
Route 9 China**



Section 6

Survey Results - Demonstrated Needs

Non-Student Surveys

Sixty-nine percent of the non-student respondents were 36 years or older, less than 20% were retired and 62% were female. Of those responding to questions about frequency of activity, 18% said they biked daily or weekly while 82% said they walked or ran daily or weekly. Safety or the lack of suitable facilities were the most frequently cited reasons for not biking more often while safety or lack of time were the most often cited reasons for not walking more. These results probably reflect the extensive sidewalk system in the village but the absence of bicycles facilities throughout the community. As presented in Table 3, exercise and recreation were the predominant reasons cited by non-student respondents for walking, running and biking.

Purpose of Activity	Percentage of Respondents Citing Purpose	
	Bikers	Walkers, Runners
Exercise	34%	41%
Recreation	39%	26%
Shopping, errands	11%	9%
Visit friends, neighbors	4%	13%
Work	2%	1%
Medical	0%	7%
Other	10%	3%

Table 4 presents preferred biking locations and Table 5 preferred walking and running locations. Routes 32 and 220 were cited by bikers a surprisingly large number of times given the absence of paved shoulders but this may, in part, reflect where respondents live and the lack of alternative routes around the community. Over a quarter of bikers and over 40% of pedestrians said they frequented the village. At first glance, the number of pedestrians using village sidewalks appears low given the absence of sidewalks outside of the village but this may be partly explained by the fact that three-quarters of non-student respondents stated that they lived on roads outside of the village. These results may suggest that by improving pedestrian and bicycle routes leading to the village, utilization of village streets for walking and biking may increase.

Table 4 Non-Student Preferred Biking Locations	
Location	Number of times cited
Village streets	20
Route 32	6
Route 220	6
Old Route 1	6
Route 1	4
Bremen Road	4
Dutch Neck	3
Friendship Road	3
Feylers Corner	3
Other	19

Table 5 Non-Student Preferred Walking/Running Locations	
Location	Number of times cited
Village streets	44
Route 32	8
Old Route 1	7
Friendship Road	6
Home	6
Dutch Neck	5
Washington Street	4
Manktown Road	3
Other	24

Table 6 presents difficult intersections and Table 7 locations where crosswalks are needed. Not surprisingly, Route 1 at Jefferson Street and Depot Street was cited as a difficult intersection and one which is in need of a crosswalk. At the current time, MDOT is planning improvements to this intersection, which will included a pedestrian activated crossing light and a crosswalk. Route 1 at Main Street is also cited as an intersection needing a crosswalk. Some respondents commented that they would like to patronize businesses on the north side of Route 1 but the lack of a crosswalk makes it dangerous to cross Route 1. In addition, under current MDOT policy, a crosswalk can only be installed if it connects sidewalks on both sides of the road. Crosswalks were also recommended for the Main Street-Bremen Road intersection. This probably reflects the desire by many to be able to access the Hannaford store further north on Bremen Road and the recreation complex to the west on Main Street.

Table 6 Non-Student Difficult Intersections	
Location	Number of times cited
Route 1 @ Jefferson Street/Depot Street	6
Route 1 @ Main Street	6
Route 1 @ Route 32	3

Table 7 Non-Student Recommended Crosswalk Locations	
Location	Number of times cited
Route 1 @ Jefferson Street/Depot Street	12
Main Street @ Bremen Road	5
Route 1 @ Main Street	4
Other	6

Table 8 presents the most often recommended new sidewalks. The two most suggested extensions are Main Street north to Route 1 and Bremen Road north to Hannaford. A quarter of respondents cited the absence of paved shoulders throughout the community as the most significant deficiency for bicyclists. Finally, in response to the question "Do you support the creation of a river walk somewhere along the Medomak River?", 93% of respondents indicated they supported such a project with 5% requesting more information and only 2% expressing opposition. This remarkably strong show of support may be due not only to the desire for an additional safe place to bike, run and walk in Waldoboro but also a yearning for more opportunities to enjoy the Medomak River, which is now mostly inaccessible for village residents. Interestingly, every person responding to this question said they would like to use a riverwalk for walking with half also stating they would use it for biking and another half for running. If, in fact, a riverwalk is developed in the future, these results suggest it be a multi-use facility.

