

Bristol Bicycle-Pedestrian Plan

November 2009



Prepared by

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Bristol Bicycle-Pedestrian Plan

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Section 1

Introduction

Retirees, vacationers and young families have been drawn to Bristol for many years because of its rural beauty, bold oceanfront, recreational amenities and sense of small town community. For many of these folks, opportunities to walk, jog and ride bicycles are also important considerations in their decision to live in Bristol. While motorists have come to expect to share the community's roads with bicyclists and pedestrians throughout much of the year, limitations posed by narrow, curvilinear travelways, poor or non-existent shoulders, hidden driveways, deteriorated pavement and other conditions have led to significant safety concerns among these users.

The Town of Bristol, Maine Department of Transportation (MDOT) and the Lincoln County Planning Office initiated a bicycle and pedestrian study in 2008 to determine the level of interest in biking, walking and jogging in Bristol. As part of the study, residents were asked in an on-line and paper survey why and where they walked, jogged or biked in Bristol, the routes they took, the condition of existing facilities, recommendations, if any, for new or improved facilities, safety concerns and related information. A total of 103 year-round and seasonal residents completed the survey.

The survey as well as a follow-up public meeting served as the basis for the findings and recommendations in this plan. The recommendations are particularly important because MDOT will consider such recommendations when it prepares plans for improvements to state and state-aid roads.

Section 2

The Community

Bristol is a fast growing mid-coast community. The population of Bristol, which was 2,652 in 2000, grew to 2,778 by 2008, an increase of 126, or 4.8%. By comparison, the population of Lincoln County had increased by 3.5% during this same period. While a direct year-to-year comparison is not possible, in 2000 there were 2,290 year-round and seasonal dwellings, which, by 2007, had grown to 2,587, an increase of 297 or 13% over seven years. Based on year-round population growth and assuming two persons per dwelling unit, it is estimated that 55 of these dwelling units were for year round housing with the balance, 242, for seasonal housing.

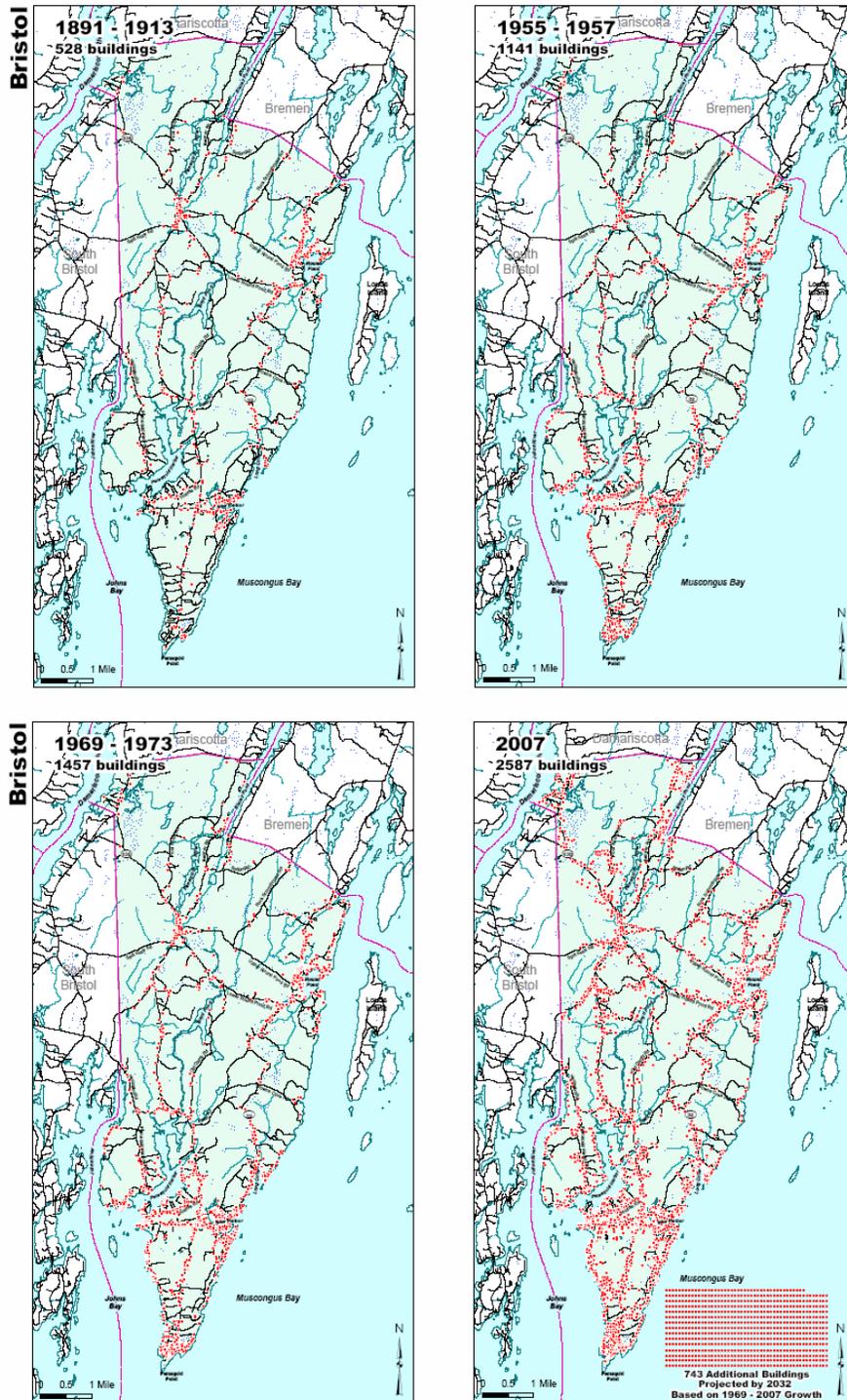
Retirees are increasingly moving to the Bristol peninsula. The median age of Bristol residents is 46.9 years vs. 42.6 for Lincoln County and 38.6 for the State of Maine. Given that Lincoln County has the highest median age in the state, the fact that the median age in Bristol is 10% higher than the county's is significant.

