

Newcastle-Damariscotta

Bicycle-Pedestrian Plan

May 2015



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Section 1

Introduction

Damariscotta and Newcastle serve as the center of commerce and services in central Lincoln County. The downtown they share is home to many retail and service businesses, a theater, several churches and a post office while additional businesses, schools, a hospital and the YMCA are within walking distance of the twin villages. The towns share a harbor and riverfront, which provides both visual and physical access to the Damariscotta River, and Damariscotta has been designated by the State of Maine as a regional service center, in part because Main Street serves as the principal highway access to the other communities on the Bristol peninsula.

The communities have a combined four and a half miles of paved sidewalks. With the exception of wide paved shoulders on Route 1, bicycle-suitable facilities are lacking in both communities, requiring bicyclists and motorists to share the roads. Gravel shoulders, narrow widths, horizontal and vertical curves and, in some locations, poor travel surfaces and significant traffic volume make bicycling in the communities challenging at best.

In 2008, the Town of Damariscotta and Lincoln County Regional Planning Commission (LCRPC) jointly developed a bicycle-pedestrian plan for the community http://lcrpc.org/uploads/visual_edit/damariscotta-sidewalk-bicycle-plan.pdf. In 2014, the Town of Newcastle expressed interest in creating a bicycle-pedestrian plan and it was felt that this would be a good opportunity to update the Damariscotta plan and create a truly regional bicycle-pedestrian transportation plan. The Select Boards of both towns created a joint bike-ped planning committee to accomplish the following work tasks:

- Evaluate pedestrian and bicycle access to the transportation system including the need, if any, for new or improved sidewalks, crosswalks, road shoulders, bike lanes or other facilities to enhance safety for pedestrians and bicyclists in Newcastle and Damariscotta including any off road routes that may be needed for connectivity.
- Review existing bike-ped-related ordinance and site plan provisions and, if necessary, recommend amendments to address any deficiencies
- Evaluate the funding mechanism for sidewalk/bicycle facility maintenance and capital improvements
- Develop a public informational process to make the public more aware of the existing and potential future role of pedestrian and bicycle facilities in Newcastle and Damariscotta and to solicit public input into the planning process

In order to solicit input from the public, two survey instruments were created – one for local schools and one for the general public. Paper surveys were made available at a number of

public facilities in both communities and on-line surveys were advertised and linked to the town websites, several newsletters and the LCRPC website.

As part of the study, students and non-students were asked why and where they walked, jogged or biked in the communities, the routes they took, the condition of existing facilities, recommendations, if any, for new or improved facilities, safety concerns and related information. Eighty-three student surveys and 208 non-student surveys were completed. The results of these surveys, as well as research conducted on existing facilities and meetings with the bike-ped committee, served as the basis for the findings and the recommendations in this plan.

The plan was endorsed unanimously by the Damariscotta and Newcastle Select Boards on May 6 and May 11, 2015, respectively.

Section 2

The Communities

Between 1990 and 2010 the populations of Newcastle and Damariscotta increased 16% and 21%, respectively, to a total of 3,970. Because Damariscotta is a service center and, along with Newcastle, is the center of commercial, personal and institutional services for surrounding communities, it is appropriate to include the demographics of surrounding communities. Including Bristol, South Bristol, Bremen and Nobleboro, the population of the region in 2010 was 8,423, a 17% increase over 1990. As the town and regional populations were increasing, however, it was also significantly aging. The median age in Newcastle rose 28% from 38.7 to 49.6 years from 1990 to 2010 while Damariscotta's increased 18% from 42.8 to 50.7 years. Looking at the surrounding communities, the median age in Bristol is now 54.1, South Bristol 54.1, Bremen, 50.3 and Nobleboro 46.9 years. Clearly, younger families are being replaced by older individuals, many of whom are retiring to the area. This could result in future increases in demand for additional sidewalks and off-road pedestrian facilities.

Housing units increased 33-38% in Newcastle and Damariscotta between 1990 and 2010 to 2,351 dwelling units, 14% of which are seasonally occupied. An additional 5,418 dwelling units are within the four adjacent communities, 43% of which are seasonal units. This housing data indicates that summertime residents as well as daytime visitors to the area substantially exceed the year round population, creating even greater demand for bike and pedestrian facilities than might be otherwise expected.

Figure 1 shows the historic pattern of development in Newcastle and Damariscotta since the late 19th century. Residences were mostly concentrated in the twin village as well as Damariscotta Mills and Sheepscot Village with farms spread out along the rural roads. In the past six decades or so, there has been much more residential development along state highways and rural roads and adjacent to rivers and ponds, creating conflicts between vehicles, pedestrian and bicyclists who are all using roads that may not have the width, alignment or surface to safely accommodate multiple users.

Even with the significant increase in development in the rural areas of both communities, their joint downtown still represents the center of community life in Newcastle and Damariscotta and the destination for many residents and visitors to the region. All this activity comes with a consequence, however, as shown in the traffic volumes presented in Table 1 and Figure 2. Main Street varies from 9,500 AADT (average annual daily traffic) in Newcastle to almost 12,000 AADT at School Street while Bristol Road, Biscay Road, School Street, River Road and Mills Road all experience substantial year-round traffic volumes that increase significantly in the summer.

Table 2 and Figure 3 documents the existing sidewalk and crosswalk system now in place in both communities. LCRPC staff conducted an inventory and evaluation of sidewalks in Newcastle and Damariscotta in 2014. While the total length in both communities

approaches almost 4.5 miles, as indicated in Table 2 a number of sidewalks are in some degree of disrepair. For Newcastle, about 6,700 linear feet are in poor to fair condition while about 4,300 linear feet of Damariscotta sidewalks are so rated.

There are some gaps in the existing sidewalk system as illustrated in Figure 4, which graphically presents information on where pedestrian trips are generated and their more important destinations. While Lincoln Academy is accessible by a sidewalk, there is no sidewalk serving the Great Salt Bay School, which could be accessed in the future by an extension of the Main Street/Route 1B sidewalk that now ends near Mobius or a new sidewalk on Church Street and Route 1B to the school. The High Street sidewalk is deteriorated and serves less than half the street and School Street is entirely lacking a sidewalk even though it is an important traffic connector. The Mills Road sidewalk ends before the Route 1 overpass, impacting safe pedestrian access to Damariscotta Mills. Other gaps and deficiencies were identified in a community survey in Section 6.