Table 8 Non-Student Recommended New Sidewalks	
Location	Number of times cited
Main Street (Route 220) Extension to Route 1	8
Bremen Road Extension to Hannaford	5
Bremen Road South of Main Street	3
Route 1	3
Friendship Road Extension South	2
Other	5

Student Surveys

Two-thirds of the students who responded to the survey attend Miller School. Eighty percent of all students respondents bike, with about 60% of them biking on a daily or weekly basis. When asked why they did not bike more often, a third said they lacked time, about a quarter had safety concerns and a fifth said there were not suitable facilities. Two-thirds of survey respondents said they walked or ran daily or weekly. Of those who walked or ran, a third said concern for safety or lack of adequate facilities prevented them from walking or running more often while a third cited lack of time.

Only 3% of student respondents said they lived in the village. Since safe biking and walking facilities are mostly absent outside of the village, this may explain the relatively low participation numbers cited above. Indeed, over half of students said they walked and/or biked in their own neighborhood (see Table 10).

Table 9 presents reasons cited by students for biking, walking or running. The proportion of students who indicated they walked to school appears to be high. These are almost exclusively Miller School students and, given the ages of many of these students, the results are probably in part due to those walking to the recreation fields or to the school during non-school hours. The survey did not solicit information on the frequency of walking to school so even a very occasional walk to school could lead a student to answer in the affirmative. Overall, this data may be a better indication that all educational facilities save the Miller School are beyond reasonable walking or biking distance. Furthermore, improving bike and pedestrian facilities in rural Waldoboro may have its principal benefit improved safety rather than an significant increase in the number of students choosing to walk to school.

Table 9 Student Purpose for Biking, Walking and Running		
Purpose of Activity	Percentage of Students Citing Purpose	
	Biking	Walkers, Runners
Exercise	54%	64%
School	0%	23%
Recreation	38%	43%
Shopping/errands	6%	16%
Visit Friends, Neighbors	34%	43%
Other	19%	35%

Table 10 lists the locations where student respondents prefer to bike, walk and run and highlight one of the more important findings of the survey. The overwhelming choice for these activities is at or near the students' residences and neighborhoods. When viewed in the context of concerns about safety summarized above, it may be that, rather than the home environs being the preferred location, they may be the safest location for students. As noted previously, few roads in Waldoboro have paved shoulders so the combination of narrow width, gravel shoulders and curvilinearity contribute to the unease of younger bicyclists and pedestrians.

Table 10 Student Preferred Biking and Walking/Running Locations		
Location	Number of times cited	
	Biking	Walking/Running
Own neighborhood/road	34	29
Near house or in driveway	17	20
Out-of-town	15	7
Miller School		12
Miller Road	5	
MVHS	5	8
Village	4	9
Route 32	3	
Other locations	17	15

The third most frequently cited biking route was "out-of-town". A number of respondents commented that the Brunswick bike path was a great place to bike and some expressed the desire for a similar facility in Waldoboro. Even though the Brunswick bike path is adjacent to a high speed highway, it is fully separated from Route 1 and offers a safe environment for biking. The third most popular walking/running location was the Miller School, which was cited most often by Miller School students.

Table 11 presents hard to cross roads and locations where crosswalks are needed. Many students listed Route 1 as a hard to cross road without indicating specifically the problems locations.

Table 11 Student Streets That Are Hard to Cross and Locations Where Crosswalks are Needed		
Location	Number of times cited	
	Hard to cross streets	Where crosswalks are needed
Route 1	15	
Route 1 @ Depot Street		3
Friendship Road	7	1
Bremen Road	3	
Depot Street	3	
Route 32 @ Route 1		6
Miller Road		2
Route 220	2	1
Route 235	3	
Other	10	8

Tables 12 and 13 combine the results of the student and non-student route preferences. The routes shaded in both tables are those common routes cited most frequently by both student and non-student survey respondents.