Bristol is also very attractive to seasonal residents. In 2000, 55% of all residences in Bristol were for seasonal use. Combining the year round and seasonal populations with the substantial influx of day visitors to community's many attractive destinations yields a summer daytime population that probably exceeds the year round population by a factor of three or four.

In contrast to growth patterns of other coastal communities, growth in Bristol did not radiate out from a centralized population center. Instead, Bristol historically consisted of five sub-communities (Bristol Mills, New Harbor, Round Pond, Pemaquid Point and Chamberlain) connected by state and local roads that supported little roadside development. Due to low traffic volumes in this very rural environment, residents and visitors could walk and bike to most areas in the community in relative safety.

As demonstrated in the History of Growth Maps presented as Figure 1, below, much new development has taken place along these roads in recent years, resulting in many new curb cuts and driveways, some of which have limited sight distances for exiting vehicles. In addition, as illustrated in Table 1, traffic on many roads in Bristol has as much as doubled in the past two decades. Of course, because of better

Figure 1 Bristol History of Growth Maps



suspensions, handling and brakes, many of these cars and trucks are traveling at higher speeds than twenty years ago.

Table 1 Traffic Volumes¹ on Selected Bristol Roads²			
Road	1987	2007	Change
Rte 32 n/o Upper Round Pond Road	909	1710	+88%
Rte 32 e/ Rte 130	936	1730	+85%
Rte 32 s/o Chamberlain	341	860	+152%
Rte 129 @ Bristol Town Line	3137	6740	+115%
Rte 130 s/o Route 129	2290	4750	+107%
Rte 130 s/o Split Rock Road	2159	3720	+72%

¹ Average annual daily traffic

² Source - Maine Department of Transportation

Routes 32 and 130 carry much of the traffic in Bristol and they have significant physical limitations in given areas. Route 130 between Huddle Road and the Pemaquid Loop Road (Figure 2) is generally characterized by narrow or absent paved shoulders and many horizontal curves. These conditions cause significant safety concerns for pedestrians crossing Route 130 in New Harbor (Figure 3) and for the many pedestrians and bicyclists who travel on Route 130 between New Harbor and the Pemaquid Loop Road.