Figure 1 Newcastle and Damariscotta History of Growth Maps

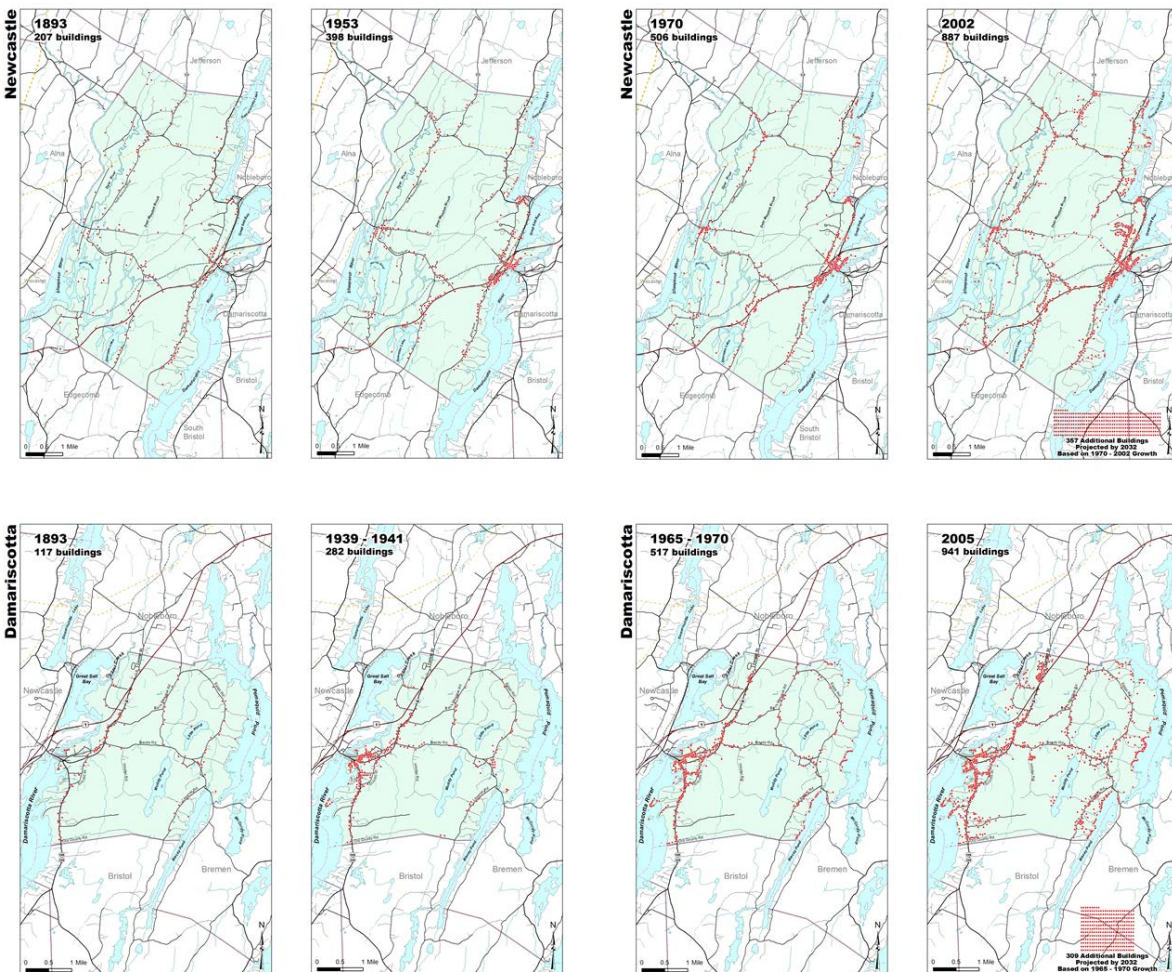


Table 1 Newcastle and Damariscotta Traffic Counts – 2013^{1,2}

| Newcastle | | | Damariscotta | | |
|------------------------------|---------------------------|-------|------------------|-------------------------|-------|
| Road | Location | Count | Road | Location | Count |
| Pond Road | W of Academy Hill Road | 2570 | Main Street | Newcastle Town Line | 9730 |
| Main Street | S of Mills Road | 9500 | Main Street | E of Water Street | 9370 |
| River Road | S of Main Street | 7750 | Main Street | E of Vine Street | 8670 |
| US 1B (EB) | E of US 1 | 2650 | Main Street | E of School Street | 11890 |
| US 1 | N of US 1B | 7140 | Main Street | N of Biscay Road | 8990 |
| US 1 | E of Sheepscot Road | 12970 | Main Street | S of Biscay Road | 11100 |
| US 1 | W of Sheepscot Road | 11850 | Main Street | S of US 1 | 5720 |
| US 1 | N of Station Road | 11790 | Main Street | S of Belvedere Road | 7370 |
| US 1B (WB) | E of US 1 | 2920 | US 1 (SB) | N of Main Street | 6560 |
| River Road | W of Robinson Road | 1620 | US 1 (NB) | N of Main Street | 6740 |
| Sheepscot Road | N of US 1 | 1680 | US 1 | S of Main Street | 7470 |
| Academy Hill Rd | N of Mills Road | 2370 | US 1 | S of Belvedere Road | 8400 |
| River Road | S of US 1B | 2110 | Church Street | N of Vine Street | 1030 |
| Snead Spur | W of River Road | 610 | Biscay Road | E of Standpipe Road | 2990 |
| Route 194 | W of Route 215 | 900 | Biscay Road | E of Main Street | 4220 |
| Route 213 | N of Route 215 | 1130 | Church Street | W of Main Street | 1870 |
| Mills Road | N of Main Street | 3060 | Belvedere Road | W of Main Street | 1700 |
| Mills Road | S of US 1 Off Ramp | 2980 | School Street | W of Main Street | 4470 |
| Route 215 | W of Route 213 | 1430 | Chapman Street | W of School Street | 630 |
| Route 215 | Damariscotta Mills Bridge | 1440 | Back Meadow Road | E of Hammond Road | 550 |
| Austin Road (Route 215 (SB)) | E of Pond Road | 1480 | Water Street | S of Main Street | 1480 |
| Pond Road | S of Austin Road | 1990 | Bristol Road | S of Cross Street | 5730 |
| Mills Road | Nobleboro Town Line | 1740 | Bristol Road | N of School Street | 4470 |
| Mills Road | S of Austin Road | 2340 | Bristol Road | S of Cottage Point Road | 6830 |
| Route 215 | N of Route 194 | 770 | Bristol Road | S of Westview Road | 6730 |
| | | | Center Street | Nobleboro Town Line | 1450 |

