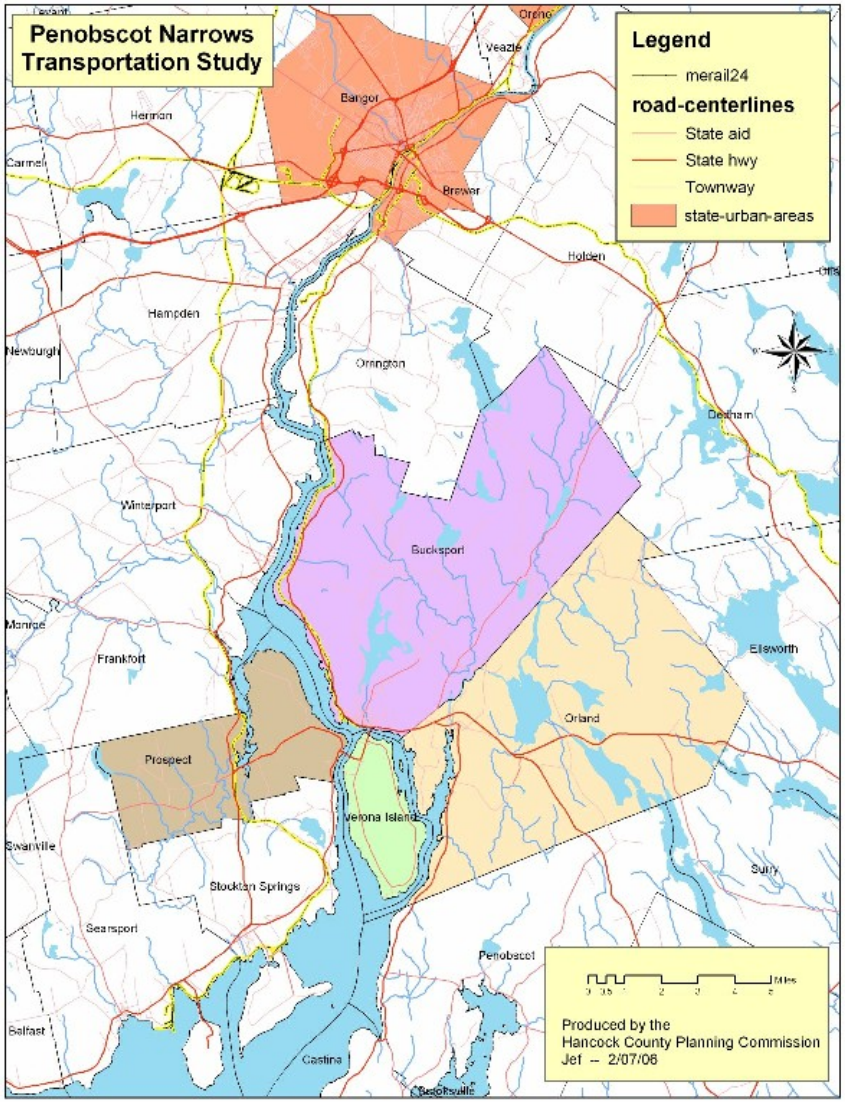
# PENOBSCOT NARROWS STUDY:
# PASSENGER TRANSPORTATION OPTIONS
# October 25, 2006





**<u>Penobscot Narrows Advisory Committee</u>**
**Dave Milan, Bucksport**
**Goodwin Ames, Orland**
**Lionel Harvey, Verona Island**
**Elwin Bointon, Prospect**



Prepared with technical assistance from the Hancock County Planning Commission and the Eastern Maine Development Corporation with funding from the Maine Department of Transportation. Opinions expressed herein are not necessarily those of the grantor agency.

## Contents


Introduction ..... 2
State and Regional Context ..... 3
  Strategic Passenger Transportation Plan ..... 3
  Gateway 1 ..... 4
  Downeast Maine Rural Development Initiatives ..... 5
Local Conditions ..... 6
  Population ..... 6
  Housing ..... 6
  Economy ..... 7
    Employment Trends ..... 7
    Taxable and Retail Sales ..... 9
  Tourism, Recreation and Amenities ..... 12
    Prospect ..... 12
    Verona Island ..... 14
    Bucksport ..... 14
    Orland ..... 16
    Summary ..... 20
Transportation Demand, Infrastructure and Services ..... 21
  Traffic Patterns ..... 21
  Commuting Patterns ..... 22
  Freight ..... 23
  Tourism ..... 24
Travel Demand ..... 24
  Bicycle and Pedestrian Access ..... 27
    East Coast Greenway ..... 27
    Bicycle Tourism Promotion ..... 27
  Water-based Transportation and Recreation ..... 28
  Transit Services ..... 30
  Summary ..... 32
Strategic Transportation Alternatives ..... 34
  Introduction ..... 34
  Improve Pedestrian Access and Safety ..... 35
  Improve Pedestrian Access and Safety ..... 36
    Prospect ..... 36
    Penobscot Narrows Bridge Pedestrian Way ..... 37
    Verona Island Pedestrian Alternatives ..... 39
    Bucksport ..... 43
    Orland ..... 45
  Bicycle Access and Safety ..... 46
    Close the Gap – Brewer to Bucksport ..... 47
  River Access ..... 49
  Transit Services ..... 51
    Fixed Route Service ..... 51
    On Demand Service ..... 53

Subscription “Commuter” Service ..... 54
Seasonal Bus Service ..... 54
Funding ..... 54
Traveler Information ..... 55
Product ..... 55
Price ..... 56
Promotion ..... 56
Placement ..... 57
Multi-tiered Information Program ..... 57
Internet ..... 57
Print Media ..... 58
Directional Signage ..... 58
Interpretive Signage ..... 60
Conclusions ..... 63
References ..... 65

# Introduction

The Penobscot Narrows area, primarily consisting of the towns of Prospect, Verona Island, Bucksport and Orland, has new opportunities for economic development. Change is coming as the historic Waldo-Hancock Suspension bridge is replaced by a landmark cable-stay bridge and observation tower, the coordinated "Gateway 1" initiative sets a new tone for coordination between transportation, land use and economic development, and local venues like Fort Knox and the Bucksport waterfront grow in popularity.

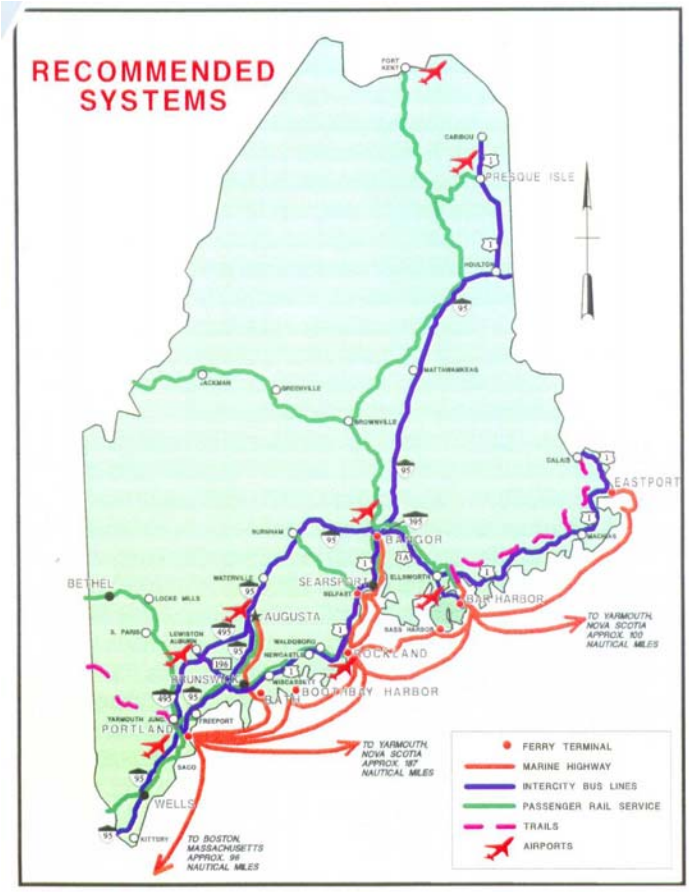
This study examines passenger transportation options for the Penobscot Narrows area of Hancock and Waldo counties in Maine. The report begins with a summary of the local context, including demographic, economic, land use and transportation trends. This is followed by a more detailed analysis of transportation data, including recent trends and future projections.

Recent planning efforts in the towns of Prospect, Verona Island, Orland and Bucksport are considered in light of these trends. The study identifies major assets in the four towns and how these can be packaged to accommodate a variety of transportation modes. The adequacy of existing transportation services is considered and recommendations are offered for ways to increase the range of transportation options. The study concludes by presenting recommendations for transportation-related improvements.

# State and Regional Context

## *Strategic Passenger Transportation Plan*

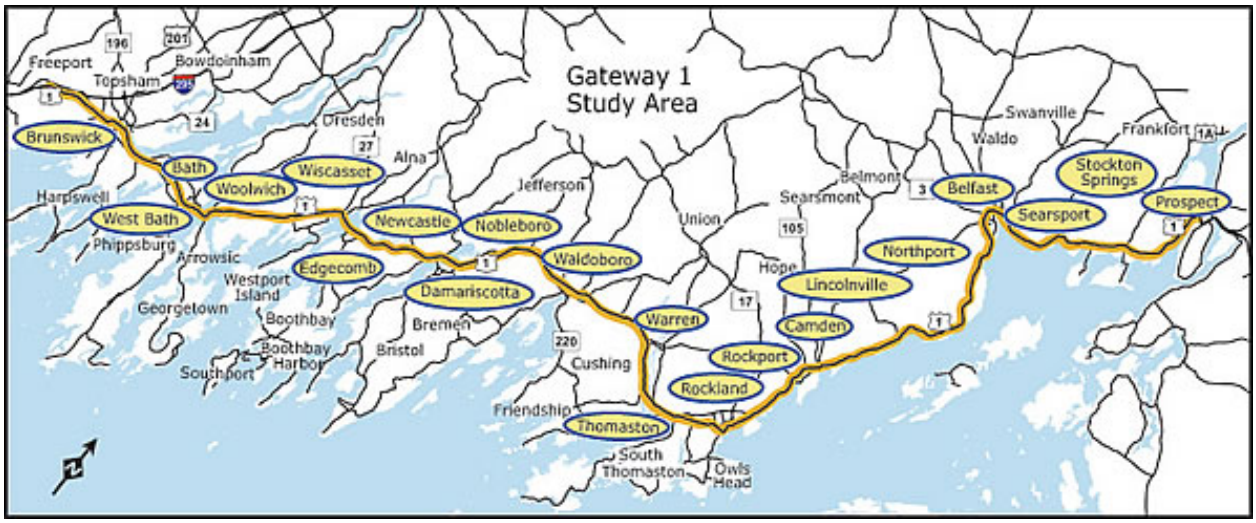
In 1999 the Maine Department of Transportation Office of Passenger Transportation (OPT) developed regional and statewide Strategic Passenger Transportation Plans (SPTP). The Regional Plan for Eastern Maine was developed with assistance from the Eastern Maine Development Corporation and the Hancock County Planning Commission. The intent of these strategic plans was to plan and develop passenger transportation capacity in Maine that would serve a variety of users that do not or would prefer not to rely on private automobiles. This expanding market is a diverse cross-section our population including elderly, youth, disabled, low income, commuters, tourists and others.




The state wide plan recommends passenger transportation corridors for bus, passenger rail, water, air and trails. These elements are stitched-together to create an interconnected network that in full implementation would permit people to travel across much of the state without a private automobile.

Bangor is recommended to be the transportation hub for eastern Maine, with connecting service by bus, passenger rail, air and water. The Penobscot Narrows area would benefit from the STPT with stronger transportation links to Belfast in the Midcoast and Bangor to the north. Not indicated in the statewide plan, but acknowledged in the regional plan is the additional need to consider direct strategic linkages between Bucksport and Ellsworth.

## *Gateway 1*




The MaineDOT website www.gateway1.org provides the following introduction to the Gateway 1 project,

> "Gateway 1 is a landmark long-term strategic land use and transportation planning project for the Midcoast Route 1 region in Maine. A collaboration amongst communities and state agencies, Gateway 1 explores new ways of combining transportation and land use decision-making. By doing so, the project will balance community growth and local values with transportation services and needs. For Gateway 1 to be a success, we need to hear your opinions.
>
> The Gateway 1 project begins in Brunswick at the junction of I-295 and extends for 110 miles to Prospect. It directly affects the 21 communities through which U.S. Route 1 passes and also considers their interaction with the larger region, especially those peninsular or island communities whose residents, workers and visitors must use Route 1 for access."

The project brings strategic passenger considerations to the doorstep of the Penobscot Narrows area. The Gateway 1 website documents changes along Maine's mid-coast including growth of population, housing, the economy, and rising levels traffic congestion. Data suggest that summer congestion is increasingly the result of local trips, which can lead to gridlock with the addition of tourist traffic. Most tables and graphs carry the analysis to Stockton Springs, immediately south of the Town of Prospect.