Figure 2 Route 130 South of New Harbor



Figure 3 New Harbor



Route 32 between Route 130 and Chamberlain also has very limited paved shoulders and significant horizontal curves but it also has areas that both lack shoulders entirely and have buildings, rock walls and landscaping immediately adjacent to the travelway (Figures 4 and 5). These conditions are of greatest concern between Old Long Cove Road and Salt Pond Point where pedestrians and bicyclists alike are forced to use the travelway yet they are not clearly visible to vehicular traffic due to severe sight distance limitations (Figure 6). Many other roads in Bristol

Figure 4 Route 32 New Harbor



Figure 5 Route 32 New Harbor



Figure 6 Route 32 New Harbor



also have limited or non-existent paved shoulders or have sight distance limitations but traffic volumes are generally less so safety issues are not quite as critical.

Even with these road conditions and the increasing volume of traffic, pedestrians and bicyclists are a common sight on all Bristol roads (Figure 7), including those sections of Routes 32 and 130 discussed above. Yet,

how important are these routes to bicyclists and pedestrians? Are there reasonable alternatives that are available? If not, is there a level of improvements that could be made to meet their needs without significantly affecting roadside property owners or motorists?

Figure 7 Route 130 South of New Harbor



Section 3

The Planning Process

A public informational meeting on the project was held on October 30, 2008. The meeting was advertised in the Lincoln County News and all Bristol residents with an interest in bicycle-pedestrian issues were invited to attend. The following individuals attended the meeting and agreed to serve on a bicycle-pedestrian committee:

Ann Leavitt	Kristine Poland
Darrin Carlucci	
Doug Houston	<hr/>
Heather Houston	Sara Richards
Zach Davis	Todd Richards

The committee decided that the foundation of any bicycle-pedestrian plan needed to be based on direct input from Bristol residents. Furthermore, the committee felt that the best means of soliciting public input would be by distribution of a survey. To accomplish this, the committee approved a detailed survey of bikers, walkers and joggers. The survey is attached as Appendix A.

The survey was designed to be web-based via a link on the Town of Bristol's website. It was anticipated that some residents might prefer a paper survey so paper surveys were made available at the town office and at the March, 2009 annual town meeting where the survey was announced. Articles about the project and the survey appeared in the Lincoln County News in April and July, 2009. In order to ensure that both year-round and summer residents had the opportunity to complete the survey, the survey period ran from March to the end of July.

At the end of the survey period, survey responses were tallied. A total of 103 surveys was completed, 92 electronically and 11 paper. The committee met on September 24, 2009 to review the results of the survey and prioritize recommended improvements to bicycle and pedestrian facilities in Bristol. Also invited to the meeting were 24 survey respondents who provided contact information and asked to be involved in the project. The committee also discussed other recommendations, all of which served as the basis for the final Bristol Bicycle-Pedestrian Plan as presented in this document.

Section 4

Existing Plans and Ordinances Existing Facilities

Bristol does not currently have a municipal bicycle-pedestrian plan. The community has enacted comprehensive plans in 1991 and 2002, neither of which address bicycling, walking or running. Neither the town's subdivision ordinance or land use standards ordinance require developers to address potential bicycle or pedestrian needs associated with their developments.

There are five pedestrian-oriented facilities in Bristol totaling almost nine miles in length. They are presented in Table 2.

Name	Length	Location
Bearce-Allen Preserve	1 mi.	East side of Route 130 below Sproul Hill Road
Bristol Recreation Trail	1 mi.	West side of Route 130 south of Bristol Consolidated School
Crooked Farm Trail	3 mi.	Off west side of Old County Road
La Verna Preserve	2.75 mi.	West side of Route 32 south of Round Pond
Pemaquid Loop	1 mi.	Southerly tip of Pemaquid

The Maine Department of Transportation (MDOT) has designated an on-road route for the East Coast Greenway through Damariscotta. The route in Bristol begins at Harrington Road at the South Bristol town line, goes to Route 130, then south to Pemaquid Light, back up Route 130 to Old County Road, then to Lower Pond Road, west to Bristol Mills, north on Route 130 to Benner Road and continues to the Damariscotta town line.