Table 12 Most Frequently Cited Bike Routes by Non-Students and Students	
Non-Students	Student
Village Streets	Own neighborhood
Route 32	Near house or in driveway
Route 220	Out-of-town
Old Route 1	Miller Road
Route 1	MVHS
Bremen Road	Village
Dutch Neck	Route 32
Friendship Road	
Feylers Corner	

Table 13 Most Frequently Cited Walking/Running Routes by Non-Students and Students	
Non-Students	Students
Village	Own neighborhood
Route 32	Near house or in driveway
Old Route 1	Miller school
Friendship Road	Village
Home	MVHS
Dutch Neck	Out-of-town
Washington Road	
Manktown Road	

The Bike-Pedestrian Committee completed an inventory of existing bike racks in Waldoboro, which is presented in Table 14, and also developed recommendations on where new bike racks should be located in order to encourage additional bicycle use in the community. These recommendations are presented in Table 15.

Table 14 Bike Rack Inventory	
Miller School	MVMS
Library	Recreation complex

Table 15 Potential New Bike Rack Locations	
Downtown (one or more)	Town office
Post Office	Moody's Diner
Hannaford	Route 1 location

Based on the individual and combined results of the student and non-student surveys, sidewalk inventory, inventory and condition of public roads and comments from the Waldoboro Bike-Ped Committee and members of the public, the Committee and interested residents met on March 29, 2011 to prioritize potential bike-ped projects. Section 7 presents the recommended projects in order of priority.

Section 7

Proposed Facilities and Upgrades to Existing Facilities

The following is a *prioritized* list of recommended new facilities and improvements to existing facilities. In addition to these facilities, it is recommended that suitable signage such as that presented in Figure 28 be installed on all applicable roads.

1. Route 1 Cross-walks at Route 32, Jefferson/Depot Streets and Main Street/Route 220

The highest priority project is improving pedestrian access across Route 1. The Jefferson/Depot Street Crosswalk is included in a recently approved intersection improvement project. It is expected to also include a pedestrian-activated signal. MDOT policy is to install cross-walks only where they connect existing sidewalks so the Route 32 and Main Street/Route 220 crosswalks may have to await pedestrian improvements on the north side of Route 1.

Figure 16



2. Extend Main Street Sidewalk (Route 220) to Route 1

This project involves extending the Main Street sidewalk, which now end at Old Route 1, to Route 1. Main Street is narrow with shoulders

poorly suited for pedestrian use yet many residents and visitors walk from the village to Route 1.

Figure 17



3. *Medomak River Walkway for Walking/Running/Biking*

There are few points of physical access for residents and visitors to the Medomak River, the community's most significant natural and recreational resource. It is envisioned that a riverfront walkway would be developed where grades and site conditions are suitable and landowners are agreeable to providing the necessary easements.

4. *Extend Bremen Road Sidewalk to Route 1*

The sidewalk extension would provide pedestrian access to the Hannaford store and Route 1 businesses.

5. *Extend Main Street Sidewalk to the Recreation Complex Entrance*

Those walking to the entrance to the new recreation complex on Main Street must walk on the road or unpaved shoulder. Since the complex is especially popular with youth, pedestrian improvements would be particularly welcome.

Figure 18



Figure 19



Figure 20



6. *Manktown Road Sidewalk from Route 1 to MVHS*

Few students walk or bike to the middle or high schools. While location in the easterly-most section of Waldoboro may be a contributing factor, many youth now walk on Manktown Road to get to the convenience store on Route 1. Paved shoulders or a sidewalk would improve pedestrian safety and could result in more students walking or biking to school.

7. *Route 1 Sidewalk from Route 32 to Moodys Diner.*

There are many retail, food and service uses on Route 1 but they are mostly inaccessible to pedestrians. The addition of a sidewalk of one or both sides of Route 1 would make walking around the community safer and more convenient.