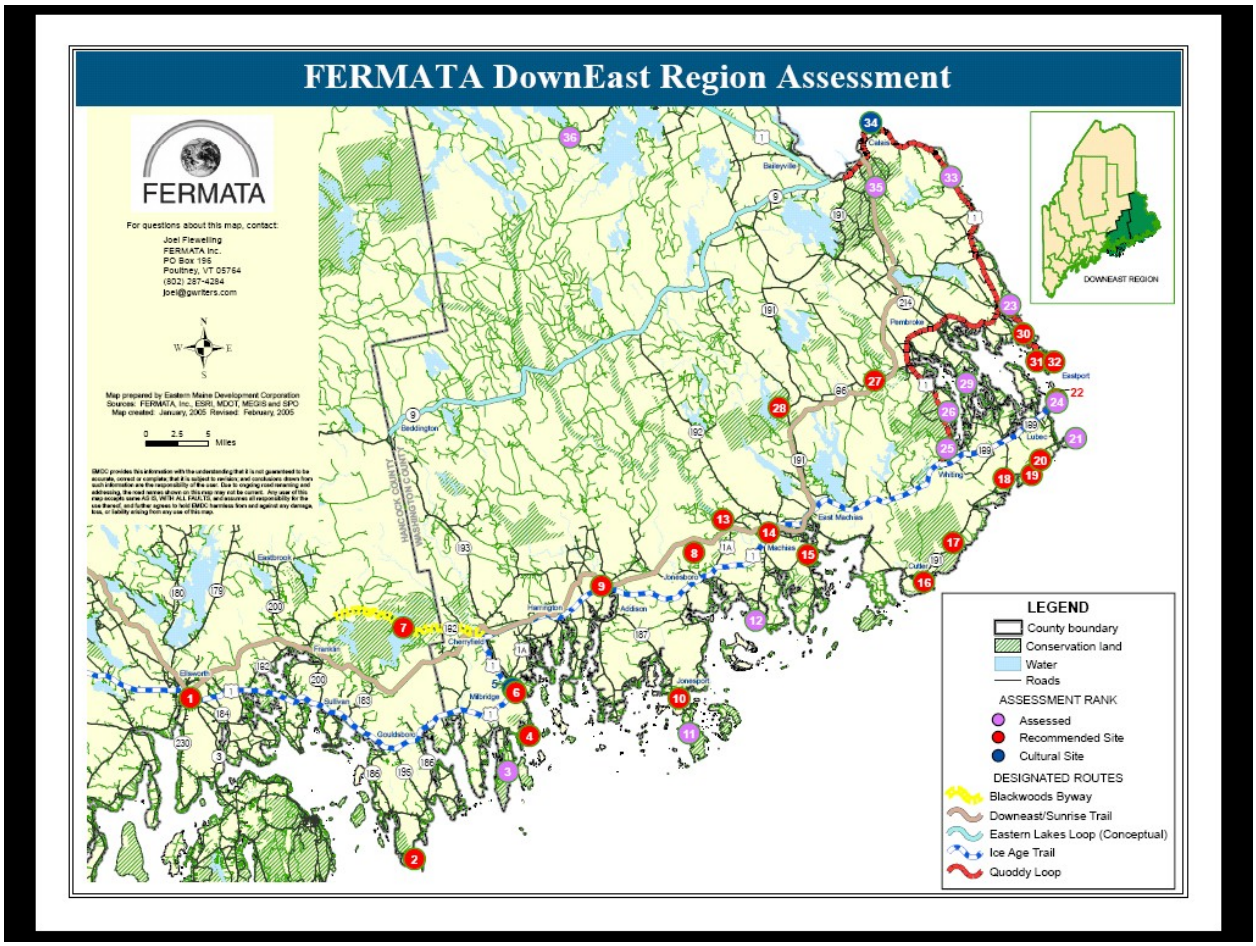
History demonstrates that no planning region is autonomous. If development regulations are applied along the Gateway 1 project area, development pressures in the Penobscot Narrows are likely to increase. These external market relationships should be considered in future planning.

Passenger transportation planning is not a primary focus of the Gateway 1 project, but may be a fortuitous outcome. As communities come to grips with the impacts of relatively unplanned growth in rural areas, or sprawl, the possibilities for introducing transit systems improves. Congestion mitigation is certain to be a driving force for change.

## *Downeast Maine Rural Development Initiatives*

Several studies have been conducted recently seeking ways to expand tourism into Washington County. Among these are the Fermata Study on sustainable tourism (www.fermatainc.com/maine/) and the Flanagan Report: Economic Strategy for Washington County. (www.maine.gov/governor/baldacci/issues/washington_county/wcindex.html).

The studies both recognize the role that thematic tours and branding can play in attracting visitors to downeast Maine. Both seek to define regions and sub-regions within the state, driven by geographic, spatial and economic patterns or modalities. While each region overlaps with the next, these location-based modal themes, such as blueberry barrens, clamming and worming, local dialects or architecture can all signal a new region. The existing and new bridges spanning the Penobscot River present a strong geographic case for being a boundary between the midcoast and downeast Maine regions. Making the Penobscot Narrows a gateway downeast serves to highlight this transition and would tend to pull tourists into the midcoast as a starting point for a downeast tour. There are alternatives further east including Ellsworth, Sullivan and even Cherryfield. Moving the line east creates a smaller, more uniform region, but one that may have less power to draw visitors.



# Local Conditions

## *Population*

Population grew overall by 9% during the 1990s, more than double the rate of growth for the state (see Table 1). Orland and Prospect, with relatively large tracts of undeveloped land, grew four times the rate for the state. High population growth rates in this region are not a reflection of high birth rates nor large numbers of children. Population growth in recent years has been driven primarily by migration into the region. Many people who have moved to the region are "empty nesters" and early retirees. For Hancock County as a whole, the median age increased from 35.8 years in 1990 to 40.7 in 2000. The consequence of this trend is a relatively low percentage of the population that is dependent on alternative modes of transportation.

Table 1
**Population Change: 1990-2000**

| Town | 1990 Population | 2000 Population | Percent Growth | 2000 Median Age | 2000 Density |
|---|---|---|---|---|---|
| Bucksport | 4,824 | 4,908 | 2% | 38.3 | 95.2 |
| Orland | 1,805 | 2,134 | 18% | 40.3 | 45.5 |
| Prospect | 542 | 642 | 16% | 43.5 | 35.5 |
| Verona | 516 | 533 | 3% | 37.4 | 85.6 |
| Total | 7,687 | 8,217 | 7% | 39.2 | 66.9 |
| Hancock Co. | 46,948 | 51,791 | 10% | 40.7 | 32.6 |
| Waldo Co. | 33,018 | 36,280 | 9% | 39.3 | 49.7 |
| Maine | 1,227,928 | 1,274,923 | 4% | 38.6 | 41.3 |

**SOURCE:** U.S. Census

Other things being equal, higher population density areas are more fruitful for non-automotive transportation options. Bus transit services, for instance, are most successful in urbanized areas. Historic densities for Penobscot Narrows towns have been highest close to the Penobscot River, falling off into the rural hinterland. Recent growth of residences into rural areas and population declines in the more densely settled portion of Bucksport are gradually reducing this geographic difference.

## *Housing*

While prices are increasing, home purchase prices are relatively affordable when compared to much of coastal Maine. The Maine State Housing Authority (MSHA) lists the home purchase affordability index for the Bucksport area for persons of median income as 1.14 for 2003. The index assesses the ability of a household earning the median income to purchase

the median priced home. An index of less than 1.00 indicates that housing is not affordable. An index greater than 1.00 indicates that housing is affordable.

The index for Bucksport for 2000 was 1.20. It increased to 1.40 in 2001 and was 1.18 in 2002. The Bucksport indices are greater than those of surrounding housing markets. For example, the 2003 home purchase indices for the Ellsworth-Mount Desert Island area, greater Belfast and greater Bangor were 0.73, 0.80 and 0.93 respectively.

There has been considerable turnover in the housing stock. According to the 2000 U.S. Census over 50 percent of the households in Bucksport moved into their homes between 1990 and 2000. Only 13 percent had moved into their homes before 1970.

While housing conditions in Verona Island and Orland are generally good, Bucksport faces some housing problems. A drive-by survey of dwellings the Bucksport downtown area revealed that 40 percent of the homes were in poor condition and another 40 percent were in fair condition. Most of these dwellings needed new roofs, siding, windows and doors. Improvement of the housing stock would complement efforts previously taken to revitalize other parts of the downtown.

The demand for assistance through the Section 8 voucher program, which partially subsidizes the rents of very low income tenants, is higher than the number of vouchers. This may indicate a shortage of affordable rental units. Since the lack of rental opportunities may affect the ability of businesses to recruit and retain employees, this is an important economic development issue.

## *Economy*

*Employment Trends*

While once referred to as a mill town, some now describe Bucksport as a town with a mill. This term refers to a shift in employment patterns at the International Paper Mill. At one time, the majority of mill employees lived in Bucksport and surrounding towns. As of 2003, town officials estimated that only 20 percent of mill employees were Bucksport residents. By contrast, the 1992 comprehensive plan estimated that 43 percent of the mill employees lived in either Bucksport or Verona Island. In earlier decades, an even larger portion of mill employees lived in town. Between 2001 and 2004, the number of employees decreased from 1,050 to 823. This compares to an estimated 1,252 employees in 1989 (reported in the 1992 plan).

The town has been working hard to diversify its economy. In 1995 it prepared an economic development strategy. It has developed a business park and has worked to revitalize its downtown and waterfront. The town has hired an economic development director who is assisting existing businesses as well working to recruit new operations.

As seen in Table 2, the size of the labor force increased between 1990 and 2000 even though employment at the mill decreased. This is indicative of the diversification of the area

economy. The service sector, tourism and emerging technology-based enterprises have dominated new job creation.

Table 2
**Change in the Labor Force, 1990-2000**

| | 1990 | | | | 2000 | | | |
|---|---|---|---|---|---|---|---|---|
| Town | Persons 16+ old | In Labor Force | Unem-ployed | % | Persons 16+ old | In Labor Force | Unem-ployed | % |
| Verona Island | 370 | 208 | 11 | 5.3% | 452 | 294 | 13 | 4.4% |
| Bucksport | 3,597 | 2,248 | 190 | 8.5% | 3,841 | 2,505 | 203 | 8.1% |
| Orland | 1,394 | 829 | 44 | 5.3% | 1,681 | 1,091 | 60 | 5.5% |
| Prospect | 460 | 301 | 44 | 14.6% | 488 | 358 | 12 | 3.4% |
| Total | 5,821 | 3,586 | 289 | 8.1% | 6,462 | 4,248 | 288 | 6.8% |

**Source:** U.S. Census, 2000

Table 3 shows the breakdown of employment per the 2000 Census. Service jobs, which includes most tourism-related jobs, accounted for about 17 percent of all employment. Farming, fishing and forestry accounted for only four percent of employment percent county-wide and a much smaller proportion for the three towns in the Hancock County portion of the study area. Efforts to attract more tourists to the area will likely increase service sector employment.

**Table 3**
**2000 Employment by Occupation by Place of Residence**

| Occupation | Employed civilians 16 years and over | Management, professional, and related | Service | Sales and office | Farming, fishing, and forestry | Construction, extraction, maintenance | Production, transportation, moving |
|---|---|---|---|---|---|---|---|
| **Verona Island** | 281 | 96 | 49 | 37 | 5 | 30 | 64 |
| | 100% | 34% | 17% | 13% | 2% | 11% | 23% |
| **Bucksport** | 2,282 | 574 | 333 | 621 | 50 | 355 | 349 |
| | 100% | 25% | 15% | 27% | 2% | 16% | 15% |
| **Orland** | 1,031 | 280 | 172 | 223 | 15 | 166 | 175 |
| | 100% | 27% | 17% | 22% | 1% | 16% | 17% |
| **Prospect** | 346 | 82 | 42 | 66 | 8 | 52 | 96 |
| | 100% | 24% | 12% | 9% | 2% | 15% | 28% |
| **Total** | 3,940 | 1,032 | 596 | 947 | 78 | 603 | 684 |
| | 100% | 26% | 15% | 24% | 2% | 15% | 17% |

**SOURCE:** U.S. Census, 2000

The major employers in Hancock County as a whole are shown in Table 4. As the commuting data show (*discussed below under Transportation*), many residents of the study area also commute to the greater Bangor and Belfast areas. The table shows the importance of health care and retail employment. This list of major employers does **not** reflect the impact of the many small business and self-employment on the economy. Cumulatively, small businesses are an important source of jobs to the area economy. This is also true of self employment. According to the 2000 Census, about 8.4 percent of the Bucksport labor force was self-employed.

**Table 4**
**Largest employers in Hancock County, 1st Quarter 2004**

| Employer | Location | Number of Employees |
|---|---|---|
| Jackson Laboratory | Bar Harbor | 1,240 |
| International Paper | Bucksport | 823 |
| Maine Coast Memorial Hospital | Ellsworth | 515 |
| Maine Maritime Academy | Castine | 442 |
| Hinckley Boat | Southwest Harbor/Tremont | 417 |
| MDI Hospital | Bar Harbor | 322 |
| Blue Hill Memorial Hospital | Blue Hill | 266 |
| Wal-Mart | Ellsworth | 191 |
| Hannaford Brothers | Ellsworth | 181 |
| Marden's | Ellsworth | 161 |
| Kid's Peace National Centers | Ellsworth | 138 |
| College of the Atlantic | Bar Harbor | 131 |
| Stinson Seafood | Gouldsboro | 124 |
| Shaw's Supermarket | Ellsworth | 120 |
| Home Depot | Ellsworth | |