Section 5

Goals, Objectives, Strategies

Pedestrian/Bicycle Vision for Bristol

Bristol is a small coastal community consisting of five distinct although inter-related village areas. Because of the wide variety of attractive pedestrian and bicycle destinations in Bristol as well as large retiree and summer populations, improved pedestrian and bicycle facilities are important for the community'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 Planning Board, citizens and the business community to identify areas of critical needs
- Improve existing pedestrian crossing locations in Bristol Mills and New Harbor
- Create new pedestrian crossings wherever new sidewalks are developed.

1B: 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

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

Strategies

- Install "bike route" signs wherever 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.
- Install additional safety signage on that portion of Route 32 between New Harbor and Chamberlain to alert motorists of bicyclists and pedestrians in the travelway
- Consider installing traffic calming devices such as narrowed shoulders to allow safer pedestrian crossings

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 the Bristol Consolidated School and other area schools.
 - Bike rodeos
 - Bike safety classes
 - Bike to school week
 - "Walking Bus" program

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

Strategies

- Locate bike racks in destination areas such as the villages, post offices, school and Pemaquid Lighthouse.
- Partner with the local recreation organization, YMCA, DRA 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 with the network of other bicycle/pedestrian facilities.

Objectives

3A: Create routes to key destinations.

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

- Route 32 between New Harbor and Chamberlain
- Route 130 between New Harbor and Pemaquid Point
- Pedestrian crossings and facilities in New Harbor
- Pedestrian facility between the Route 32 parking lot near Old Long Cove Road and Hardy Boat Cruises-Shaw's Restaurant

Section 6

Survey Results - Demonstrated Needs

General Information

Two-thirds of survey respondents were 50 years of age or older and about 40% were retired. Three-quarters were year-round residents and they were split equally between males and females.

Purpose of Activity	Percentage of Respondents Citing Purpose	
	Bikers	Walkers, Runners
Exercise	62%	75%
Recreation	54%	55%
Shopping, Errands	17%	10%
Visit Friends, Neighbors	17%	23%
Medical	3%	13%
Work	5%	2%

Of those responding to questions about frequency of activity, 55% said they biked daily or weekly while 95% said they walked or ran daily or weekly. Importantly, the most frequently cited reason for not biking, walking or running more often was concern about safety.

Biking Survey Results

Table 4 presents preferred bike routes and destinations. Although Route 130 from New Harbor to Pemaquid Point and Route 32 from New Harbor to Round Pond are generally acknowledged to be the most scenic roads in Bristol, the section of Route 130 between Bristol Mills and New Harbor is the most preferred. This probably reflects the fact that Route 130 north of New Harbor is one of the few roads in Bristol with 4-foot wide paved shoulders. While the quality of the road's shoulders varies in places, it does provide a better sense of safety than narrower roads in the community. Harrington Road was also a popular choice, probably largely because it is part of the East Coast Greenway and provides a direct connection to Route 129 in South Bristol.

Table 5 presents responses regarding problems or deficiencies with routes now used for biking. Narrow or absent shoulders are a reoccurring

theme with many respondents. Other safety-related concerns cited were driver speed and lack of "share the road" signage.

Route	#1	#2	#3	#4	#5	Total
Route 130 Bristol Mills to New Harbor	21	11	6	2	3	43
Route 130 New Harbor to Pemaquid Point	14	9	11	4	1	39
Route 32 New Harbor to Round Pond	20	7	1	1		29
Harrington Road	2	8	5	1	4	20
New Harbor	6	5	2	1	3	17
Pemaquid Trail/Beach area	8	4		2		14
Round Pond	1	7	1	1		10
Route 130 Bristol Mills to Damariscotta	3	3	1	1	1	9
Round Pond to Bristol Mills		2	2	2	1	7
Route 32 Round Pond to Bremen	1	2	1	1		5
Foster Road-Route 32-Route 130 loop	2	1	1			4
Benner/Lessner Roads	2		2			4
Rock School House Road	1					1
Bristol Mills		1				1
Elliot Hill Road		1				1
Carl Bailey Road				1		1