¹ Average Annual Daily Traffic ² Source - Maine Department of Transportation

Figure 2 Newcastle and Damariscotta Traffic Maps

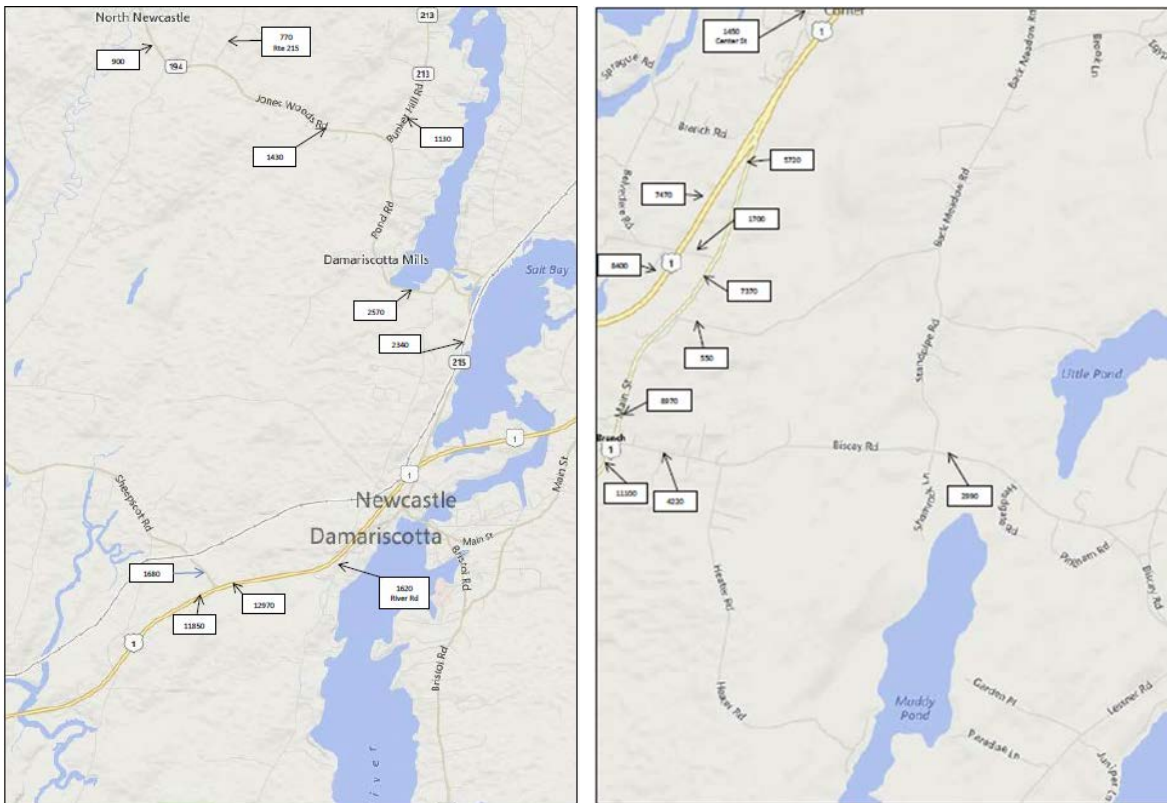


Table 2 Newcastle and Damariscotta Sidewalks

| Newcastle Sidewalks | | | | | | | | | |
|------------------------|---------------------|---------------------|-----------------------|------|------------------|----------------|-----------------|-----------|-----------------------------------|
| | Street | Segment | | Side | Length (feet) | Type | Width (feet) | Condition | Comments |
| | | from | to | | | | | | |
| 1 | River Road | Fire Station | Main Street | S | 1700 | Asphalt | 4 | F | |
| 2 | Main Street | River Road | Academy Hill Street | S | 950 | Asphalt | 4.5 | F | Poles, mail box posts in sidewalk |
| 3 | Main Street | River Road | Academy Hill Street | N | 850 | Asphalt | 4 | F | |
| 4 | Main Street | Academy Hill Street | Bridge | S | 830 | Asphalt | 5 | G | Poles in sidewalk |
| 5 | Main Street | Mills Road | Pump Street | N | 240 | Concrete | 4 | F | |
| 6 | Main Street | Pump Street | Glidden Street | N | 400 | | | | |
| 7 | Main Street | Glidden Street | Bridge | N | 150 | Asphalt | Varies | G | |
| 8 | Glidden Street | Stewart Street | Cross Street | W | 820 | Asphalt | 3 | P-F | |
| 9 | Glidden Street | Cross Street | Main Street | W | 540 | Asphalt | 3 | P-F | |
| 10 | Cross Street | Pump Street | First Driveway | N | 80 | Concrete | 2 | P | |
| 11 | Pump Street | Cross Street | First Lot | E | 80 | Concrete | 2 | P | |
| 12 | Academy Hill Street | Mills Road | 153 Academy Hill Road | E, N | 3000 | Asphalt | 2-3 | F-G | G new section |
| 13 | Mills Road | Academy Hill Street | Stewart Street | W | 1500 | Conc., Asphalt | | P-F | |
| | | | | | 11140 | | | | |
| Damariscotta Sidewalks | | | | | | | | | |
| 14 | Vine Street | Church Street | End | N | 640 | Asphalt | 3 | P | Discontinuous |
| 15 | Church Street | Main Street | Elm Street | S | 630 | Asphalt | 4 | VG | |
| 16 | Church Street | Main Street | Bank Driveway | N | 110 | Asphalt | 4 | VG | |
| 17 | Church Street | Elm Street | Chapman Street | S | 400 | Asphalt | 5 | New | Need crosswalk at Chapman |
| 18 | Church Street | Elm Street | Pleasant Street | N | 680 | Asphalt | 5 | New | |
| 19 | Church Street | Chapman Street | Cottage Gardens | S | 1000 | Asphalt-gravel | 2-3 | VP | Discontinuous |
| 20 | Chapman Street | Church Street | 2nd driveway | S | 120 | Asphalt | 5 | New | |
| 21 | Hodgdon Street | Church Street | Pleasant Street | W | 450 | Asphalt | 3.5-5 | F-New | Discontinuous |
| 22 | Elm Street | Main Street | Courtyard Street | E | 130 | Asphalt | | P | |
| 23 | Elm Street | Theater Street | Church Street | N | 950 | Asphalt | 2.5-5 | P-New | Artifacts in sidewalk |
| 24 | Theater Street | Main Street | Elm Street | E | 100 | Asphalt | 5-7 | | |
| 25 | Theater Street | Main Street | Elm Street | W | 90 | Asphalt | 5 | | |
| 26 | Courtyard Street | Main Street | Elm Street | E | 80 | Asphalt | 3 | F | |
| 27 | Main Street | Bridge | Courtyard Street | N | 230 | Asphalt | Varies | VG | |
| 28 | Main Street | Courtyard Street | Elm Street | N | 250 | Asphalt | Varies | VG | |
| 29 | Main Street | Elm Street | Theater Street | N | 90 | Asphalt | Varies | VG | |
| 30 | Main Street | Theater Street | Church Street | N | 600 | Asphalt | Varies | VG | |
| 31 | Main Street | Church Street | Yellowfront | N | 1200 | Asphalt | Varies | New | |
| 32 | Main Street | Bridge | Parking Lot Lane | S | 190 | Asphalt | Varies | VG | |
| 33 | Main Street | Parking Lot Lane | Taco Alley | S | 180 | Asphalt | Varies | VG | |
| 34 | Main Street | Taco Alley | Junes Alley | S | 80 | Asphalt | Varies | VG | |
| 35 | Main Street | Junes Alley | Water Street | S | 360 | Asphalt | Varies | VG | |
| 36 | Main Street | Water Street | Bristol Road | S | 200 | Asphalt | Varies | VG | |
| 37 | Water Street | Main Street | Cross Street | E | 220 | Asphalt | 5' | VG | |
| 38 | Water Street | Cross Street | 22 Water Street | E | 840 | Asphalt-gravel | Varies | P | Discontinuous |
| 39 | Cross Street | Water Street | Bristol Road | S | 230 | Asphalt | 2-3 | P | |
| 40 | High Street | Bristol Road | 22 High Street | S | 520 | Asphalt | 2-3 | P-VP | |
| 41 | Bristol Road | Main Street | Cross Street | E | 130 | Asphalt | 5 | VG | |
| 42 | Bristol Road | Cross Street | High Street | E | 1330 | Asphalt | 5 | 2016 | |
| 43 | Bristol Road | High Street | Miles Street | E | 610 | Asphalt | 5 | 2016 | |
| 44 | Pleasant Street | Church Street | Hodgdon Street | W | 60 | Asphalt | 5 | New | |
| | | | | | 12700 | | | | |