8. *Cross-Country Walking Path Between Route 220 and Manktown Road*

This project would allow many more students to walk or bike to school and provide better recreational opportunities for residents in general.

Figure 21



Figure 22

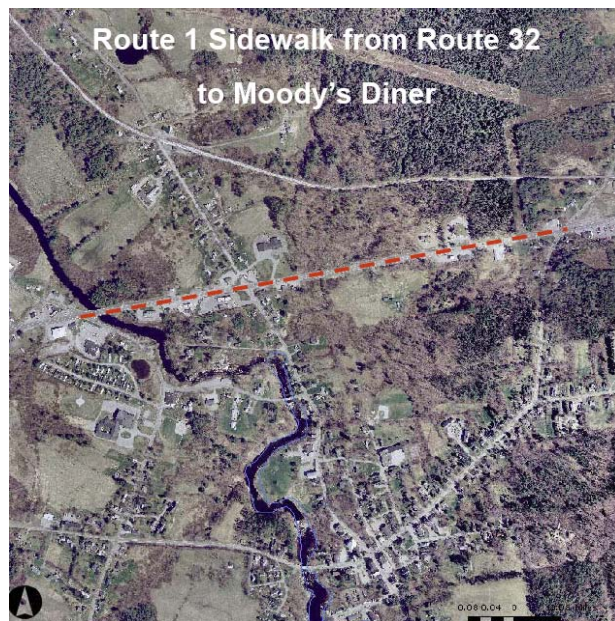
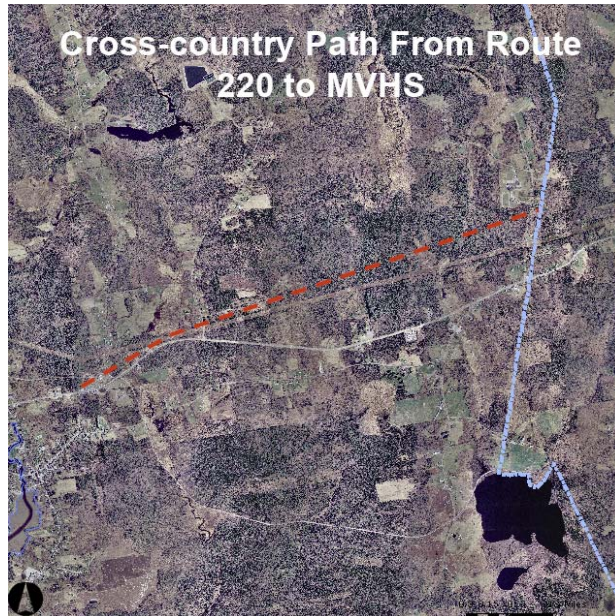


Figure 23



9. *Route 32 Sidewalk or Paved Shoulders from Route 1 to Winslows Mills*

The combination of horizontal and vertical curves makes walk or biking treacherous yet many still use this route regularly. The addition of a sidewalk or paved shoulders would enhance safety.

Figure 24



10. Main Street Stop Signs at Friendship/Jefferson Streets

It can be difficult for pedestrians to cross Main Street in this location because of grades, limited sight distance and the absence of stop signs on Main Street.

Figure 25



11. Extend Bremen Road Sidewalk or Paved Shoulders to Dutch Neck

This is a popular route for pedestrian that would be enhanced with a sidewalk extension or paved shoulders.

12. Extend Friendship Road Sidewalk

Friendship Road is part of the East Coast Greenway yet its grades, narrowness and poor shoulders are not conducive to biking or walking.