Problem/deficiency	Total
Narrow/poor shoulders in general	19
Route 32 narrow shoulders/curves	13
Route 130 New Harbor to Pemaquid Point shoulders/curves/narrowness	12
Driver speed	10
Lack of "Share the Road" signage	7
Poorly maintained roads/pavement/no annual sweeping	6
Lack of bike trails/facilities	6
Narrow Roads	5
Overall safety	5
Lack of driver awareness/etiquette	4
Traffic volume	4
Lower Pond Road shoulders	2
Benner Road width	2
Route 130 Bristol Mills narrow shoulders	1
Upper Pond Road shoulders	1
Rock House School Road lack of pavement	1

Table 6 presents suggestions for new bike routes or routes that would be used if improvements were made. One of the purposes of this question was to provide an opportunity for respondents to suggest new off-

road bike facilities but the overwhelming responses were routes that would be used if they were improved. The top two routes needing improvements, Route 130 from New Harbor to Pemaquid Point and Route 32 from New Harbor to Round Pond, were also the most popular routes currently being used. This suggests that if improvements were to be made, uses of these routes could increase significantly.

Table 6 New Bike Routes and Routes That Would Be Used if Improvements Were Made	
Routes	
Route 130 New Harbor to Pemaquid Point	15
Route 32 New Harbor to Round Pond	12
Harrington Road	3
Route 130 New Harbor to Bristol Mills	2
Foster Road	2
Pemaquid Point to Route 130 to Seawood Park to Pemaquid Trail	1
Huddle Road to Route 130 to Bradley Hill Road to school	1
Path along Pemaquid River from Pemaquid Falls to Bristol Mills	1
Lower Round Pond Road	1
Upper Round Pond Road	1
McFarland Shore Road-Sandpiper Lane-Pumpkin Cove Road-White Ledge Road-Spate Road	1
Route 32 Round Pond to Bremen	1
Route 130 Bristol Mills to Damariscotta	1

Walking and Running Survey Results

As shown in Table 7, the top two preferred walking and running routes, Pemaquid Point and the Fort /Pemaquid Trail/Snowball Hill Road/Huddle Road area, are characterized by low traffic volumes and relatively slow speeds compared to nearby highways. However, even with its well-known problems of limited or absent shoulders and sight distance-limiting curves, Route 32 between New Harbor and Round Pond is the third rated walking and running route.

Similar to concerns expressed by bicyclists, absent or inadequate road shoulders were frequently cited as problems or deficiencies by walkers and runners. As shown in Table 8, shoulder and shoulder-related issues appear in six of the top eight complaints cited by walkers and runners.

Table 9 lists those walking and running routes that would be used if improvements were made and, not unexpectedly, Route 32 from New Harbor to Round Pond and Route 130 from New Harbor to Pemaquid were cited most often. Table 10 identifies those locations where new sidewalks

or walking paths were suggested with New Harbor being the most popular choice. Although New Harbor appears to be pedestrian friendly with many small shops and services, pedestrians must share the roads with cars in many locations. In addition, as evident from the responses in Tables 11 and 12, New Harbor has the most difficult intersections and is in greatest need of cross-walks.

Table 7 Preferred Walking/Running Routes and Destinations

Route	#1	#2	#3	#4	Total
Pemaquid Point	18	9	5	3	35
Fort Area/Pemaquid Trail/Snowball Hill Road/Huddle Road	13	12	4	3	32
Route 32 New Harbor to Round Pond	13	3	1	1	18
Route 130 New Harbor to Pemaquid Point	7	4	1		12
New Harbor	5	2		1	8
Route 130	4	2	1		7
Route 130 Bristol Mills to New Harbor	3	2		1	6
Lower Round Pond Road	1	3		1	5
Bristol Recreational Trail	1	2	1	1	5
Old County Road	4	1			5
Foster Road	2	1		1	4
Round Pond	4				4
Upper Pond Road	2	1		1	4
Benner/Lessner Roads	2	1	1		4
Harrington Road	2		1		3
Backshore Road	2		1		3
Pemaquid Harbor Road	2	1			3
Sproul Hill Road	1	1			2
Town Landing Road	1				1
Spring Hill Loop	1				1
Moxie Cove	1				1
Rock Schoolhouse Road	1				1
Route 130 Bristol Mills to Damariscotta	1				1
Elliot Hill Road	1				1
Crooked Farm Trail		1			1
Long Cove Point Road			1		1
Seawood Park Road			1		1
Split Rock Road			1		1
McFarland Shore Road				1	1
Long Cove Road	1				1
Fogler Road	1				1
Sodom Road			1		1