Figure 3 Newcastle and Damariscotta Sidewalks and Crosswalks

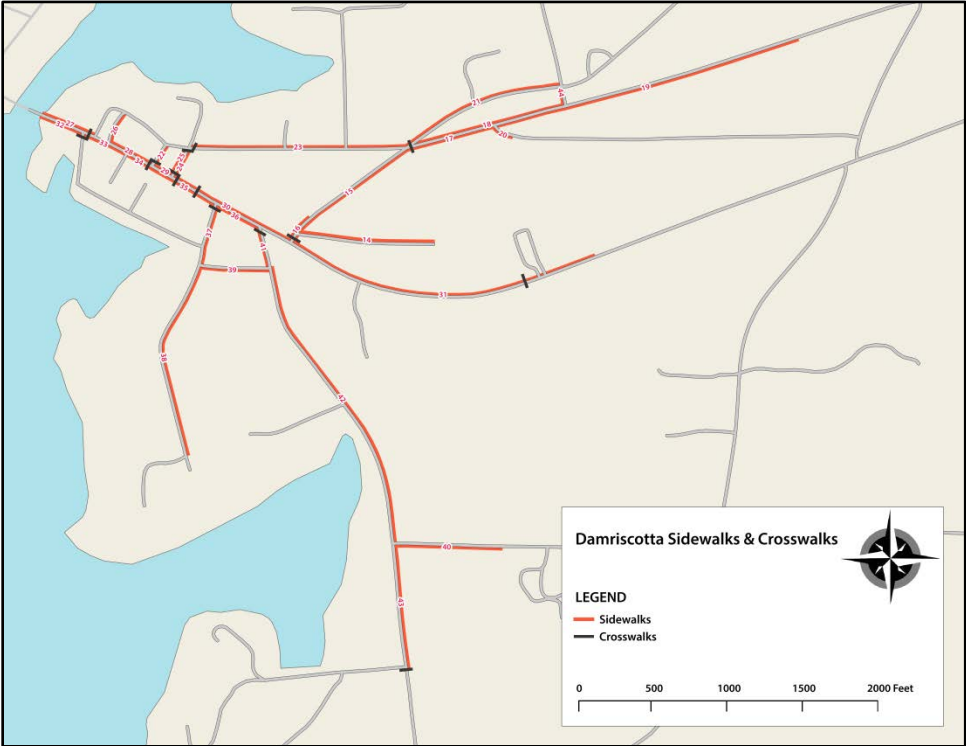
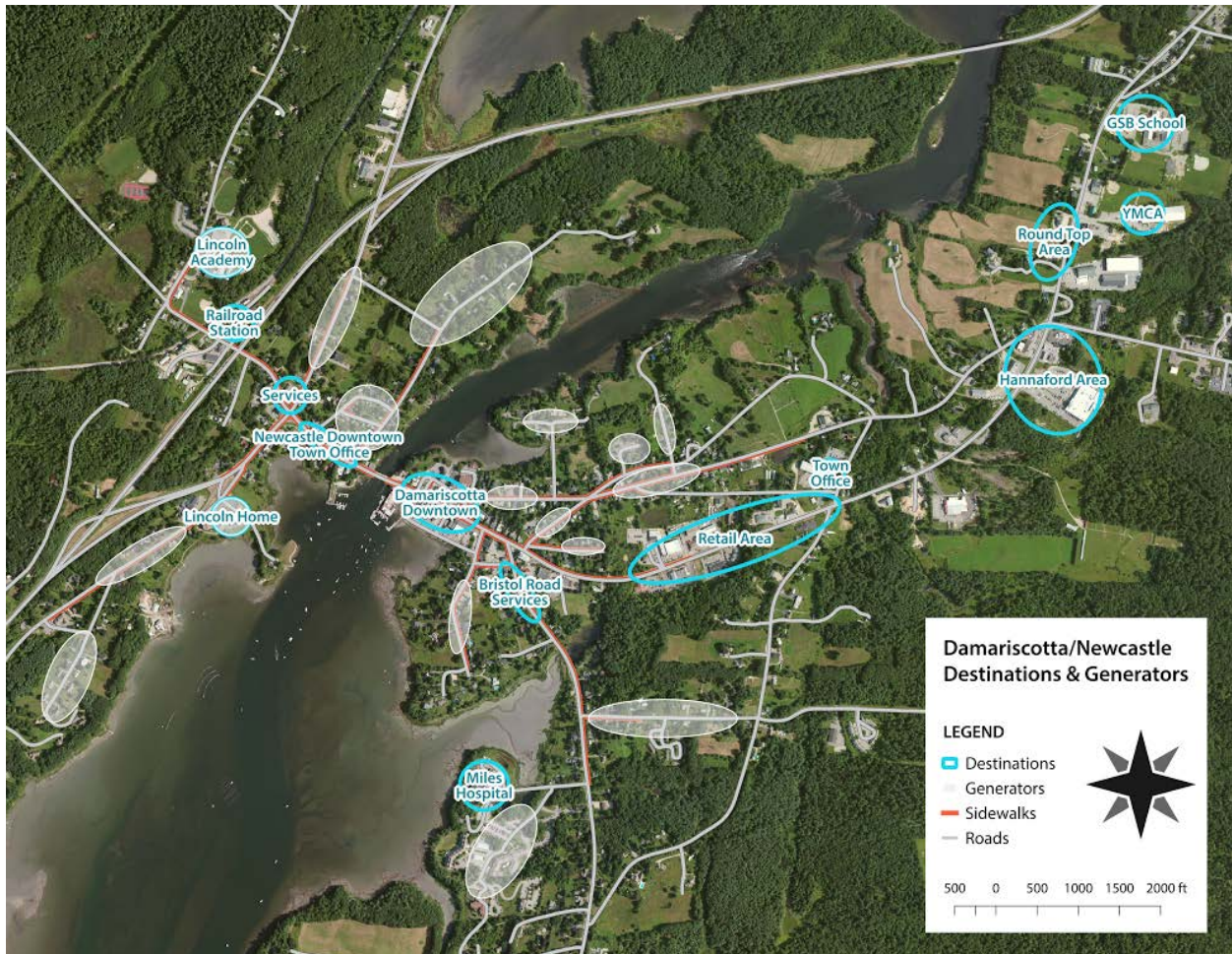


Figure 4 Damariscotta and Newcastle Pedestrian Generators and Destinations



Figures 5 to 24 show existing conditions of many of the area’s sidewalks. There are several locations on River Road and Main Street in Newcastle where artifacts such as mailboxes and utility poles are sited within the sidewalks, making access difficult for disabled pedestrians. These should be addressed when the streets are reconstructed in the future. While sidewalk improvements have been made in the recent past in both communities, the photos document poor conditions in some sidewalks. In addition, as indicated in a number of survey responses, there are important gaps in the sidewalks systems of both communities.