**SOURCE:** Maine Department of Labor

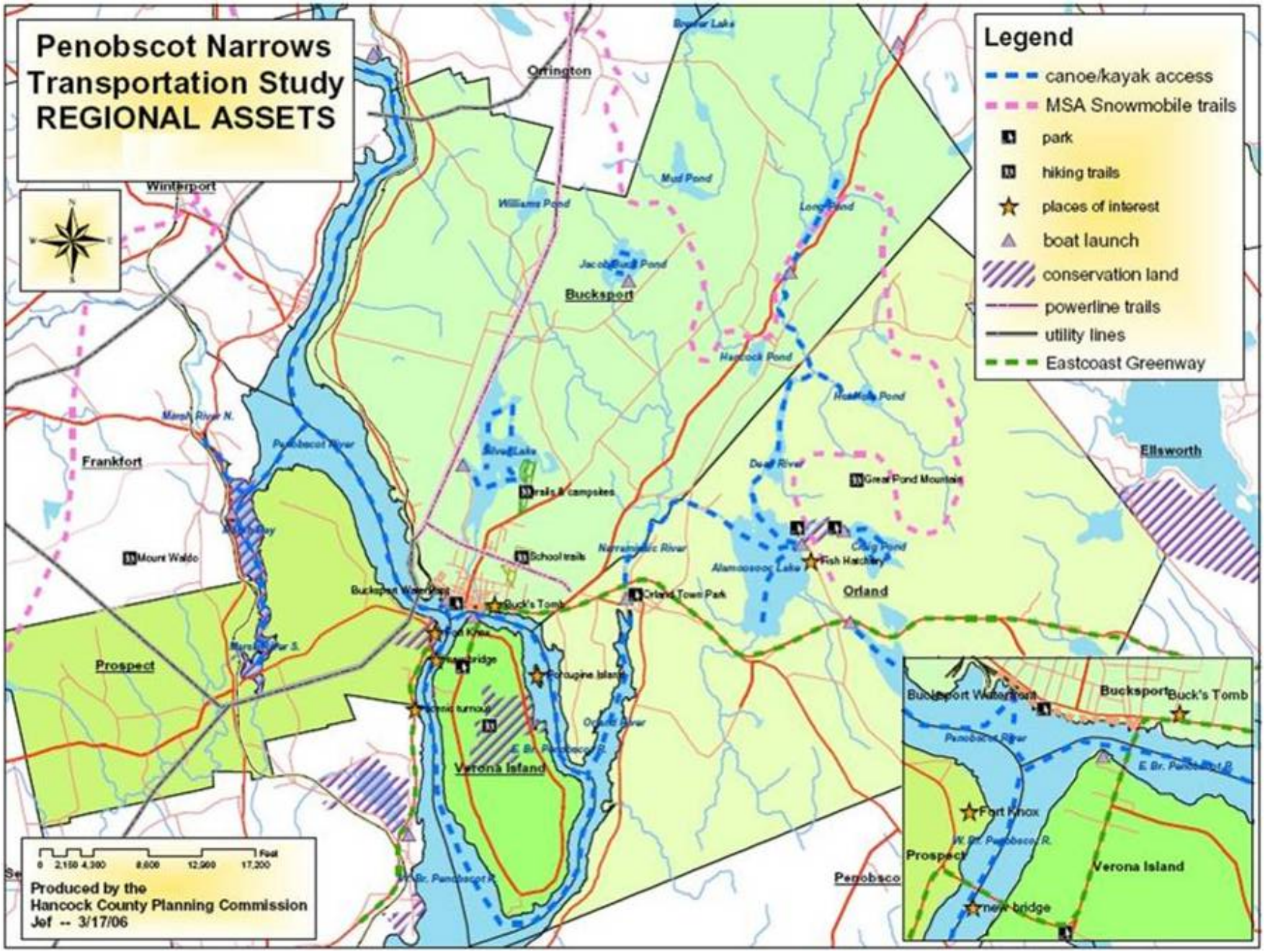
*Taxable and Retail Sales*

One indicator of economic activity is retail sales. Sales for the study area plus some surrounding towns are shown in Table 5. As seen, Bucksport sales exceed those of all other Hancock County towns on the Route 1 except Ellsworth. The town serves as an important service center for surrounding communities.

**Table 5**
**Taxable Sales (in thousands of dollars)**

| City/ Town | Total Sales | 1999 | 2000 | 2001 | 2002 | 2003 | % Change 1999-2003 (Rounded) |
|---|---|---|---|---|---|---|---|
| Verona Island | Consumer | $835 | $1,054 | $1,195 | $1,329 | $1,884 | 126% |
| | Taxable | 835 | 1,056 | 1,195 | 1,329 | 1,816 | 117% |
| Bucksport | Consumer | 22,056 | 23,234 | 22,957 | 24,605 | 24,160 | 10% |
| | Taxable | 23,559 | 25,253 | 29,927 | 31,218 | 30,165 | 28% |
| Orland | Consumer | 3,459 | 3,846 | 4,010 | 3,957 | 3,928 | 14% |
| | Taxable | 3,603 | 3,914 | 4,082 | 4,085 | 4,016 | 11% |
| Prospect | Consumer | NA | NA | NA | NA | NA | NA |
| | Taxable | NA | NA | NA | NA | NA | NA |
| Total | Consumer | 26,350 | 28,134 | 28,162 | 29,891 | 29,972 | 14% |
| | Taxable | 27,997 | 30,223 | 35,204 | 36,632 | 35,997 | 29% |

**Source:** Maine Revenue Services


Penobscot Narrows
Transportation Study
REGIONAL ASSETS
Legend
canoe/kayak access
MSA Snowmobile trails
park
hiking trails
places of interest
boat launch
conservation land
powerline trails
utility lines
Eastcoast Greenway
Orrington
Winterport
Bucksport
Frankfort
Prospect
Verona Island
Orland
Ellsworth
Penobscot River
Marsh River N.
Marsh River S.
Mount Waldo
Great Pond Mountain
Fish Hatchery
Orland Town Park
Buck's Tomb
Fort Knox
Porcupine Island
Alamoosook Lake
Produced by the
Hancock County Planning Commission
Jef -- 3/17/06

## *Tourism, Recreation and Amenities*

The Penobscot Narrows area offers visitors a wide range of opportunities for recreation, entertainment and education. These include the Fort Knox site in the town of Prospect, the boat launch on Verona Island, the Bucksport waterfront and Main Street area, and various conservation and recreational areas and the historic Orland village. These are each described below.

*Prospect*

Prospect is one of series of small towns along the western shore of the Penobscot River. Development is concentrated along Route 1A connecting Bangor with the midcoast region. The principle visitor attraction in Prospect is Fort Knox, located on Route 174, on the eastern edge of Prospect in close proximity to neighboring towns of Verona Island and Bucksport. Prospect has several local points of interest that have historic connections with Fort Knox, including the quarries where granite was excavated, shaped and carried by water to the fort. Marsh River and Marsh Bay bisect the town and offer easy access for interpretation of this significant environmental zone.

**Fort Knox**

Fort Knox is located on the banks of the Penobscot River in the town of Prospect. The fort was originally built in 1844 to keep the British from capturing Bangor during the Maine-New Brunswick border dispute known as the "Bloodless Aroostook War". During previous wars the segment of the Penobscot River between Bangor and Castine had been the site of several conflicts. The fort, however, was never used in any battles. Troops were stationed there during the Civil War and the Spanish American War.

Long Shot-Fort Knox from Bucksport Riverfront

Civil War Re-enactment Encampment in Fort Knox parade grounds.

The fort's namesake, Major General Henry Knox, was the United States' first Secretary of War and Commander of Artillery in the American Revolution. General Knox lived in

Thomaston, Maine during the final years of his life. The other Fort Knox in the United States, located in Kentucky, was also named after him.

It is Maine's most visited national historic site and is the state's first fort built primarily with granite. Its design served as a model for other Maine forts such as Fort Popham, Fort Gorges, Fort Preble and Fort Scammell. Fort Knox features 15-inch Rodman cannons. These cannons required about seven people to load and fire. A shell weighed about 315 pounds, had a charge of about 50 pounds and could fire over 2 miles.

The granite was hauled from Mount Waldo, about five miles away, in the adjoining town of Frankfort. Huge granite blocks were quarried, transported down the mountain and carried by river barge to the fort site. Construction on the fort continued sporadically between 1844 and 1869. It was never completely finished.

By the early 1990s, the fort was on the brink of collapse due to structural deterioration from a leaky roof. The local community undertook an aggressive fund raising campaign, which was supplemented with state grant funds. The roof was replaced and other extensive renovations have taken place. For example, the former officers' quarters was renovated and re-opened to the public in 2004. The parking area was also expanded. The strong community support for the fort is evident in the extensive local fund raisings for facility improvements and the many volunteers who serve at the site. The restoration of the fort is also indicative of the "can do" attitude of residents in the greater Bucksport area.

In 2004, about 1,600 students and participants in recreational programs visited the site on interpretative tours. There are also daily visits from tourists. The fort hosts special events. These include Easter festivals, Civil War re-enactments and Halloween celebrations. The 2004 Medieval Tournament had 1,900 visitors, which was a single day attendance record for an event at the fort.

The fort has the potential for further recreational development due to its deepwater shore frontage appropriate for a floating dock system. Despite the swift river current, deep draft sailing schooners docked at a granite pier during the construction of the Fort in the 1800's and ferries landed at Fort Knox prior to construction of the Waldo-Hancock Bridge in 1931. Regulatory agencies such as the Army Corp of Engineers (COE), U.S. Coast Guard, Maine Department of Environmental Protection (DEP), Maine Department of Conservation (DOC), and the MaineDOT would need to determine the feasibility of constructing a new dock system. Prospect municipal officials would support a new dock system. Funding for design, construction, and maintenance would need to come from federal, state or private sources.

**Mendall Marsh Wildlife Management Area**

Mendall Marsh Wildlife Management Area is located in the towns of Frankfort and Prospect along the Marsh Creek. The Marsh is 371 acres and consists of tidal wetlands, mudflats and open water. Hunting and bird watching are popular activities. This tidal wetland area provides an important nesting area for migrating waterfowl and is a popular location to view Nelson's Sharp-Tailed Sparrows, shorebirds, wading birds, and raptors. Parking is limited to the

Frankfort portion of the site off US Route 1A and more parking spaces are needed to accommodate current and anticipated future visitors.

**Olaman's Ledge**

Odom's (Olamon's) Ledge is located in the upper Penobscot Bay just off Sandy Point State Park. Odom's Ledge is a locally known locale for watching seals hauled out onto the rocks. Vessels can safely view the seals as navigation channels pass on both sides of the ledge.

*Verona Island*

Verona Island has limited public facilities. Maine IF&W operates a public boat ramp, described later. There are many marine-based natural resources. These include shorebird nesting and wading areas and active bald eagle nests. The Verona Island channel of the Penobscot River and the Orland River are major fish runs for species such as salmon, alewives, smelts, stripped bass and eels. Other marine activities include commercial and recreational lobster operations, shellfish harvesting and worm digging.

**Porcupine Island**

This ten-acre island in the Penobscot River is located approximately one mile downstream from the Verona Island boat ramp. It is owned by the town of Verona Island and is restricted to outdoor uses. No permanent structures are permitted. The island offers opportunities for hiking and exploration.

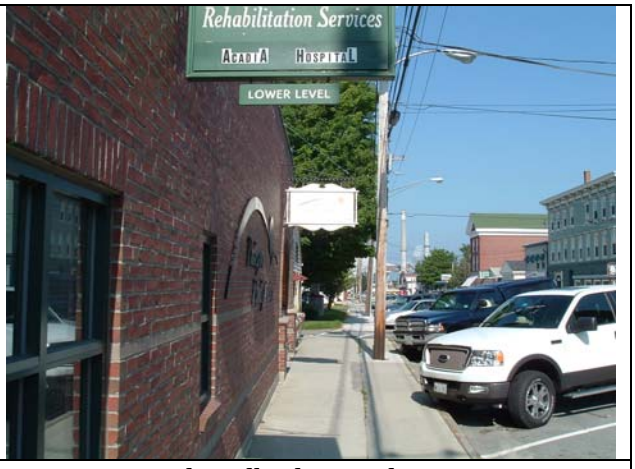
**Center of Verona Island**

There is a 400-acre area in the center of the island that is protected by a conservation easement. While it helps protect the island's aquifer recharge are, it also provides opportunities for non-motorized recreational uses such as hiking, camping and wildlife observation. Hunting is also allowed on the site. Except for one unimproved road into the area, there are no facilities or signage.

*Bucksport*

As the service Center for the Penobscot Narrows, Bucksport hosts a wide variety of businesses, public services and attractions. In addition to the historic Main Street, the operating paper mill and restored waterfront, Bucksport has a large number of natural resources attractions.

**Main Street**

| | |
|---|---|
| |  |
| Alamo Theater and Film Archive | Downtown sidewalk, diagonal on-street parking |

The town of Bucksport has been gradually revitalizing its Main Street area. It is a pedestrian friendly area that has ample parking. The tree-lined streets feature stately Victorian homes. The historic area is a throwback to another era but with all the 21st century conveniences. There are five buildings on Main Street that are on the National Register of Historic Places. These include the Buck Memorial Library, the Railroad Station and the Jed Prouty Tavern and Inn as well as two private dwellings. According to the Maine Historic Preservation Commission there are other buildings of high historic value that could be eligible for listing on the National Register.

| | |
|---|---|
| | |
| Robinson Hotel, Circ 1900 | Recently renovated, but currently vacant |

Apart from stores serving the everyday needs of residents, the Main Street attracts people from outside the area due to its restaurants, a bookstore and the Alamo Theater. The latter is a renovated a 150-seat movie theater that specializes in classic and foreign films that are generally not available in larger cinema complexes. The Alamo also serves as an archive for historic films. A few blocks from the downtown is a 600-seat cultural arts facility at the middle school.

**Bucksport Waterfront**

| | |
|---|---|
| | |
| River walk, looking east | Busy River Walk, looking west |

The town has also been active in revitalizing its waterfront. While located within ten minutes of the open ocean, it is well protected from the weather. The Port Harbor Bucksport Marina is a full-service facility with seasonal and transient slips. There is also a town-owned dock that provides short-term docking as well as water facilities, restrooms and telephone service. There are ample mooring sites at below-area prices (approximately $40 per season in 2005). The facility is complemented by a mile-long waterfront walkway with a gazebo and professional landscaping. The visiting boater is assured the full range of commercial services in the Main Street area.

Bucksport sponsors a river festival each year in late July. This festival features waterfront activities for all ages, a parade, a five kilometer road race, canoe/kayak races and arts and crafts shows. Some years U.S. Navy vessels visit the port and offer on-ship tours.

**Silver Lake Property**

This facility, owned by the town of Bucksport, consists of ten acres of field and 54 acres of wooded area. The property also includes about 2,400 feet of frontage on Silver Lake. The town aims to develop the site as a nature and wildlife preserve. Plans include a canoe and kayak landing, three miles of walking trails and six camping areas. Also planned is a species forest and fruit-bearing orchard.