Table 8 Problems or Deficiencies with Routes Used for Walking or Running

Route	
Lack of shoulders or poor shoulders	10
Vehicle speed	9
Need pedestrian facilities	9
Route 32 narrowness	9
Snowball Hill Road shoulders	5
Route 130 New Harbor to Pemaquid Point shoulders	4
Cut vegetation along road edges	4
Narrow roads in general	4
Poor road conditions in general	2
Traffic volume on Route 130	2
Harrington Road speed	2
Huddle Road shoulders	2
Route 130 north of New Harbor narrowness	2
Crooked Farm Trail drainage	1
Pemaquid Point visibility and traffic	1
Safety	1
Lack of signage	1
Foster Road condition	1
Pemaquid Harbor Road condition	1

Table 9 New Walking-Running Routes and Routes That Would be Used if Improvements Were Made

Route	
Route 32 New Harbor to Round Pond	11
Route 130 New Harbor to Pemaquid Point	9
Harrington Road	3
Foster Road	3
Pemaquid Trail	1
Wider roads in general	1
Benner Road	1
Route 130 New Harbor to Pemaquid Point	1
Lower Pond Road	1
Route 130 Bristol Mills to New Harbor	1
Snowball Hill Road/Huddle road areas	1
Pemaquid Point	1
Elliot Hill Road	1

Table 10 Locations for New Sidewalks and Walking Paths

Locations	
New Harbor	6
Route 32 to Round Pond	5
Route 130 near school	2
Route 130 New Harbor to Pemaquid Point	2
Pemaquid Point	2
Lower Round Pond Road	1
Bristol Mills to swimming area	1
Round Pond	1
Bristol Mills to Benner Road	1
Bristol Mills	1

Table 11 Locations Where Cross-walks are Needed

Intersections	
New Harbor	5
Route 130 @ Route 32	3
Upper Round Pond Road @ Route 32	2
Snowball Hill Road @ Huddle Road	1
Hanna's/Riley's Store in New Harbor	1
Lower Round Pond Road @ Route 32	1
Route 32 @ Foster Road	1
Pemaquid Harbor Road @ Harrington Road	1

Table 12 Locations for New Sidewalks/ Walking Paths

Locations	
New Harbor	6
Route 32 to Round Pond	5
Route 130 near school	2
Route 130 New Harbor to Pemaquid Point	2
Pemaquid Point	2
Lower Round Pond Road	1
Bristol Mills to swimming area	1
Round Pond	1
Bristol Mills to Benner Road	1
Bristol Mills	1

Section 7

Proposed Facilities and Upgrades to Existing Facilities

The following is a *prioritized* list of recommended new facilities and improvements to existing facilities. The prioritization reflects the results of the bicycle-pedestrian survey and recommendations from the Bristol Bike-Ped Planning Committee. In addition to these facilities, it is recommended that "bike route" or "share the road" signs be installed on all applicable roads.

1. *Route 130 New Harbor to Pemaquid Point*

Route 130 between New Harbor and Pemaquid Point is a key link in the East Coast Greenway and is used by bicyclists and pedestrians year round. Unfortunately, there currently exists almost no paved shoulder and the gravel shoulder is as little as one foot in some locations. These conditions make it especially problematic for pedestrians. In spite of these conditions, survey respondents identified it as the second most used bicycle route and fourth most used walking route in the community. In addition, the survey results do not speak to the significant level of usage by summer visitors. For example, there are several hotels and a campground at Pemaquid Point that are frequented by vacationing bicyclists

There are no off-road alternatives for those wishing to travel between New Harbor and Pemaquid Point. Pemaquid Trail extends about half-way down the peninsula from Snowball Hill Road and is well suited for pedestrian and bicycle use but it ends in a dead end. The Bristol Fire Department is interested in developing a connection between the end of Pemaquid Trail and Route 130 in order to provide better coverage. Such a connection would likely intersect Route 130 in the general vicinity of Seawood Park. While this would probably provide a good alternative for some users in the long term and bypass the upper half of Route 130, there appears to be no viable near term alternative other than widening and paving Route 130 shoulders. There are places where rock outcrops, structures, poles and wetlands may not allow a full 4-foot shoulder. A narrower 2-foot shoulder would be quite suitable in these locations and represent a quantum improvement over existing conditions.