Figure 26



Figure 27

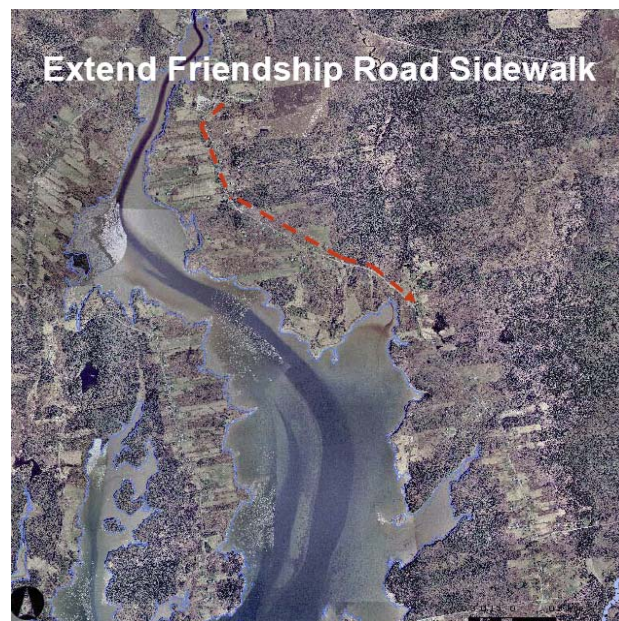


Figure 28 Recommended Signage



Section 8

Other Recommendations

Sidewalk Maintenance

During the course of reviewing survey responses and preparing this plan, it became quite apparent how important Waldoboro's sidewalk system is to the community. The 3.5-mile village sidewalk network is used daily by many residents yet there are some important gaps. For instance, it is not possible to walk to Route 1 or the local grocery store on a sidewalk or paved shoulder from the village.

Even with these gaps, however, residents use the sidewalk system year round. Therefore, to adequately meet the community's needs, it must do so on a year round basis. This means that sidewalks must be plowed and sanded in winter at the same time the village's streets are sanded and plowed. The committee, therefore, recommends a budget line item devoted to summer and winter sidewalk maintenance and repair.

In a related matter, property owners should be prohibited from maintaining their properties in a manner that adversely affects adjacent sidewalks, such as plowing snow onto sidewalks and failing to trim back vegetation overhanging sidewalks.

Ordinances and Policies

The Waldoboro Bicycle-Pedestrian Plan should be incorporated as an amendment to the comprehensive plan. Article 6 of the Land Use Ordinance should be amended to require the construction of new bicycle and/or pedestrian facilities and their connection with existing or planned facilities for developments that are in proximity to planned facilities or that are anticipated to create demand for pedestrian and/or bicycle facilities.

Waldoboro does not have an official policy for construction or maintenance of paved road shoulders. Such activities are currently undertaken on an as-needed basis by the town as funds are available. As new pedestrian and bicycle facilities are constructed in the community, a formal maintenance policy will be an important step in ensuring that the spending of scarce local financial resources on the system will be optimized. This will be accomplished by:

- Continuing to fund the annual budget for improvements to existing bicycle and pedestrian facilities and construction of new facilities on Town owned roads
- Establish a dedicated annual maintenance budget, including striping of crosswalks, winter maintenance and spring sweeping of Town owned roads. This could include the purchase of equipment specifically dedicated to winter sidewalk maintenance.

It is further recommended that:

- When any state or state-aid road is reconstructed, the shoulder and travel lanes be sufficiently dimensioned to accommodate pedestrians and bicyclists.
- New bike racks should be installed in locations listed in Table 15.
- Depressed drainage grates, including those on Bremen and Friendship Roads, should be reset to improve safety for bicyclists

Section 9

MDOT Funding Sources for Bicycle and Pedestrian Improvements

The following MDOT can provide funding for bike and pedestrian improvements.

Quality Communities Program

Transportation Enhancement Program

- 80/20 funding
- safety and education programs
- bike and ped facilities
 - paved sidewalks and shoulders on minor collectors or local roads
 - new sidewalks on arterials and major collectors with closed drainage
 - bike lane stripping
 - bike parking facilities and bike racks

Safe Routes to School

- up to 100% funding
- infrastructure within 2 miles of schools to substantially improve safety of students to walk or bike to school
 - sidewalks
 - traffic calming
 - crossings
 - on-street bike facilities
 - off-street bike and pedestrian facilities
 - traffic diversion near K-8 schools

Go Maine

- 80/20
- bike racks with capacities of 2, 6 or 8 bikes