*Orland*

Orland has to principle activity centers for visitors. The village center has a number of historic buildings along the Narramissic River. 1.5 miles east of the center are a number of outdoor recreation and natural resource education opportunities.

**Orland Town Park**

**Orland Festival Raft Race, Orland**

## Village Center

While the Bucksport Main Street area captures the historic feel of a Maine downtown, the typical small Maine village can be found just minutes away in Orland. The Orland village, located along the Narrasmissic River, features one of the most-photographed churches in Eastern Maine. It also has many historic homes and is largely unspoiled. The local historical society is exploring options to have the village designated as a National Register Historic District. Orland sponsors Orland River Day each July. Events normally include a river race, a parade and various booths sponsored by local organizations.

## Toddy Pond

The Toddy Pond/Craig Brook Hatchery/Great Pond Mountain recreational area is located 1.5 miles beyond the Orland village center. The primary public access to Toddy Pond in Orland Pond is managed by the Department of Conservation. The site has recently been renovated with a new privy, improved parking area and boat ramp. Toddy Pond is a popular site for day visitors with motor boats.

## Craig Brook Fish Hatchery

The Craig Brook Fish Hatchery is the oldest salmon hatchery in the country. It is a 136-acre federally owned facility on Alamoosook Lake. It features a boat ramp, swimming area and a network of walking trails. The lake watershed includes the towns of Bucksport, Orland and Penobscot.

For 131 years, a hatchery at Craig Brook has produced fish for anglers. A federal national fish hatchery since 1889, Craig Brook

**Craig Brook Hatchery. 2003. Photo by Pat Higgins**

National Fish Hatchery has returned to hatching Atlantic salmon to replenish seven Maine rivers, a total of more than 2 million young salmon in the past year. Visitors to the hatchery will see exhibits about the environment and the survival of Maine's Atlantic salmon. A stream model with running water features live young salmon. The hatchery greets local visitors, including schoolchildren, and both nationwide and international visitors.

**Great Pond Mountain Recreation and Conservation Area**

As of 2005, the Great Pond Conservation Trust acquired a 4,200-acre parcel in Orland, which is known as the Great Pond Mountains Wildlands. This conservation area is in two pieces – the Dead River piece and the Hothole Valley piece. There are fourteen miles of dirt roads on the land. It is open to foot traffic, bicycles, horses and snowmobiles. ATV's are prohibited at this time and the land is gated to vehicular traffic. Hunting regulations are currently being drafted.

There is an outhouse on the Hothole Valley piece. The Dead River and Hothole parcels are both accessible by boat. The former is reached via the boat launch at the Craig Brook fish hatchery and the latter via a put-in at the Bald Mountain Road bridge over Moosehead Stream.

The area is rich in natural features. As a contiguous, undeveloped area, it is an important wildlife habitat. For example, the Maine Department of Inland Fisheries and Wildlife has rated Hothole Pond as a "high" value fishery habitat. There is also an historic bald eagle nesting site on Great Pond Mountain. Other wildlife found in the area include deer, black bear and moose. There are also small game such as ruffled grouse, pheasant, woodchuck, hare and squirrel. There are beaver and muskrat in the wetlands.

The Great Pond Mountain Conservation Trust Brochure notes the following activities:

- Great Pond Mountain is a relatively easy climb for all ages, providing a panoramic view of the Maine coast from Mt. Desert Island to the Camden Hills and beyond. Many people now enjoy hiking, picnicking, skiing, hunting and snowmobiling on its wild, wooded slopes.

- Craig Pond supplies clean water to Craig Brook National Fish Hatchery, and was chosen Maine's most scenic lake (organized townships) by Maine Critical Areas Program, 1989.

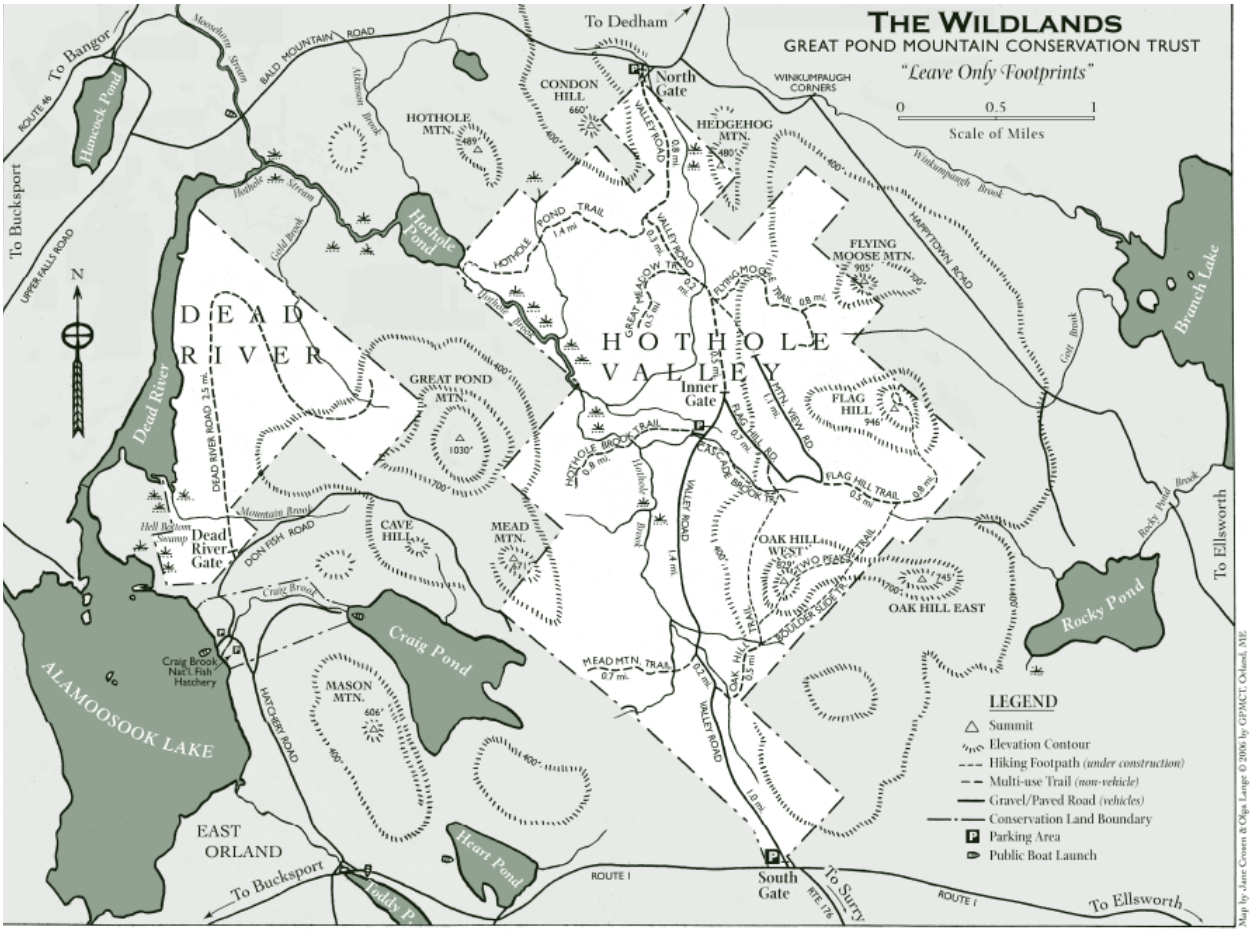
- Alamoosook Lake provides boating, swimming and fishing opportunities for hundreds. It's shores are home to loons, eagles and osprey and host archeological sites dating to the Red Paint People, 4,000 years ago.

- Dead River is a lovely, safe and ideal place for canoeing and fishing.

- Hot hole Pond is wild and undeveloped. Voted one of Maine's top 20 scenic lakes by MCAP, its wetlands teem with wildlife, from osprey to otters.

- Eastern Hills/Bowl Area contains thousands of undeveloped acres of wildlife habitat with

great potential for hiking, hunting, camping and snowmobiling.




Many of the ponds are rich in fishery resources. For example, the Maine Department of Inland Fisheries and Wildlife rates Craig Pond in Orland as an "extremely high" value habitat providing sport fisheries for wild togue and smelt. There are many other ponds with "high" value habitat. Fish in these ponds include smallmouth bass, white perch, pickerel and wild brown trout.

In undeveloped areas, the primary land cover is forest. For example, the Orland comprehensive plan reports at least 84 percent of the town is forested. The other towns have similar percentages. The forests are a mix of temperate deciduous and northern coniferous trees. Broad-leafed deciduous trees such as maple, oak, elm and beach are found together with northern coniferous trees such as spruce, fir, pine and larch. Abandoned fields, forest fires, and timber harvesting have combined with the process of succession to produce forests of mixed age.

There is also some farming activity. In fact, a segment of Route 15 in Orland has been deemed among the most productive farmland in Hancock County. Nearly 90 percent of the farmland is in blueberries.

*Summary*

The Penobscot Narrows area includes a wide range of activities and venues, including a productive paper mill, Maine's most notable revolutionary war fortress, numerous recreational trails areas, historic villages, rivers and riverfront walks, ponds, museums and more. The many attractions of this area remain relatively undiscovered, perhaps due to the proximity of Acadia National Park and other competing coastal towns.

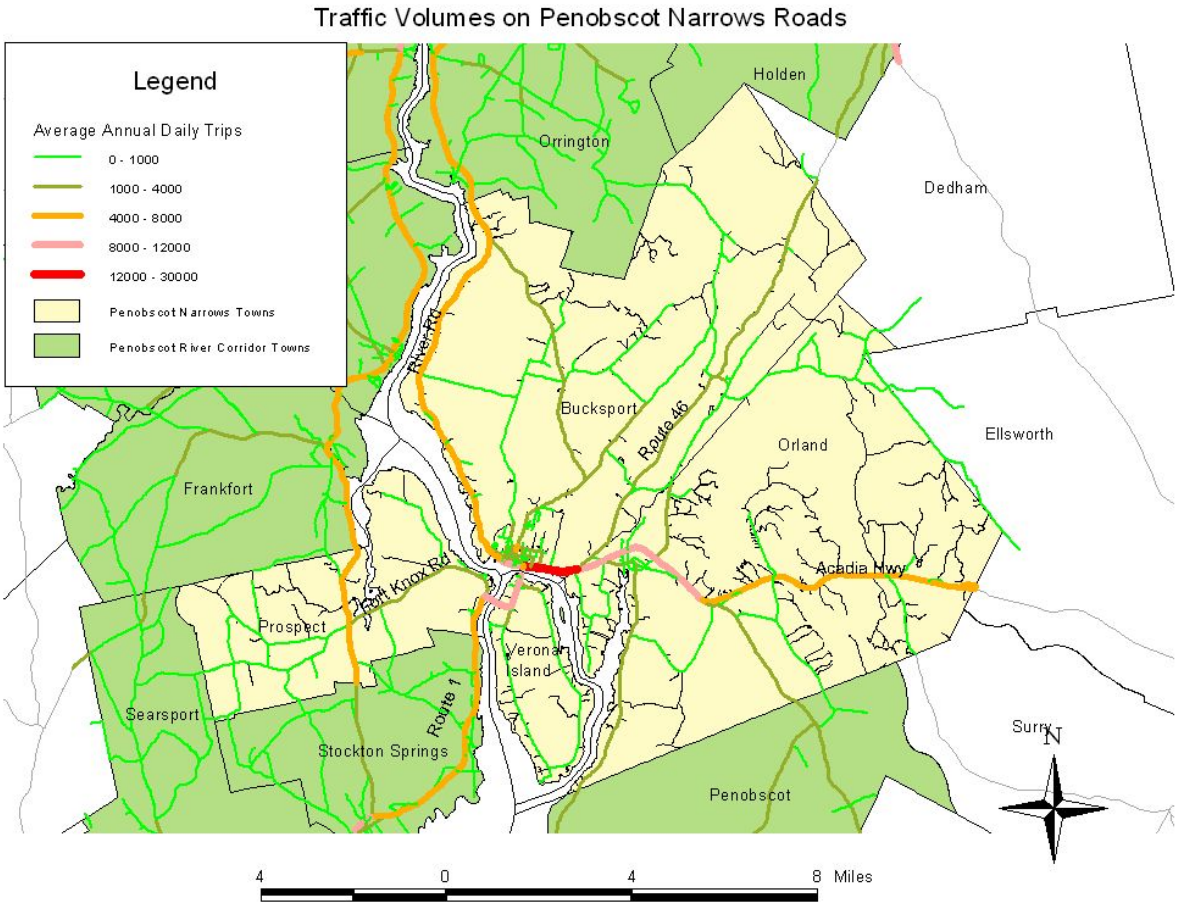
The replacement of the Waldo Hancock suspension bridge with the Penobscot Crossing cable-stay bridge is a catalyst of re-examining the regions assets and how passenger transportation improvements can increase economic activity and provide local residents with new transportation and recreation opportunities. This section has reviewed some of the regional assets and issues. The next section considers transportation demands and existing infrastructure.

# Transportation Demand, Infrastructure and Services

Transportation is a means toward other ends and is seldom itself an end product. Aggregate demand for transportation arises from a mix of users that includes daily commuters, shopping and other discretionary retail trips, through traffic, seasonal tourism and more. This section summarizes some of the traffic patterns with particular reference to passenger transportation. Understanding the baseline and projections for travel demand provide a measure of the feasibility for future transportation investments. Recommendations for future investments will follow in a separate section to this report.

## *Traffic Patterns*

As in many coastal Maine regions, the Penobscot Narrows has a few heavily traveled corridors, with much lighter traffic volumes along rural collector roads and local roads. The following map indicates that heaviest traffic volumes are found along the Route 1 / Route 3, also called the Acadia Highway connecting the midcoast to eastern Maine. Route 1A in Prospect and Route 15 or the River Road in Bucksport are the second tier, with Route 46 to Holden, Route 175 to Castine and Route 15 to Blue Hill carrying slightly lower volumes of traffic.