Figures 25 to 48 show existing conditions on roads within the twin communities. The absence of paved shoulders together within some poor road surfaces, many horizontal and vertical curves and narrow widths make biking difficult for many potential users.

Newcastle and Damariscotta Sidewalks Photos 1 - 20









Cross Street



Elm Street Main to Courtyard Streets



Lower Elm Street Church
to Theater Streets



Upper Elm Street Church
to Theater Streets



High Street



Main Street (south side)



Vine Street



Main Street (south side)

Newcastle and Damariscotta Roads Photos 21 - 44





Route 194



Route 215



Route 213



Academy Hill Road



River Road



River Road



Mills Road



Belvedere Road



Backmeadow Road



Egypt Road



Standpipe Road



Biscay Road near Rocky Run Road



Biscay Road near Standpipe Road



Main Street near Biscay Road



Church Street



Main Street



School Street near Bristol Road



Bristol Road at School Street

Section 3

The Planning Process

The Select Boards of both communities authorized the creation of a joint bicycle-pedestrian committee to oversee the project with LCRPC staff providing administrative, research and planning support. An article was published in the Lincoln County News soliciting members of the public to join the committee and select board members and others from both communities contacted interested citizens, encouraging them to participate in the project. The following community members joined the committee.

Dick Chase
Ellen Dickens
Martha Dodge
Brian Foote
Laurie Green
Carolyn Hatch
Kathleen Huntington
Pat Lydon
Stella Lydon
Robin Mayer
Stephanie Nelson
Sherwood Olin
George Parker
Steve Reynolds
Giselle Rhodes
Walt Silva
Steve Spencer

In addition, Newcastle Town Administrator Lynn Maloney and Damariscotta Town Manager Matt Lutkus also participated in and supported the project.

At the recommendation of the Lincoln County Planner, the committee solicited 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 schools were contacted to determine their interest in participating in the survey and their preferences for paper or electronic surveys.

A survey announcement and a follow-up article were carried in the Lincoln County News. Each announcement provided links to the school and community electronic surveys and information on where to obtain copies of the paper surveys. Links to the electronic survey were posted on the town websites and in several local newsletters. Paper school surveys and electronic survey links were made available in Lincoln Academy and Great Salt Bay School and paper copies of the community survey were made available at both town offices, Skidompha

Library and the YMCA. In order to ensure that the public and students had sufficient opportunity to provide input, the survey period ran for two months between mid-December 2014 and mid-February 2015. At the end of the survey period, survey responses were tallied. Eighty-three completed student surveys and 208 non-student surveys were received.

The committee held a meeting on February 11, 2015 to review the results of the survey and prioritize recommended improvements to bicycle and pedestrian facilities in Newcastle and Damariscotta. The committee also discussed other recommendations, all of which served as the basis for the draft Newcastle-Damariscotta Bicycle-Pedestrian Plan as presented to the Newcastle and Damariscotta Boards of Selectmen.

The Newcastle Selectmen endorsed the plan on _____, 2015 and the Damariscotta Selectmen endorse the plan on _____, 2015.

Section 4

Existing Plans and Ordinances

Damariscotta updated its Comprehensive Plan in 2014 and included the following statements regarding bicycling and pedestrian activities in the community.

Community Vision

Expanded public facilities such as bicycle and pedestrian paths, hiking trails, water access points, sidewalks, YMCA pool, and batting cages contribute to our recreational amenities and healthy lifestyle. State-of-the-art Internet and telecommunication network allows for expanded home-based work force, global business opportunities, and improved daily living.

Public Facilities Strategy

As public or private funding sources become available, implement the 2010 Master Shore & Harbor Plan. This includes re-grading for sea-level rise/storm surge drainage control, attendant stormwater facilities, potable and sanitary pipe replacement (in cooperation with the Great Salt Bay Sanitary District), hardscaping, landscaping, pedestrian/bicycle amenities, shoreline boardwalk, and pedestrian-scale lights.

Transportation Goal

Build inter-connected pedestrian and bicycle pathways into an overall local transportation system.

Inner Commercial Core

Vision - This area continues to function as an auto-oriented commercial strip but with improved aesthetics and pedestrian/bicycle facilities over time.

Development Standard - Requiring the provision of pedestrian and bicycle facilities within a development and providing for the connection of those facilities to existing facilities along US Rt. 1B when feasible .

Newcastle is in the process of retaining a consultant to assist the community in creating a new Comprehensive plan. This process will probably be completed in 2016 or 2017.

In 2008 Damariscotta completed a community bicycle plan with the assistance of LCRPC staff. The following were improvements recommended in the plan. Recommendation #1 has been completed while recommendation #4 is expected to be completed in 2016.

- 1 Sidewalk on Route 1B from Downtown to Yellowfront/Rising Tide complex
- 2 Sidewalk and paved shoulder on Route 1B from Biscay Road to Great Salt Bay School
- 3 Sidewalk on Route 1B from Yellowfront/Rising Tide complex to Biscay Road
- 4 Sidewalk on Route 129 from Route 1B to Miles Road

- 5 Sidewalk on Church Street between Main Street and Route 1B
- 6 Sidewalk on High Street between School Street and Route 129
- 7 Repair existing Water Street sidewalk

Currently, Newcastle does not require new residential or commercial developments to develop off-site sidewalks even if the developments are close to an existing sidewalk while Damariscotta limits such requirements to projects subject to Site Plan Review. Both towns have large scale development standards that require construction of internal sidewalks and along public street frontages but not off-site. In Newcastle large scale developments include retail buildings over 2,500 sf, other commercial buildings over 10,000 sf and other buildings with drive-thrus or gas sales while Damariscotta has the same provisions except the retail threshold is 7,500 sf.

Section 5

Goals, Objectives, Strategies

Pedestrian/Bicycle Vision for Newcastle and Damariscotta

Both communities have extensive sidewalk systems within their downtowns but significant transportation corridors such as Route 1B north of the Yellowfront area, School Street, Biscay Road, most of Route 129, Mills Road, River Road south of Snead Spur and others lack pedestrian facilities. With the exception of paved shoulders on Route 1, bicycle facilities are absent, requiring bicyclists of all abilities to share most roads with motor vehicles. Even with these important safety considerations, roads in both communities are still attractive to a growing number of bicyclists in the community and those visiting the Bristol peninsula. Indeed, a quarter of the community survey respondents said they biked daily or weekly with a median mileage of 10.3 miles per week. For these reasons and others, improved pedestrian and bicycle facilities are important for Newcastle and Damariscotta'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 communities.