Figure 8 Route 130 South of New Harbor



2. Route 32 Old Long Cove Road to Shaw's Wharf

One of the most popular tourist destinations in Bristol is Shaw's Restaurant and Lobster Wharf and Hardy's Boat Cruises in New Harbor. Because of very limited parking, a satellite parking lot is available near the intersection of Route 32 with Old Long Cove Road, as shown in Figure 9. Parking lot users must walk between

Figure 9 Route 32 New Harbor



the lot and the Shaws/Hardy's site. Due to the absence of road shoulders, as illustrated in Figure 10, they must share the travelway with motorists. In addition, evening boat cruises result in pedestrians walking on this unlit section of Route 32 in the dark. A paved shoulder or separate pedestrian walking path within the road right of way between the parking lot and the Shaws/Hardy's site would substantially improve pedestrian safety.

Figure 10 Route 32 New Harbor

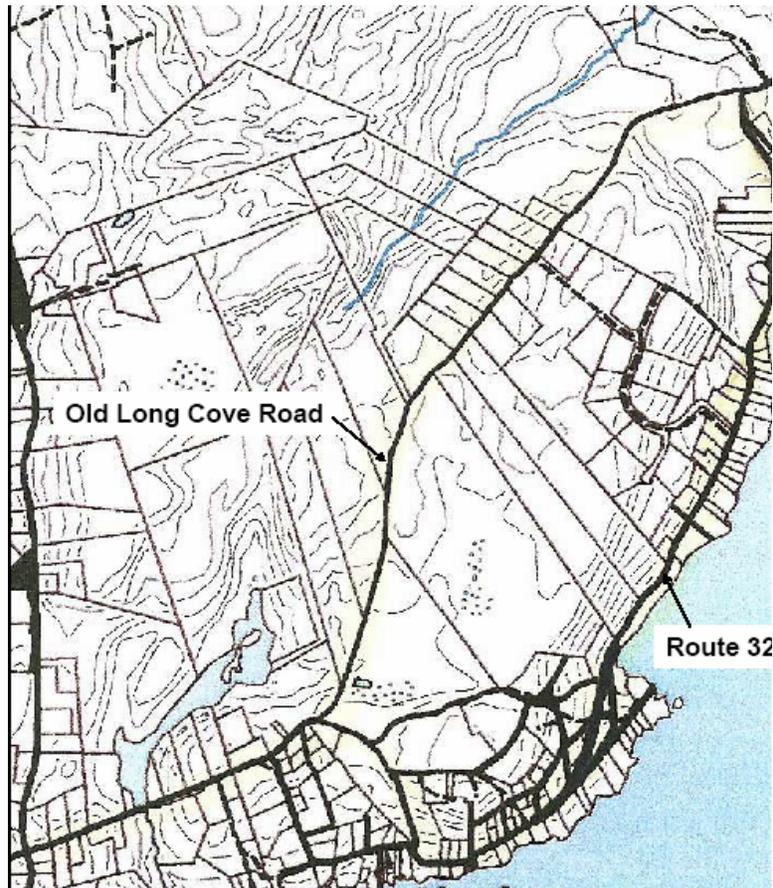


3. *Route 32 New Harbor to Chamberlain*

Route 32 between New Harbor and Chamberlain is one of the most scenic roadways in coastal Maine. It winds its way through a seaside village with a mixture of 19th century structures and newer seasonal residences lying immediately adjacent to the travelway. Views of the harbor and the ocean beyond are available virtually around every corner. Due to the presence of buildings, structures and ledge immediately adjacent to the Route 32 in many locations, road shoulders vary from one to two feet or are even completely absent. This forces the many seasonal and resident pedestrians to walk within the travelway. Compounding the situation are horizontal and vertical curves that significantly limit the sight distance for motorists and their ability to see pedestrians within the roadway.