## *Commuting Patterns*

There is a fairly balanced level of home to work commuting into and out-of of the Penobscot Narrows area. The following table identifies commuting patterns based upon responses about place of work in the 2000 U.S. Census. Following the logic of this table, 907 persons that lived in Bucksport reported working in Bucksport, 103 reported working in Orland, none worked in Prospect. The marginal totals indicate that of the total of 3,842 employed person that reported living in the Penobscot Narrows towns, 2,082 or 54% commuted out of this region to work. Of 3,134 persons that reported working in the region, 1,374 or 44% commuted in. The difference, (2,082 – 1,374) = 708 persons is the excess of commuters out over commuters in. Bucksport is nearly balanced with 1,195 workers entering and 1,208 workers commuting out. Orland, Prospect and Verona Island send more workers out that come in.

| Commuting Patterns | | Residence | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Bucksport | Orland | Prospect | Verona Island | **Total Narrows** | **Other Resid.** | **Total** |
| **Workplace** | Bucksport | *907* | 290 | 69 | 95 | **1,361** | **1,195** | **2,556** |
| | Orland | 103 | *181* | 4 | 4 | **292** | **134** | **426** |
| | Prospect | 0 | 2 | *43* | 7 | **52** | **41** | **93** |
| | Verona Isl'd | 10 | 5 | 1 | *39* | **55** | **4** | **59** |
| | **Total Narrows** | **1,020** | **478** | **117** | **145** | ***1,760*** | **1,374** | **3,134** |
| | Augusta | 13 | 3 | 0 | 0 | **16** | | |
| | Bangor | 419 | 60 | 53 | 21 | **553** | | |
| | Belfast | 46 | 25 | 35 | 9 | **115** | | |
| | Blue Hill | 44 | 41 | 7 | 6 | **98** | | |
| | Brewer | 71 | 24 | 14 | 5 | **114** | | |
| | Castine | 75 | 27 | 3 | 8 | **113** | | |
| | Ellsworth | 140 | 137 | 24 | 12 | **313** | | |
| | Rockland | 14 | 0 | 0 | 4 | **18** | | |
| | Other | 386 | 205 | 84 | 67 | **742** | | |
| | **Total Other** | **1,208** | **522** | **220** | **132** | **2,082** | | |
| | **Total** | **2,228** | **1,000** | **337** | **277** | **3,842** | | |

Source: Census 2000

After accounting for those that live and work in the Narrows region, the most frequent destinations for workers were Bangor-Brewer (667), Ellsworth (313) and Belfast-Rockland (133). Historically the Bucksport Paper Mill, currently owned by International Paper, employed more workers and made Penobscot Narrows area a net-importer of labor. Relatively stable housing prices may make this area attractive to households whose workers are employed in

towns where housing is more expensive. The Narrows' role as a net exporter of labor is likely to grow.

The dispersion of commuters out of the Narrows region poses a challenge for future commuter bus services. Commuters out of the region going north through Brewer and Bangor present the best opportunity for providing transit service, with the highest numbers of commuters and the potential to link a commuter bus with the Bangor Area Transit System (BAT). The numbers commuting east through Ellsworth and South through Belfast are lower, and likely to have dispersed places of work. That said, a more detailed study of home to work commuting might indicate a sufficient number of commuters to specific major employers, particularly MBNA in Belfast and Jackson Lab in Bar Harbor to create a subscription commuter service.

Commuting services into the Penobscot Narrows area would need to focus on employees in the Bucksport paper mill. One quick way to gage the potential for transit service to the mill would be to tabulate employees by shift and zip code of residence. A relatively low cost strategy for reducing vehicle miles driven to the mill would be to host a ride share board and referral service.

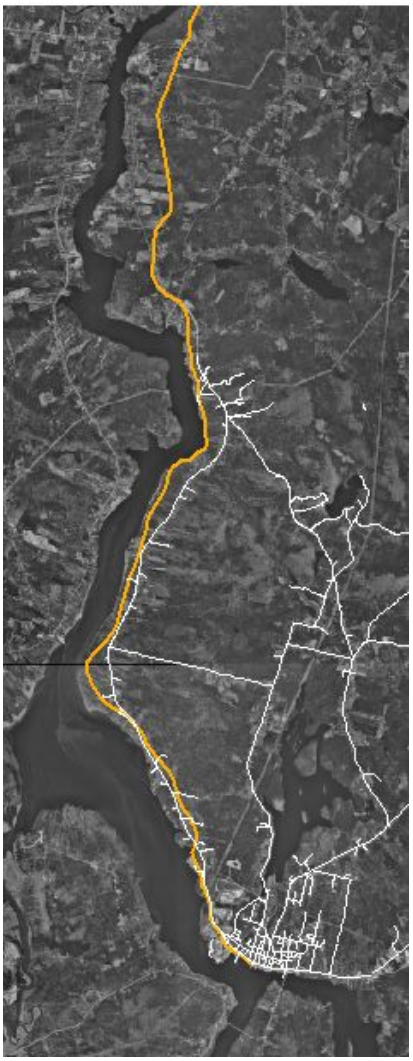
## *Freight*

Freight traffic serving the Penobscot Narrows region moves by road, rail and water. The International Paper Mill in Bucksport is the primary customer for rail freight, receiving clay, chemicals and other materials used in manufacturing and shipping paper products out through Bangor.

The 2002 Comprehensive Plan states, "Bucksport is also an important freight port. The Sprague dock facilities are used for the unloading of petroleum products that serve much of eastern and northern Maine. The Bucksport site complements the site owned by Sprague in Searsport. There is about 700 feet of berthing space and reported depth of 36 feet along the side. This allows it to handle tankers."

Trucks move freight for a wide range of local and non-local customers. The primary corridors for trucking freight are Route 1/Route 3, Route 15, Route 1A on the west side of the Penobscot and Route 46 connecting Bucksport with Holden. The Town of Bucksport has noted the importance of improving Route 46 to modern AASHTO standards so that it can sustain year round truck use.

Brewer-Bucksport Rail Line is the only active rail service in Hancock County. As indicated in the adjacent map, this rail line passes along the bank of the Penobscot River, with



several opportunities. Currently this track is devoted to freight operations, but has could be considered for potential passenger and excursion use in the future if this is found compatible with freight operations

The Bangor – Searsport Rail Line operated west of the Penobscot River, carrying freight to and from the shipping facility in Searsport. This route may also have potential for passenger and excursion use. Market analysis for the potential for excursion rail is merited if compatibility with freight is possible.

### *Tourism*

The State Office of Tourism includes the Bucksport area in the Downeast Acadia region. According to a June 2004 report prepared by the Longwoods International consulting for the Maine Office of Tourism, the entire region accounts for about one-in-ten day trips and one-in-five overnight trips in the state of Maine. The region receives three million day trips a year and about 1.2 overnight trips.

About three-quarters of all overnight trips to the Downeast and Acadia region are tourist-related. Another 24 percent of the trips are for visiting friends and relatives and about one percent are for business. Outdoors and touring are the leading types of marketable trips to the entire region. Outdoor trips are defined as those taken to experience the natural environment and engage in outdoor activities such as camping, hunting, fishing, hiking or rafting. Touring trips are those taken by car, bus or train through areas of scenic beauty, cultural or general interest. In the region, outdoor trips account for about one-third of all day trips and touring accounts for 21 percent. About 30 percent of the trips are for shopping. Overnight trips have a slightly different mix. Fifty percent are for touring and 25 percent are outdoors. Another 14 percent are for cruises and 10 percent for special events.

The Bucksport Bay area is not the primary destination for visitors in the Downeast Acadia region. However, a significant percentage of visitors pass through the area. The volume of tourism generated traffic selecting the coastal route versus the interstate highway route may increase with the completion of the new Augusta bypass and the completion of the Penobscot Narrows Bridge. Long term travel patterns will also be influenced by relative levels of congestion on Route 3 and Route 1 on the coastal route and Route 1A between Bangor and Ellsworth on the interstate route. Both of these corridors are at significant risk of declining levels of service as roadside retail activity increases.

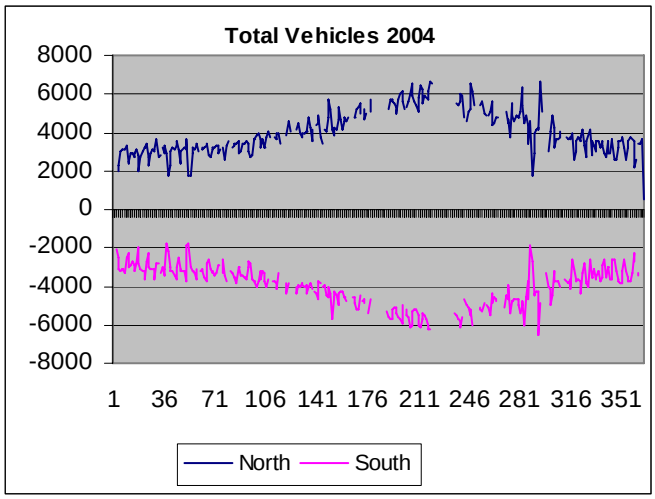
## Travel Demand

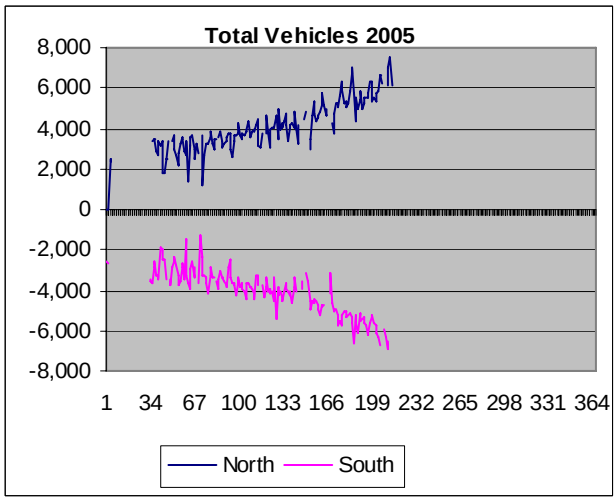
Data supplied by the Maine Department of Transportation provide us with some insight into the volume and pattern of traffic traversing the Penobscot Narrows region. The data for traffic patterns is based upon:

- permanent counters, located some distance away
- temporary counters, employed periodically to measure specific locations
- a “weigh-in-motion” counter that was placed on the existing Waldo-Hancock bridge to monitor usage following temporary closure of the bridge to heavy vehicular traffic.

Weight in motion Route 1/3 come from the weigh in motion counters installed in 2004. The combination of weight and movement sensors enables the counters to estimate the number of trips by vehicle class.

Overall, traffic patterns across the Waldo-Hancock bridge follow the strong seasonal pattern that dominates the Maine coast.

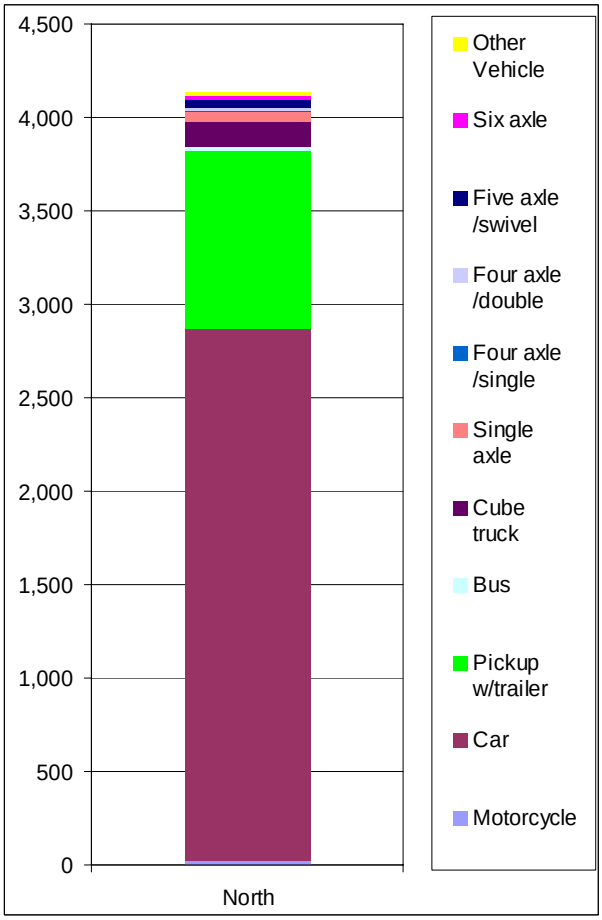


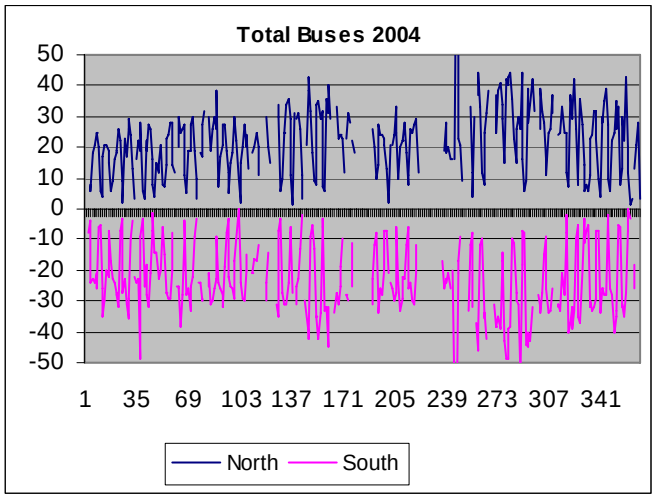



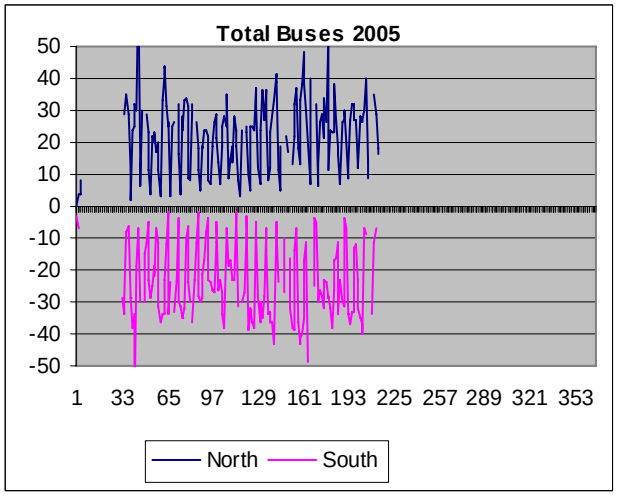

Waldo – Hancock Bridge Total Traffic Counts indicate that volumes increase steadily from January 1 to mid-summer, thereafter declining back to lowest levels in January. Data for 2005 are incomplete due to traffic counter malfunctions.