Strategies

- Work with Selectmen, Planning Board, citizens and the business community to continuously identify areas of critical needs
- Improve existing pedestrian crossing locations in the village and on Main Street near the Yellowfront where lighting may not be currently adequate.
- Create new pedestrian crossings wherever new sidewalks are developed. Prime locations include Route 129 at Miles Street, Route 1B at Biscay Road and at Hannaford

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

Strategies

- Install paved shoulders on local roads when they are slated for reconstruction or major improvements.
- Request that MDOT install paved shoulders when it schedules state and state-aid roads for reconstruction or significant improvements.

- Sweep paved road shoulders at least annually and more frequently during high use periods between May and October.

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

Strategy

- Install 'bike route' signs wherever paved shoulders satisfy state standards and install 'share the roads', 'bikes may use full lane' and the proposed three-foot law signs where appropriate in other locations regularly used by bicyclists using MDOT templates.

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 and embrace Maine Safe Routes to School programs.
- Engage the Bicycle Coalition of Maine to conduct bike events at 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 in the village, schools and the recreation facilities.
- Partner with the recreation departments, 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

- Develop enhanced pedestrian access to the Great Salt Bay School and YMCA
- Develop a bike-pedestrian path around the Great Salt Bay and an off-road connection between Sheepscoot Village and Newcastle village

Section 6

Survey Results - Demonstrated Needs

Sixty-seven percent of the non-student respondents were 50 years or older and only 7% were under 36 years of age. About 38% were retired and three-quarters of respondents were female. Thirty-five percent of respondents said they biked daily or weekly while 94% said they walked or ran daily or weekly. Safety was the most frequently cited reason for not biking more often while safety concerns, lack of suitable facilities or lack of time were cited most often for not walking or running more. In fact, only a quarter of respondents said that lack of adequate facilities prevented more frequent walking or running, probably a reflection of the extensive sidewalk network in both downtowns. As presented in Table 3, exercise and recreation were the predominant reasons cited by non-student respondents for walking, running and biking.

Table 3 Purpose for Biking, Walking and Running

| Purpose of Activity | Percentage of Respondents Citing Purpose | |
|-------------------------------|--|------------------|
| | Bikers | Walkers, Runners |
| Exercise | 55% | 88% |
| Recreation | 51% | 72% |
| Shopping, errands | 13% | 20% |
| Visit friends, neighbors | 19% | 22% |
| Work | 5% | 4% |
| Medical | 1% | 12% |
| Walk pet | N/A | 16% |
| School related | N/A | 2% |
| Do not participate at present | 17% | 0% |

Table 4 presents preferred biking routes and any concerns with those locations while Table 5 provides those routes that would be used with improvements. Bike routes and destinations are distributed pretty much evenly within the local area with Bristol Road, Route 1B, Mills Road, Biscay Road and Academy Hill being the most popular. A number of respondents commented that the Academy Hill-Damariscotta Mills-Mills Road loop was attractive because of convenience, length (about 4 miles) with the absence of paved shoulders on Mills Road and sharp curves on Academy Hill being issues of concern.

Bristol Road was cited by bicyclists (and a significant number of pedestrians) as that route most in need of improvements and also the route most likely to be used with improvements. These results may, in part, be a reflection of the comparatively large number of Bristol Road residents (a quarter of all Damariscotta respondents) and Town of Bristol residents who took part in the survey.

Table 4 Preferred Bicycle Routes and Concerns

| Biking Route/Destination | Biking Concerns | | | | | | | | |
|--------------------------|-----------------|-------------------|--------|-------|---------|----------------------|-------|-----------|-------------------|
| | Respondents | No/poor Shoulders | Safety | Speed | Surface | Lack Bicycle Signage | Width | Alignment | No Room for Bikes |
| Bristol Road | 22 | 12 | 4 | 1 | 5 | 1 | 4 | | |
| Route 1B | 21 | 9 | 2 | 1 | 1 | 2 | 1 | | |
| Downtowns | 23 | | 2 | 1 | 1 | | | | |
| Damariscotta Mills | 14 | | 2 | 1 | | | 1 | | |
| Mills Road | 16 | 6 | 4 | 2 | | | | 1 | |
| Biscay Road | 12 | 8 | | 1 | 3 | 1 | | | |
| Academy Hill | 13 | | 1 | 4 | | | 2 | 2 | |
| Church Street | 8 | 2 | 2 | 1 | 3 | | | | |
| River Road | 10 | 4 | 2 | 1 | | | 3 | | |
| School Street | 5 | 4 | 1 | 2 | 2 | | | | |
| Pemaquid | 10 | 3 | | | | 1 | 2 | | 1 |
| Belvedere Road | 5 | 3 | 1 | 1 | 1 | | | | |
| Lessner Road | 4 | | | | | | | | |
| Route 130 Bristol | 8 | | 1 | 1 | 1 | 1 | 1 | | |
| Around GSB/DRA Farm | 8 | 2 | 2 | 1 | | | 1 | | |
| Brunswick Bike Path | 5 | | | | | | | | |
| Elm Street | 3 | | | | | | | | |
| Backmeadow Road | 6 | 2 | | 1 | | | | | |
| Egypt Road | 4 | | | | | | | | |
| Glidden Street | 3 | | | | | | 1 | | |
| Route 32 | 4 | 1 | 2 | | | | | | |
| Center Street | 2 | 1 | | 1 | | | | | |
| North Newcastle Road | 4 | 3 | | 1 | | | | | |
| West Neck Road | 4 | 1 | | 1 | | | | | |
| Standpipe Road | 2 | 1 | | | | | | | |
| Clark's Cove | 1 | | | | | | | | |
| Bayview Road | 1 | 1 | | | | | | | |
| Morgan Hill Road | 1 | | | | | | | | |
| Route 194 | 1 | | 1 | | | | | | |
| Route 215 | 1 | 1 | | | | | | | |
| Bayview Road | 2 | | | | | | | | |
| Borland Hill Road | 1 | | | | | | | | |
| Fogler Rad | 2 | | | | | | | | |
| Benner Road | 1 | | | | | | | | |

Table 5 Biking Routes that Would be Used with Improvements

| Routes Used if Improvements Made | Improvement Needed | | | | |
|----------------------------------|--------------------|-------------------|--------|---------|-------|
| | Respondents | No/poor Shoulders | Safety | Surface | Width |
| Bristol Road | 22 | 5 | 4 | 1 | |
| Route 1B | 8 | 2 | | | |
| Downtowns | 6 | | | | |
| Damariscotta Mills | 3 | 1 | 1 | | |
| Mills Road | 8 | 5 | 1 | | |
| Biscay Road | 7 | 5 | | | |
| Academy Hill Road | 4 | 2 | 2 | | |
| Church Street | 1 | | | | |
| River Road | 10 | 1 | | | 1 |
| Pemaquid | 3 | | | | |
| Belvedere Road | 1 | | | | |
| Route 130 Bristol | 4 | | | | |
| Around GSB/DRA Farm | 2 | | | | |
| Elm Street | 1 | | | | |
| Backmeadow Road | 1 | 1 | | | |
| Egypt Road | 1 | | | | |
| Glidden Street | 1 | | | | |
| Center Street | 1 | | | | |
| Standpipe Road | 1 | 1 | | | |
| Sheepscot Road | 2 | | | | 2 |

Table 6 presents those routes preferred by survey respondents along with concerns they may now have with them. Table 6 also provides information on those routes that would be used with improvements. As expected, the downtowns are the most preferred destination/route with Church Street, Academy Hill, Main Street/Route 1B, Glidden Street and Dodge Point also cited quite often. Route 1B and Bristol Road are the routes that would benefit most with increased usage if improvements were made.