As soon as possible, signage should be installed to alert motorists of the possibility of pedestrians and bicyclists in the roadway. These signs should be placed frequently and prominently. Following installation of the signage, paved shoulders should be installed wherever possible to reduce the locations where pedestrians must use the travelway. Given that it will likely be impossible to install adequate paved shoulders along this entire section of Route 32, a longer term improvement might include identification and construction of an off-road pedestrian and bicycle connection between New Harbor and Chamberlain. One possibility would be to use Old Long Cove Road. Portions of this old road still exist where it intersects Route 32 in New Harbor and Chamberlain but the balance would need to be redeveloped.

Figure 11 Route 32 and Old Long Cove Road



4. *New Harbor Pedestrian Improvements*

Tourists and residents, including those who walk to New Harbor from the campground and cottages near Colonial Pemaquid, contribute to a heavy pedestrian presence in New Harbor village year round. Businesses are frequented on both sides of Route 130 in the village, resulting in significant cross-road traffic. In addition, due to the lack of crosswalks and marked parking spaces and ill-defined travelways, pedestrians and moving vehicles share the same space, resulting in safety concerns. This project would include creating pedestrian crossing areas and better defining parking areas, both along Route 130 in the village and on side roads. In addition, sidewalks would better channel pedestrians around the village and away from traffic.

Figure 12 New Harbor Village



5. *Harrington Road*

Harrington Road is a key link in the East Coast Greenway on the Bristol peninsula, connecting Route 129 in South Bristol with Route 130 in Bristol. Unfortunately, pavement and drainage conditions as well as very poor gravel shoulders make it a challenge for bicyclists to use. This project would consist of improving pavement and drainage and installing paved shoulders for use by pedestrians and both experienced and casual bicyclists.

Figure 13 Harrington Road



6. *Route 130 Huddle Road to New Harbor*

Route 130 from the Damariscotta town line to just south of Huddle Road has four-foot wide shoulders in almost all locations and survey respondents cited it as their most preferred route for bicycling. As shown in Figure 14, however, the shoulders substantially narrow and even disappear near the Samoset Restaurant. This project would consist of installing paved shoulders on Route 130 from this location to New Harbor village.

7. *Bristol Mills Pedestrian Improvements*

There is a significant number of pedestrians who cross Route 130 in Bristol Mills near the town office and at the "swimming hole" to the north. Potential improvements could include crosswalks and curb extensions to provide defined areas for pedestrians to cross the highway. Curb extensions could also serve to slow traffic and enhance the village atmosphere of Bristol Mills.

Figure 14 Route 130 New Harbor



Figure 15 Bristol Mills



8. *Route 32 Chamberlain to Bremen Town Line*

Route 32 north to the Bremen town line is becoming increasingly popular among touring bicyclists. It was also identified by survey respondents as the third most popular bicycle route in Bristol. Due to high traffic speeds and the absence of paved shoulders, it is best used by experienced bicyclists. This makes it mostly inaccessible by average or recreational bicyclists, which is an important component of the local population. Paved shoulders should be installed when Route 32 is reconstructed or substantially improved by MDOT.

Section 8

Proposed Revisions to Local Development Ordinances

The Board of Selectmen, Town Administrator and Planning Board are committed to improving the quality and maintenance of pedestrian and bicycle facilities in Bristol and to ensuring such facilities are considered when new developments are proposed in the community.

Development ordinances administered by the Town include the Land Use Standards Ordinance and the Subdivision Ordinance. As currently constructed, they are silent on issues related to pedestrian and bicycle mobility. Therefore, the following actions should be taken to memorialize the recommendations presented in this plan:

- The plan should be approved by the Board of Selectmen
- The plan should be incorporated as an amendment to the comprehensive plan
- The Subdivision Ordinance should be amended to refer specifically to *planned* bicycle and sidewalk facilities as presented in the plan.
- The Subdivision and Land Use Standards Ordinances should be amended to require the construction of new bicycle and/or pedestrian facilities and their interconnection 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.

Bristol 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 Bristol, 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:

- Establish an annual budget for improvements to existing bicycle and pedestrian facilities and construction of new facilities on Town owned roads

- Establish an annual maintenance budget, including striping of crosswalks, winter maintenance and spring sweeping of Town owned roads

It is further recommended that when any public road is reconstructed, the shoulder and travel lanes be sufficiently dimensioned to accommodate bicycles.

Appendices