The overall volume of traffic over the bridge is heavily weighted to cars and pickup trucks.

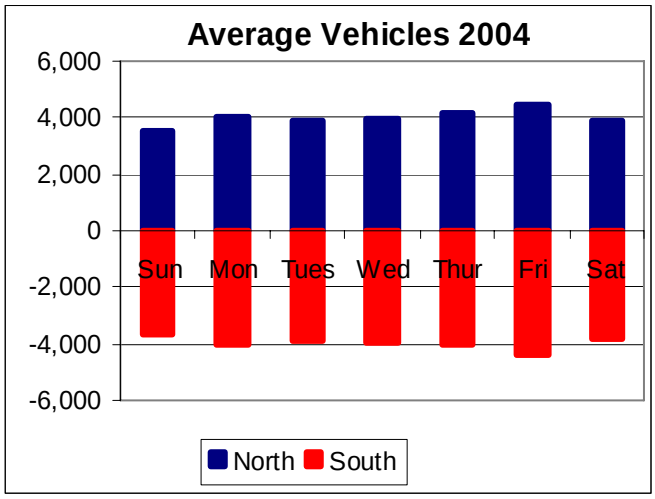
| | AVERAGE | PERCENT |
|---|---|---|
| Motorcycle | 21 | 0.5% |
| Car | 2843 | 68.8% |
| Pickup /trailer | 955 | 23.1% |
| Bus | 23 | 0.5% |
| Cube truck | 136 | 3.3% |
| Single axle | 50 | 1.2% |
| Four axle /single | 13 | 0.3% |
| Four axle /double | 13 | 0.3% |
| Five axle /swivel | 42 | 1.0% |
| Six axle | 18 | 0.4% |



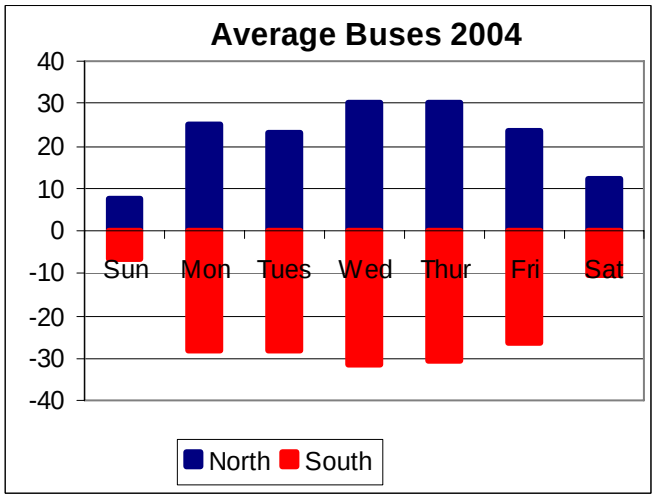




Waldo – Hancock Bridge Total Bus Counts – indicate less seasonal fluctuation, but much greater daily fluctuation that can mask other trends.




Daily fluctuations for total vehicular traffic are relatively minor.




Bus volumes increase significantly on weekdays, suggesting that school buses are a primary driver of these counts.

## *Bicycle and Pedestrian Access*

There are no counts of bicycle usage through the Penobscot Narrows. Anecdotal accounts suggest that local cyclists and bicycle tourists are on the rise. The study area has several important cultural and natural features that attract riders and one big obstacle, the existing Waldo-Hancock Bridge, that is about to go away. The new bridge will be a dramatic enhancement for bicyclists, with broad paved shoulders, dramatic views.

*East Coast Greenway*

Route 1 passing through the Narrows is part of the *East Coast Greenway*, a bicycle route that connects Key West, Florida to Calais, Maine. As such, the Narrows appears on national trail maps and www.greenway.org. In a nod to Maine's diverse regional interests, the East Coast Greenway actually splits in southern mid-coast with the coastal route following Route 1 and the interior route passing through Lewiston and Bangor before returning to the coast in Ellsworth. Multi-state riders of the East Coast Greenway are relatively few in number, but a plan to convert 87 miles of the Calais Branch rail to a multiuse trail is likely to draw additional riders in the future.

*Bicycle Tourism Promotion*

The Maine Department of Transportation Guide to Cycling in Maine, published in 2004 provides riders with interesting and relatively safe routes throughout Maine. The Maine Department of Transportation and Office of Tourism provide information to visitors and bicycle tour guides promoting car-free tourism. In the Penobscot Narrows are the MaineDOT Guide references the "Tour de Verona," a small recreational excursion around Verona Island's loop road. This side trip to the East Coast Greenway may also gain popularity as cyclists move easily between Fort Knox, downtown Bucksport and the Toddy Pond/Craig Brook Hatchery areas.

Bicycle tours will continue to hug the coast between Bucksport and Blue Hill, though in many cases road conditions are challenging.

Bucksport has invested significant local funds to enhance use of bicycles and other non-motorized transportation, particularly serving the local schools and recreational amenities. These investments include construction of multi-use trails and bicycle racks. Bucksport has a network of local roads that are bicycle friendly. Bicycle use in Prospect, Verona Island and Orland primarily occurs on rural highways. The highway shoulder map indicates where paved shoulders facilitate safe

One obstacle to the safe accommodation of bicycle traffic on Route 1 on Verona Island is the storm water drainage grates. Some of the grates are several inches below the level of the pavement (due to repeated resurfacing) and thus lead to a very uneven surface at the shoulder.

The area also has pedestrian opportunities. In addition to sidewalks in the downtown area, Bucksport has a one-mile long walkway along the waterfront and a three-mile walking and jogging trail at the new middle school and Miles Lane property. According to the comprehensive plan, the town has received requests from residents for paved shoulders to accommodate joggers and walkers on portions of the Silver Lake Road.

In Orland there has been a proposal for a pedestrian walkway between Orland village and Bucksport. There are presently no sidewalks on Verona Island. The new bridge will include a pedestrian walkway, which will likely increase the volume of pedestrian traffic. Verona Island may want take steps to have sidewalks built along Route 1.

## *Water-based Transportation and Recreation*

Bucksport boasts a marina that serves recreational and commercial users. Local users maintain moorings in the river while visitors are permitted to tie up to the floats for limited time while visiting restaurants and other nearby businesses. There are additional significant marine facilities to the north in Brewer and Bangor and to the south in Castine. South of the Penobscot Narrows, the river opens into Penobscot Bay and the Gulf of Maine. Additional smaller access points to the Penobscot River include a boat ramp facility operated by Maine Department of Conservation on Verona Island, a boat ramp on Marsh Bay in Frankfort, a pier facility at Fort Point in Stockton Springs and a boat launch on the Narramissic River in Orland.

Bucksport has developed the most comprehensive marine facility in the region.

- Port Harbor's Bucksport Marina, a full service marina with seasonal and transient slips.
- Town owned dock providing short-term docking and water facilities, restrooms, and telephones.
- Mile-long waterfront walkway with gazebo and professional landscaping.
- Public boat ramp with access to Penobscot River on Verona Island.
- Ample mooring sites available at below-area prices (approximately $40 per season).

(source: www.cruisemaineusa.com/Port-Bucksport.asp)

The boat launch on Verona Island has recently been renovated. This facility includes a boat preparation area, an all tides ramp, a boat tie down area and amply parking. The walking distance from this ramp to businesses on Verona Island is under 1 mile. Even so, the 2006 Verona Island Comprehensive Plan notes, "The boat ramp area does not allow for convenient loading or unloading of boats since there is no dock to temporarily tie up to while an unloaded vehicle is being parked. Other inadequacies of the boat launch area include lack of fuel facilities, lack of protection against strong tides and lack of a sewage pump-out facility."

Boat Launch Preparation Area

Verona Island Boat Ramp

The Maine Department of Conservation maintains a boat ramp at the northeast end of Verona Island. This facility is used by area residents and visitors. The town of Bucksport has taken an active role in seeking funds to improve the facility. It is the only public access to the Penobscot River in the immediate Bucksport-Verona Island vicinity. It consists of about three acres and is owned by the state of Maine.

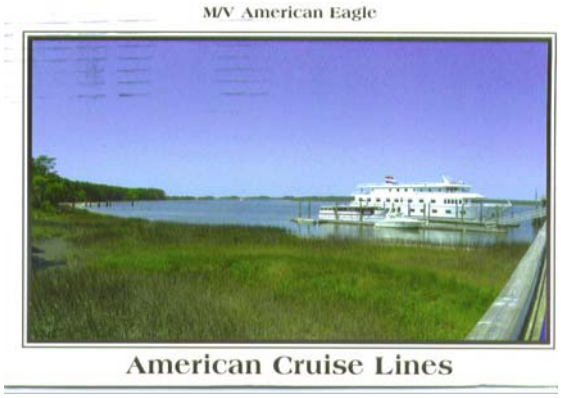
The ramp area has several deficiencies that need to be addressed. These include better arrangements of floats, the lack of moorings near the facility and no availability of fuel and fresh water. The parking area also needs to be expanded. It presently can accommodate approximately 20 vehicles with trailers. The site has the strong ebb and tidal currents that make boat launching and retrieval difficult.

American Cruise Lines operated a summer 49-passenger cruise ship on the Penobscot River originating in Bangor with stops at Bucksport, Castine, Belfast, Camden, Rockport and Bar Harbor. Bookings were sufficient in 2004 and 2005 that a second ship has been added for 2006. The company provides 15-passenger van service for cruise ship passengers between the pier in Bucksport to Fort Knox.

There are also several smaller boat operators that provide day fishing or excursions trips out of Bucksport. There has been discussion of a seasonal boat service connecting the Bucksport harbor to Fort Knox.

Bucksport Waterfront Public Pier

Bucksport Waterfront – Boat Moorings




2006 Cruise Ship Schedule
Bucksport
Contact Person: Dave Milan
(207) 469-7368
davemilan@bucksport.biz

| *Date* | *Cruise Line* | *Arrive* | *Depart* |
|---|---|---|---|
| 05/30 | Clipper Cruise Line | 12:30 PM | 4 PM |
| 06/01 | Clipper Cruise Line | 08:30 AM | 12:30 PM |
| 06/13 | Clipper Cruise Line | 12:30 PM | 4 PM |
| 07/02 | American Cruise Line | 3PM | 07/3 6AM |
| 07/08 | American Cruise Line | 3PM | 07/9 6AM |
| 07/15 | American Cruise Line | 3PM | 07/16 6AM |
| 07/22 | American Cruise Line | 3PM | 07/23 6AM |
| 07/29 | American Cruise Line | 3PM | 07/30 6AM |
| 08/05 | American Cruise Line | 3PM | 08/06 6AM |
| 08/12 | American Cruise Line | 3PM | 08/13 6AM |
| 08/19 | American Cruise Line | 3PM | 08/20 6AM |
| 08/26 | American Cruise Line | 3PM | 08/27 6AM |
| 09/02 | American Cruise Line | 3PM | 09/03 6AM |
| 10/09 | Clipper Cruise Line | 12:30 PM | 4 PM |
| 10/11 | Clipper Cruise Line | 08:30 AM | 12:30 PM |

Several local lakes and ponds have boat launch facilities, including Silver Lake, Alamoosooc Lake, Craig Pond, Toddy Pond, Long Pond and Jacob Buck Pond. The Narramissic River can be traveled by canoe or kayak up to Alamoosook Lake and on to several other ponds.

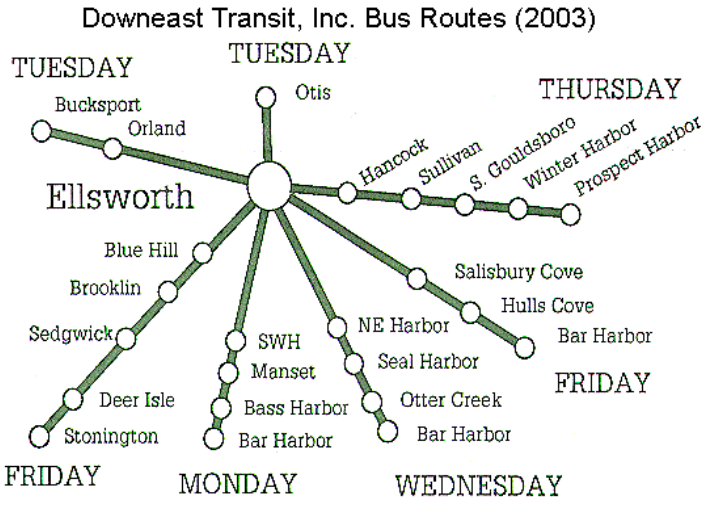
## *Transit Services*

Transit services in the Penobscot Narrows area are continually evolving to meet market conditions. These services include on-demand transportation, local fix route service, regional buses and intercity buses. Western Hancock County is served primarily by three transit providers. These are Downeast Transportation, Inc. (DTI), Washington-Hancock Community Agency (WHCA) and Eastern Agency on Aging (EAA).

DTI provides weekly service from Bucksport to Ellsworth. It is scheduled to allow time for shopping and other errands. The service is open to all income levels. The majority of riders

are senior citizens but there are no restrictions on who may ride the bus. Ridership on the Bucksport-Ellsworth route averages five to six passengers per trip.