Table 6 Preferred Walking Routes and Concerns

| Walking Route | Walking Concerns | | | | | | | | | | Would Use with Improvem |
|---------------------|------------------|-------------------|--------|-------|---------|----------------------|-------|-----------------|------------------|----------------|-------------------------|
| | Respondents | No/poor Shoulders | Safety | Speed | Surface | Lack Bicycle Signage | Width | Lacks Crosswalk | Poor/No Sidewalk | Lacks Lighting | |
| Bristol Road | 22 | | 3 | 2 | | | 1 | | 11 | 1 | 15 |
| Route 1B | 27 | 1 | 1 | 1 | | | | 1 | 7 | | 17 |
| Downtowns | 68 | | | | | | | | | | 1 |
| Damariscotta Mills | 17 | | | | | | | | | | 3 |
| Mills Road | 10 | 3 | | 1 | | | | | | | 10 |
| Biscay Road | 8 | 1 | 1 | 1 | | | | | | | 4 |
| Academy Hill | 19 | | 1 | 1 | | | | | 4 | | 8 |
| Church Street | 31 | | | | | | | | 3 | | 4 |
| River Road | 20 | | | | | | | | 3 | | 4 |
| School Street | 11 | | | | | | | 2 | 1 | | 1 |
| Pemaquid | 8 | | | | | | | | | | |
| Belvedere Road | 5 | | | | | | | | | | 2 |
| Lessner Road | 1 | | | | | | | | | | |
| Around GSB/DRA Farm | 13 | | | | | | | | | | 1 |
| Brunswick Bike Path | 1 | | | | | | | | | | |
| Off-Street Path | | | | | | | | | | | 6 |
| Elm Street | 12 | | | | | | | | 5 | | |
| Backmeadow Road | 3 | | | | | | | | | | |
| Egypt Road | 4 | | | | | | | | | | |
| Glidden Street | 29 | | | | | | | | 1 | | |
| Center Street | 5 | | | | | | | | | | |
| West Neck Road | 1 | | | | | | | | | | |
| Standpipe Road | 2 | | | | | | | | | | |
| Clark's Cove Area | 4 | | | | | | | | | | |
| Bayview Road | 6 | | | | | | | | | | |
| Sheepscot Road | 2 | | | 1 | | | | | | | |
| High Street | 4 | | | | | | | | | | |
| Dodge Point | 26 | | | | | | | | | | |
| Chapman Street | 9 | | | | | | | | | | |
| Stewart Street | 3 | | | | | | | | | | |
| Hodgdon Street | 9 | | | | | | | | | | |
| Sheepscot Village | 4 | | | | | | | | | | |
| Borland Hill Road | 3 | | | | | | | | | | |
| Pleasant Street | 3 | | | | | | | | | | |
| Water Street | 4 | | | | | | | | | | |
| Cottage Point Road | 4 | | | | | | | | | | |
| Golden Ridge Road | 2 | | | | | | | | | | |

Tables 7 and 8 present recommended sidewalk and crosswalk locations. Route 1B and Bristol Road were the overwhelming choices for new sidewalks while survey respondents favored a crosswalk at the Route 1B-Biscay Road-Church Street intersection. MDOT policy, however, prohibits new crosswalks until sidewalks or another pedestrian facility are available at both landing areas.

Table 7 Sidewalk Recommendations

| Sidewalk Recommendations | Respondents |
|--------------------------|-------------|
| Route 1B | 38 |
| Academy Hill | 6 |
| Bristol Road | 30 |
| Biscay Road | 4 |
| Church Street | 9 |
| Elm Street | 4 |
| Mills Road | 8 |
| River Road | 4 |
| Damariscotta Mills | 1 |
| High Street | 1 |
| School Street | 2 |
| Glidden Street | 1 |
| Sheepscot Road | 1 |

Table 8 Crosswalk Recommendations

| Crosswalk Recommendations | Respondents |
|--|-------------|
| Main Street-Academy Hill | 3 |
| Bristol Road-School Street | 3 |
| Church Street-Chapman Street | 2 |
| Route 1B-Church Street-Biscay Road | 15 |
| GSB School | 5 |
| Bristol Road-High Street | 1 |
| Rising Tide Area | 3 |
| Schooner Landing | 2 |
| Hannaford | 4 |
| Route 1B-School Street | 5 |
| Damariscotta Mills Swimming Hole | 1 |
| Elm Street-Theater Street | 1 |
| Church Street-Elm Street | 1 |
| Miles Street | 1 |
| Main Street-Church Street-Bristol Road | 3 |

In Table 9, the Rising Tide crosswalk was identified as needing better lighting. Table 10 presents the results of a question about general recommendations to improve bike and pedestrian facilities with a significant number of respondents citing the need for bike-ped trail.

This is further reinforced by the responses to two questions about potential off-road facilities. Ninety-eight percent of respondents said they were in favor of an off-road biking-walking path between Sheepscot Village and Newcastle village while 95% expressed support for a walking-biking path around the Great Salt Bay.

Table 9 Crosswalks Needing Better Lighting or Signals

| Better Lighting-Signals For Crosswalks | Respondents |
|--|-------------|
| Rising Tide Area | 5 |
| Route 1-Belvedere Road | 1 |
| School Street | 1 |
| Route 1B-Church Street-Biscay Road | 3 |
| Bookstore Area | 1 |
| Lincoln Academy | 1 |
| Main Street-Mills Road-Academy Hill | 3 |
| Taniscot | 1 |
| Maritime Farm | 1 |
| Glidden Street | 1 |

Table 10 Recommendations to Improve Biking, Walking or Running Facilities

| Recommendations to Improve Biking, Walking or Running Facilities | Respondents (more than 1) |
|--|---------------------------|
| Bike-Ped Trail | 21 |
| More Sidewalks | 2 |
| Bike-Ped Improvements in General | 2 |
| Bike Racks | 3 |
| Bike Lanes | 4 |
| More Paved Shoulders | 3 |
| River Road Improvements | 3 |
| Bristol Road Improvements | 4 |
| Signage | 2 |
| Route 1B Improvements | 2 |

While a significant number of student surveys were completed, the results provided much less useful information than the community surveys. All but one of the student surveys were from Great Salt Bay School students. Tables 11 and 12 present preferred locations where students bike and walk. The preferred locations for biking and walking were at home and the neighborhood with some additional students walking at (not necessarily to) school. This is understandable since all but one of the responses were from elementary and middle school

students. Given this, the balance of the survey questions and responses did not provide additional useful information for the bike-ped plan.