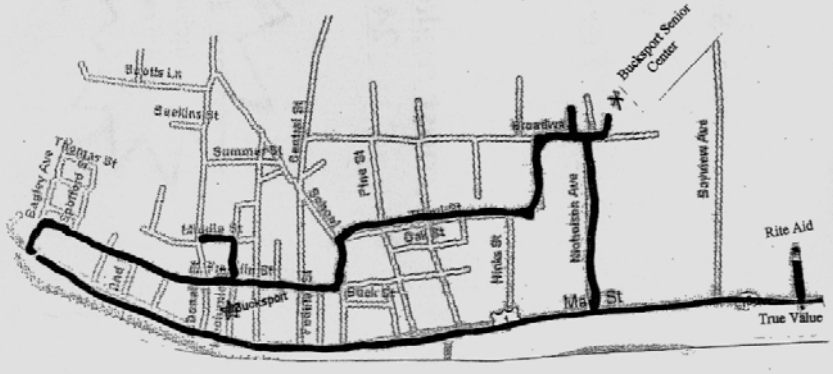
DTI also runs local shuttle bus route that serves downtown Bucksport one day per week. This service connects various senior citizen and residential housing areas with the retail, social and medical services. It also delivers passengers to and from the senior citizen lunch program. Total ridership for all 2005 was 1,610 passengers. Monthly ridership varied from a high of 172 in August to a low of 91 in December. The bus schedule is included below. The service runs Wednesdays from 9:30 AM to 2:25 PM. The route takes about one-half hour to complete with a round-trip fare of one dollar. This service is complemented by a subsidized taxi service, which is included in the same fare. There were a total of 34 taxi transfers during 2005. While the service is fixed route, the operators will make non-scheduled stops up to one-half mile from the route on rider request.




# Wednesday Shuttle Bus Schedule

| Bucksport Square | Bucksport Regional Health Ctr. | Wenbelle Apartment Complex | Public Safety | Bucksport Apartment Complex | Credit Union | Bucksport Family Medicine | Shop 'n Save | Rite Aid | Bucksport Square |
|---|---|---|---|---|---|---|---|---|---|
| 9:30 a | 9:31 a | 9:32 a | 9:33 a | 9:36 a | 9:38 a | 9:41 a | 9:45 a | 9:50 a | 9:55 a |
| 10:00 a | 10:01 a | 10:02 a | 10:03 a | 10:06 a | 10:08 a | 10:11 a | 10:15 a | 10:20 a | 10:25 a |
| 10:30 a | 10:31 a | 10:32 a | 10:33 a | 10:36 a | 10:38 a | 10:41 a | 10:45 a | 10:50 a | 10:55 a |
| 11:00 a | 11:01 a | 11:02 a | 11:03 a | 11:06 a | 11:08 a | 11:11 a | 11:15 a | 11:20 a | 11:25 a |
| 11:30 a | 11:31 a | 11:32 a | 11:33 a | 11:36 a | 11:38 a | 11:41 a | 11:45 a | 11:50 a | 11:55 a |
| **12:30 p** | **12:31 p** | **12:32 p** | **12:33 p** | **12:36 p** | **12:38 p** | **12:41 p** | **12:45 p** | **12:50 p** | **12:55 p** |
| **1:00 p** | **1:01 p** | **1:02 p** | **1:03 p** | **1:06 p** | **1:08 p** | **1:11 p** | **1:15 p** | **1:20 p** | **1:25 p** |
| **1:30 p** | **1:31 p** | **1:32 p** | **1:33 p** | **1:36 p** | **1:38 p** | **1:41 p** | **1:45 p** | **1:50 p** | **1:55 p** |
| **2:00 p** | **2:01 p** | **2:02 p** | **2:03 p** | **2:06 p** | **2:08 p** | **2:11 p** | **2:15 p** | **2:20 p** | **2:25 p** |

**Bus Route**




**Fare: $1.00**

**The Bus will stop anywhere along the route as long as it is safe to board and discharge passengers.**

**To board the bus, signal the bus driver to stop by waving.**

**Let the bus driver know where you need to stop along the route.**

**For more information call 469-7951.**

WHCA provides transit services to low income clients, primarily with rides to medical appointments. A large portion of its funding comes from the Medicaid program. WHCA also provides or arranges transportation for the Department of Human Services, the Eastern Agency on Aging and the Bureau of Mental Retardation. WHCA dispatchers arrange door-to-door services on-demand. Passengers are asked to notify the dispatch office at least two days before the anticipated trip. The agency operates two vans in the Bucksport area, a seven-passenger van and a fifteen-passenger lift-equipped bus. WHCA also uses volunteer drivers to meet some transportation needs.

WHCA also operates a service from surrounding towns to Bucksport for mid-day senior citizen meals. It will take non-Medicaid clients on trips to Bangor on a "space available" basis. Clients are accommodated on a fee basis if a Medicaid patient has already reserved a ride for that day. On-demand door-to-door transportation for other trips is available on a fee basis for those who do not qualify for agency programs.

The Eastern Agency on Aging arranges rides at no charge for eligible residents to medical appointments, grocery shopping and other essential services. Riders must meet income guidelines to qualify for this service. Drivers are volunteers using their own vehicles. According to a 2002 study by Tom Crikelair Associates, use of this service has been very limited.

For historic and geographic reasons Prospect is divided with respect to most transportation services, but particularly for bus services. Most of Prospect is built along the Route 1A corridor between Bangor and Belfast. Transit services have been oriented north-south and provided by the Waldo County Committee for Social Action (WCCSA) (P.O. Box 130, Belfast, Maine 04915 (207) 338-4769). WCCSA is a private, non-profit corporation that provides public transportation on demand in Waldo County. Services are oriented to Belfast, with regular trips to Bangor, Rockland, Augusta, and Waterville. The eastern portion of Prospect, including Fort Knox, is geographically aligned with Route 1, but currently has no fixed route bus service.

Intercity bus service changes between peak summer season and the off season. Currently the only private intercity bus service to pass through the Penobscot Narrows towns is Concord Trailways Coastal Route that follows Route 1A from Bangor to Belfast. There is no scheduled stop in Prospect. Passengers are advised to go north to Bangor or south to Searsport unless they can arrange for a special stop in Prospect.

## *Summary*

This section has described the passenger transportation infrastructure and services in the Penobscot Narrows area. While the private automobile carries the vast majority of travelers, a thin web of alternatives has evolved to meet market conditions. Completion of the Penobscot Narrows Bridge and Observatory opens new opportunities and needs for transportation alternatives. An immediate impact will be closing the last section of Route 1 in this region that was without shoulders. Bicyclists and pedestrians will have safe access to the region for the first

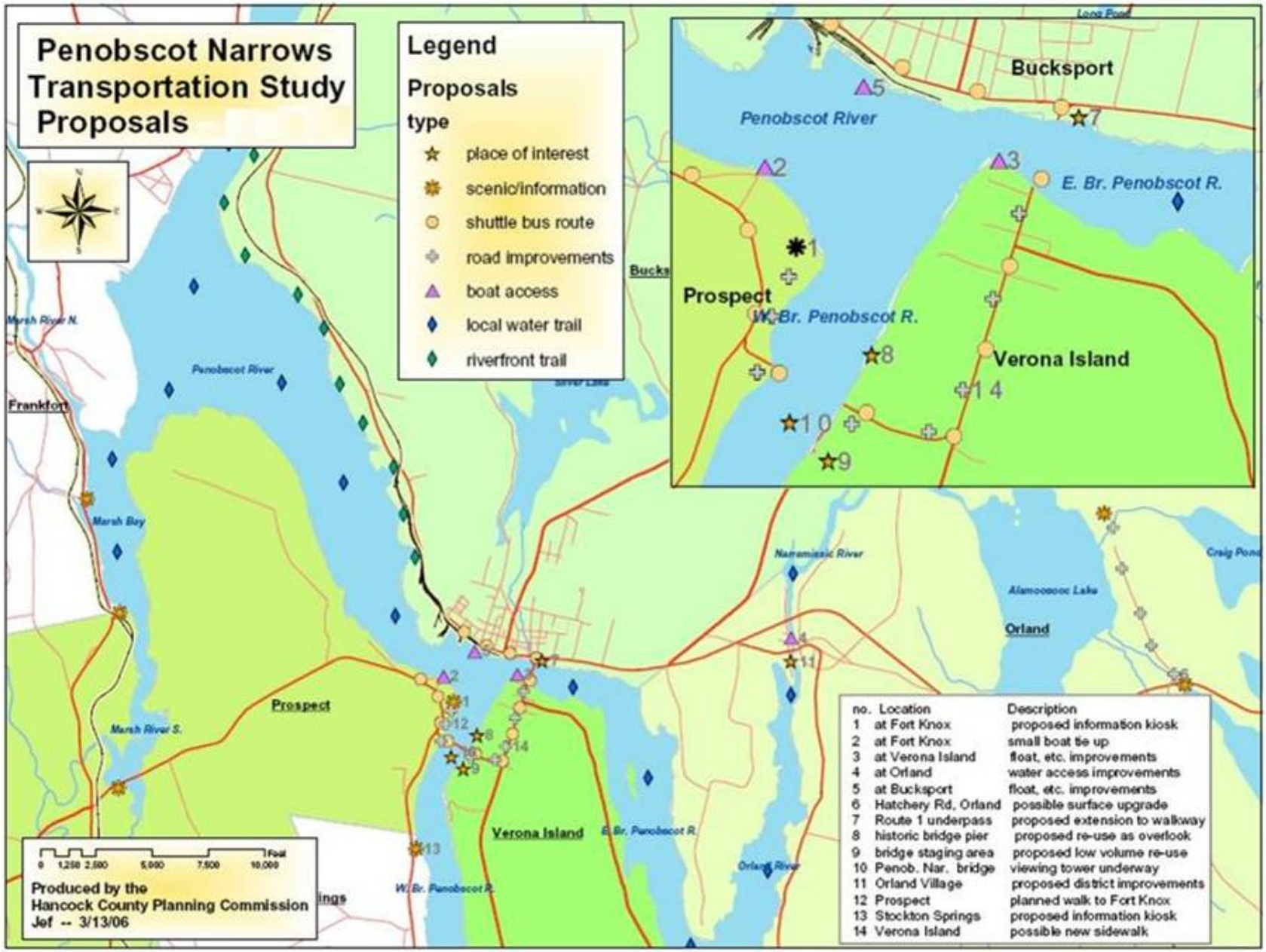
time. Water transportation may also find new opportunities with anticipated increases in tourists visiting Route Knox, the observatory, Bucksport and surrounding towns. Transit services are in transition, with the current regional routes carrying insufficient numbers of passengers, while local shuttles and commuter subscription services show promise for expansion.

# Strategic Transportation Alternatives

## *Introduction*

This section presents a series of opportunities for enhancing passenger transportation in the Penobscot Narrows area. The size, scope and cost of the alternatives vary considerably. For instance, there are a number of opportunities to provide visitors with timely information that are relatively inexpensive to implement. Other recommendations speak to relatively costly infrastructure needs. The potential sources of funding for these initiatives also vary and decisions whether and when to pursue projects need not be sequential.

This section begins with a map that summarizes many of the proposals that follow. These proposals are organized by mode of transportation, including pedestrian, bicycle and trail, water-based transportation, intra and inter-area buses, rail and visitor information. The section concludes with a summary table listing projects, resources needed and stakeholders that would be responsible for implementation.


Penobscot Narrows
Transportation Study
Proposals
Legend
Proposals
type
place of interest
scenic/information
shuttle bus route
road improvements
boat access
local water trail
riverfront trail
Bucksport
Penobscot River
E. Br. Penobscot R.
Prospect
W. Br. Penobscot R.
Verona Island
Frankfort
Marsh River N.
Marsh River S.
Marsh Bay
Orland
Alamoosook Lake
Narramissic River
Produced by the
Hancock County Planning Commission
Jef -- 3/13/06
no. Location Description
1 at Fort Knox proposed information kiosk
2 at Fort Knox small boat tie up
3 at Verona Island float, etc. improvements
4 at Orland water access improvements
5 at Bucksport float, etc. improvements
6 Hatchery Rd, Orland possible surface upgrade
7 Route 1 underpass proposed extension to walkway
8 historic bridge pier proposed re-use as overlook
9 bridge staging area proposed low volume re-use
10 Penob. Nar. bridge viewing tower underway
11 Orland Village proposed district improvements
12 Prospect planned walk to Fort Knox
13 Stockton Springs proposed information kiosk
14 Verona Island possible new sidewalk

## *Improve Pedestrian Access and Safety*

*Prospect*

Town of Prospect is largely rural. In most parts of the town pedestrian travel is limited to local walks by residents. Dispersed housing, extremely limited retail activity and generally low traffic volumes do not currently justify construction of additional pedestrian ways, particularly given the town's limited financial resources for maintenance.

The one exception to this recommendation is the Fort Knox area. The Pedestrian and bicycle access connecting Fort Knox to new bridge is recommended. Pedestrian movement between the Fort Knox parking area and the bridge is expected to be significant and merit paths or sidewalks.

The steep slope separating the river front access to the observation tower and the pedestrian way, currently planned to be the shoulder of the Penobscot Narrows Bridge, will require separate pedestrian routes that connect at the Fort Knox visitor entrance.

For visitors walking from Bucksport and Verona Island to the observation tower, this loop through the visitor entrance adds approximately 4,000 feet or 4/5$^{th}$ of a mile. Ticket sales and visitor orientation will occur at the entrance. Fencing or other barriers may be required to discourage pedestrians from climbing up and down the bank next to the bridge.

Preliminary Walkway Plan

Construction of steps or a switch-back ramp connecting the bridge deck with the tower entrance is an alternative, though several additional issues are raised, including meeting the goals

of the Americans with Disabilities Act (ADA) and need to provide information and ticket sales at a second location.