Table 11 Preferred Student Bike Routes and Destinations

| Bike Route/Destinations | Respondents (more than1) |
|-------------------------------------|-----------------------------|
| Around Home-Neighborhood | 44 |
| Around Town | 6 |
| Brunswick Bike-Ped | 3 |
| Downtown | 4 |
| East Hamlet Road | 2 |
| West Old County Road | 2 |
| Campgrounds-Parks-Recreation Fields | 7 |
| Damariscotta Mills | 4 |
| GSB School | 4 |

Table 12 Preferred Student Walking Routes and Destinations

| Walk/Run Route/Destinations | Respondents (more than1) |
|-------------------------------------|-----------------------------|
| Around Home-Neighborhood | 36 |
| School | 17 |
| Town | 7 |
| DRA Farm | 3 |
| Downtown | 4 |
| Campgrounds-Parks-Recreation Fields | 5 |
| YMCA | 7 |

Section 7

Prioritized List of Recommended New Bike and Pedestrian Facilities and Upgrades to Existing Facilities and Other Recommendations

The following is a *prioritized* list of recommended new facilities and improvements to existing facilities as voted by the bike-pedestrian committee. The recommendations are based on the survey results, condition of existing facilities, pedestrian and bicyclist destinations and routes, areas currently not served or underserved, anticipated future growth patterns and the committee members' knowledge of the communities. Also included are recommended new bike rack locations and suggested changes to local ordinances and practices.

1. Main Street-Route 1B Sidewalk Extension (to GSB School)
2. Great Salt Bay Bike-Ped Loop (combination of off-road path and paved shoulders)
3. Church Street Sidewalk Extension (to Route 1B)
4. *tie* Academy Hill-Damariscotta Mills-Mills Road Loop (combination of sidewalks and paved shoulders) (*Note – a near-term improvement could include an Academy Hill sidewalk extension to Stonebridge Circle and Timber Lane to serve those residential neighborhoods*)
- 4 *tie* Elm Street Sidewalk (improve existing)
- 6 Bristol Road Paved Shoulders (to town line)
- 7 Bristol Road-School Street-Main Street Loop (combination of sidewalks and paved shoulders)
- 8 Route 1B Alternative (create path between Route 1B and Church or Chapman Streets near Yellowfront and develop parallel path behind Rite Aid from Mobius to School Street)
- 9 River Road Sidewalk (to Snead Spur) and Paved Shoulders (to Dodge Point)
- 10 Sheepscot Village to Newcastle Village Bike-Ped Route (combination of off-road path and paved shoulders)
- 11 Biscay Road Paved Shoulders
- 12 Bristol Road-School Street-High Street Loop (combination of sidewalks and paved shoulders)

13. Glidden Street Sidewalk (improve existing)

Recommended bike rack locations:

- Damariscotta Mills
- Dodge point
- Great Salt Bay Farm
- Miles Hospital
- Location near Fernald's Store
- Biscay Pond
- Waterfront Park
- Water Street near Mediterranean Grill

Other recommendations:

- Fund annual budgets for improvements to existing bicycle and pedestrian facilities and construction of new facilities on Town owned roads
- Establish dedicated annual maintenance budgets, including striping of crosswalks, winter maintenance and spring sweeping of sidewalks and Town owned roads. This could include the purchase of equipment specifically dedicated to winter sidewalk maintenance.
- When any state or state-aid road is reconstructed, the shoulder and travel lanes be sufficiently dimensioned to accommodate pedestrians and bicyclists.
- 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.

Section 8

MDOT Funding Sources for Bicycle and Pedestrian Improvements

Sidewalks as Part of a Major Highway Treatment

For highway projects involving new alignments or substantial improvements or rehabilitation of the structural base and drainage structures of the highway.

- The municipality will be responsible for 20% of the cost of replacing or rehabilitating *existing* sidewalks unless the sole reason for the sidewalk work is due to the highway improvements.
- If a *new* sidewalk is to be located within a Qualifying Pedestrian Area, the municipality will be responsible for 20% of the cost, otherwise the sidewalk will be considered a *Local-Interest Element* and, subject to available funding and to the extent of monetary contributions from local sources, MaineDOT, at its discretion, may contribute up to 50% of the cost of Local-Interest Elements that are eligible for state Highway Fund and Federal Highway Administration funding, provided that MaineDOT's share of such costs will not exceed 10% of the overall project cost.

Qualifying Pedestrian Area is an area that MaineDOT determines will have substantive pedestrian activity or use during the expected life-cycle of the project. In making this determination, MaineDOT will be guided by existing, planned, or forecasted sidewalks and/or pedestrian generators (including neighborhoods, businesses, government buildings, village areas, schools, recreational facilities, etc.), directly adjacent or within reasonable walking distance. Other factors include whether the existing or future pedestrian activity is consistent with the municipal transportation plan, comprehensive plans, capital plans, zoning, and/or other longer-term planning and investment (including documented funding implementation) documents that have been adopted by the legislative body of the municipality.

MDOT Transportation Alternatives Program

MDOT's Transportation Alternatives program principally supports locally-initiated projects that improve the community transportation environment, economic vibrancy, safety for pedestrians and bicyclists, downtown revitalization initiatives and environmental mitigation. There is a required 20% local share under the TA program. Funding opportunities are available to help expand transportation choices and enhance the transportation experience through eligible activities related to surface transportation, including pedestrian and bicycle infrastructure and safety programs. TA projects must relate to surface transportation and must qualify under one or more of the eligible categories. Successful projects must demonstrate that they will provide improved access or improve safety conditions. A local example is the Bristol Road sidewalk.

Safe Routes to School

Safe Routes to School is now an eligible activity under the TA program to enable, and encourage, children; including those with disabilities, to safely walk and bicycle to/from school and after school activities. Major goals of the program are to increase bicycle, pedestrian and traffic safety, and to assist communities in improving conditions for walking and bicycling to school. MDOT seeks projects that substantially improve the ability of students to walk, and bicycle, within two miles of an elementary or middle school. These applications are typically available in the spring of even numbered years.

Infrastructure improvements such as school zone lights, traffic calming and sidewalk improvements are intended to be part of a larger effort within communities to improve conditions and raise awareness of the benefits of walking and biking to school. The Safe Routes to School Program is the only program that provides up to 100 percent funding for projects within 2 miles of an elementary or middle school. Infrastructure improvements must be within two miles of a school to make walking and biking safer for students (e.g. for sidewalks, signage, crossings, bike lanes, bike racks, traffic calming, etc.).

Go Maine

Go Maine is a source of funding for bike racks with 80% coming from MDOT and 20% from local sources.