*Penobscot Narrows Bridge Pedestrian Way*

The current Waldo-Hancock Bridge provides no safe pedestrian space. Pedestrian access over the bridge will be a dramatic improvement over existing conditions. Four alternatives have been considered for pedestrian crossing. They are listed in descending order of cost.

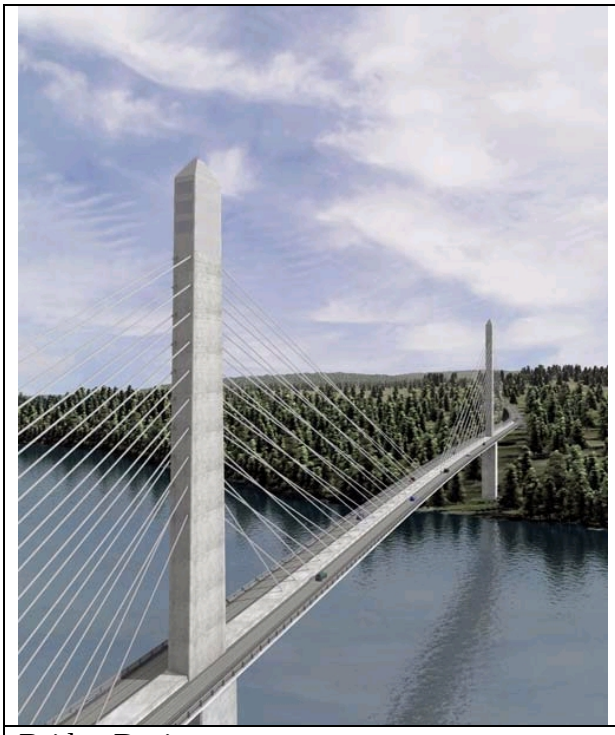
1. Sidewalk built on one side of the bridge
2. Sidewalk built under the bridge (see illustration)
3. Pedestrian use of the paved shoulders of the bridge
4. No provision for pedestrians (no shoulders)

Most planning has concentrated on the 2nd and 3rd options. At this time funds have not been secured to build the lower-deck sidewalk. Bridge construction includes connecting points that will enable future construction of this sidewalk if funds are secured. The new bridge will have wide, paved shoulders however that will accommodate pedestrians willing to walk between the bridge railing and traffic.

Reliance on road shoulders for pedestrians may discourage walking. Perceptions of risk, wind and noise detract from the benefits of walking, taking in the panoramic view and visiting this region without a car.

The proposed under-slung sidewalk would be an attractive alternative for pedestrians if well maintained. The ambient level of noise, wind and exposure to traffic would be more conducive to walking. However, concerns were expressed in public meetings about the potential for misuse including graffiti, vandalism, pedestrian safety, late-night use and other criminal behavior.

The lack of a direct pedestrian way between the tower elevator entrance and the pedestrian way across the bridge will be a barrier for some walkers to make all of the connections between Bucksport, Verona Island, Fort Knox and the observation tower on foot. The Department of Conservation and Maine Department of Transportation should monitor visitor feedback on this point as well as noting evidence of social trails that may result from people seeking a shorter route. The option of creating a ramp or stairway connecting these pedestrian facilities should be reconsidered if clear evidence arises that the current design is not meeting pedestrian needs.

| | |
|---|---|
|  | |
| Bridge Design | The Bridge Tower Elevator Will Not Have Ready Access to the Sidewalk |

Current funding is not sufficient to construct the dedicated sidewalk under the bridge. The contractors are placing connection points now that will facilitate adding this feature in the future if funds are identified.

| | |
|---|---|
| | |
| Sidewalk Under the Bridge - Deferred | Sidewalk Under the Bridge - Deferred |

*Verona Island Pedestrian Alternatives*

Three alternatives were considered in addressing pedestrian connections through Verona Island.

1. Do nothing
2. Construct a sidewalk along Route 1
3. Construct a trail along the river bank

The map below illustrates alternatives 2 and 3.

Option 1: Do Nothing

This option leaves conditions as they stand. The photographs below illustrate the prevailing conditions along Route 1 in Verona Island. The southern end has a broad paved shoulder and an equally broad grass strip. Pedestrians have the choice of walking in the paved shoulder or grass when snow levels are moderate. The shoulder is used by cars as a passing lane when cars in front are turning left. The grassy strip is walkable for able-bodied pedestrians. The northern portion of the road has paved shoulders, but the grassy strip is interrupted frequently by commercial entrances and residential driveways, trees and utility poles. Walking through this section is less safe, with more turning movements, greater dependence on walking in the paved shoulder and more visual distractions.

| | |
|---|---|
| | |
| The southern end of Route 1 has wide, paved shoulders and a grassy strip for walking. | The Northern End of Route 1has adequate shoulders, but limited space for walking. |

Alternative Pedestrian Routes Through Trenton are a Sidewalk next to Route 1 and a Shore Walk

Option Two: Sidewalk

This option provides a bituminous asphalt sidewalk constructed in the grassy shoulder on the west side of Route 1 beginning at the new bridge and continuing to the Bucksport-Verona Island Bridge. The sidewalk would be designed and constructed in the course of building the new bridge. Some or all construction and maintenance costs for sidewalks are generally the responsibility of local governments. In this instance, the state was willing to consider taking a major role in constructing this sidewalk in order to coordinate construction with the proposed under-hung sidewalk on the new bridge. The southern end of the corridor would be a relatively easy project given adequate space and few entrances or driveways. The southern end would be more challenging, though MaineDOT staff determined that the project was feasible with no loss of trees. Since the inception of this study, MaineDOT has adopted a more aggressive policy for sidewalk construction. This policy reduces or eliminates the local share in paying for sidewalk construction along some highways where there is a heightened State interest in promoting mobility with safety. The Verona section is likely to qualify under these new criteria.

Option Three: River Front Trail

One and one-quarter miles of shoreline connect Verona's two bridges. The immediate shoreline is flat, with steep slopes leading up approximately 80 feet to the developed properties along Route 1. Tides and currents are strong through this section and completely submerge some portions of the shoreline on a frequent basis.

As indicated in photographs below the obstacles to constructing a river-front trail are nearly insurmountable. The strong currents running through this portion of the Penobscot River have sculpted steep bluffs from Verona Island. These bluffs are unstable, with significant erosion and landslides. The elevation difference between a conceptual river front walk and the highway is modest on the north end but grows to more than 100' close to the Penobscot Narrows Bridge on the south end. Walkers would need to climb a substantial hill to reach the bridge, as indicated in the picture below. Construction of an ADA compliant trail and ramp to the bridge would be costly and subject to periodic flooding and erosion damage.

In addition to geological constraints, parcel data suggest that there are numerous private property owners that would need to provide permanent easements for construction. Informal interviews with some of the property owners suggest that local concerns about pursuing this concept.

| | |
|---|---|
| | |
| The Verona Island Shore Has Several Sections With Steep Slopes and Landslides | The Shore Walk Concludes with a Steep Climb to the Bridge |

**Recommendations**

Option 2: Construction of a sidewalk along Route 1/3 through Verona Island would be an asset for pedestrians living in Verona Island and Bucksport as well as tourists to the region. This sidewalk would facilitate regular walking, particularly for children and adults pushing their children in strollers. MaineDOT has expressed interest in constructing this sidewalk primarily or entirely with state and federal funds. However, maintenance of the sidewalk would eventually become a town responsibility.

Option 1, not constructing anything, is currently supported by the Verona Island select board. The primary concern expressed by members of the select board is cost of construction and maintenance of a sidewalk. The select board chose not to support a sidewalk even under the conditions that the initial construction would be paid by state and/or federal funds. Other concerns related to the close proximity of the proposed sidewalk to trees, utility poles and homes on the north end of Route 1, and to the perceived change in village character that would result from having a sidewalk. The select board recommended that MaineDOT consider building a small parking lot on the Verona Island end of the new bridge to provide pedestrian access to the bridge.

This study recommends monitoring pedestrian activity once the new bridge has been completed to see whether pedestrian demand increases. Significant increases in pedestrian activity should trigger reconsideration of building a sidewalk. If funds become available to build the bridge sidewalk, then this study recommends that that all pedestrian options for Verona Island be reconsidered.

*Bucksport*

Pedestrian options in Bucksport include a river walk, downtown sidewalks and a number of unpaved trails that connect rural areas, the schools and recreation areas. Pedestrians entering from Verona Island are well connected with all of these facilities.

**River Front Walkway**

The walkway extends more than ½ mile with benches, interpretive signs, memorial plaques, water access and more. The River walk currently ends at the Bucksport-Verona Island Bridge (see photograph). Extension under the bridge would increase pedestrian access and safety, particularly for persons using this walk to reach the commercial area east of the bridge. Extending this walkway further north and west along the Penobscot River would require routing around the International Paper Mill, but might then connect with a longer Brewer-Bucksport Trail.

**Location for Possible Pedestrian Underpass**

**Downtown Sidewalks**

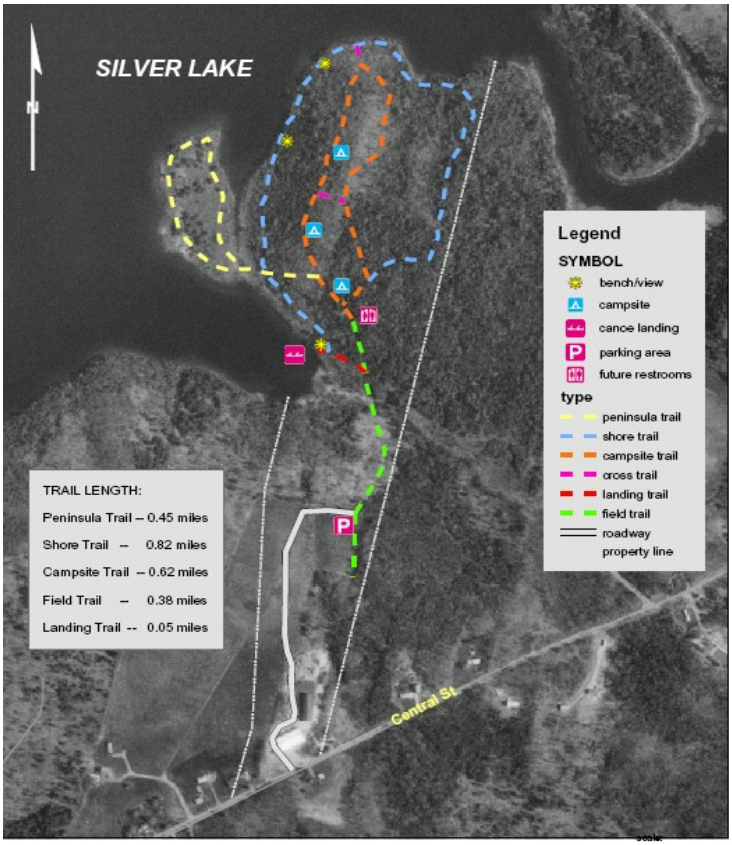
Bucksport's village sidewalk system provides access to the town center, businesses located east of the center and International Paper immediately west of the center. Grid-style road system immediately north of the town center also facilitates safe pedestrian alternatives connecting residential areas and the primary, middle and high schools.

**Discontinuity of Sidewalk on Main Steet**

Main Street has a continuous sidewalk on the north side. Recent additions have extended the sidewalk to almost one mile each direction from the Verona Island-Bucksport bridge to serve all of the downtown retail. The South side has interrupted segments of sidewalk, as illustrated in the photograph. The town is encouraged to minimize discontinuities in pedestrian ways to reduce the number of pedestrians crossing Main Street mid-block without the benefit of a crosswalk or light.

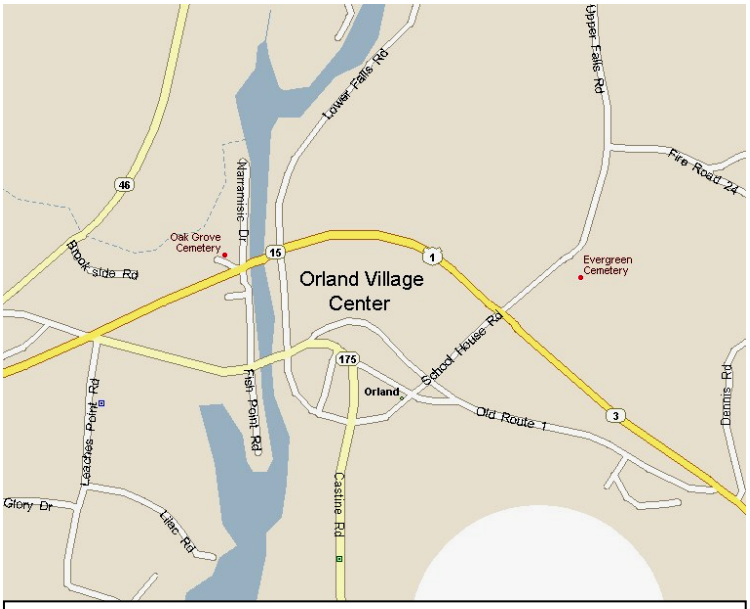
## Local Trails

The town of Bucksport has invested local funds to design and build a network of trails using public right-of-ways and utility corridors. These trails are used primarily for recreation and exercise by residents and in some instance as transportation corridors of high school students. As these trails have grown and become interconnected, they are providing a valuable service to for residents. Many of these trails are included in the map of existing infrastructure.



*Orland*

Orland's village center is located 2 ¼ miles from the Verona Island-Bucksport Bridge, a greater distance than most people will choose to walk, particularly along a highway. There are no economically practical solutions to improve pedestrian access over this large distance. Seasonal fixed route shuttle-bus service would enable visitors to travel between locations in Orland and Bucksport, though such as service would require subsidies to operate.




**Orland Village Center**

## Village Center

Orland's village center combines a traditional country store, a village park on the Narramissic River, a historic church, residences and small businesses. Traffic volumes in the village are light as Route 1 bypasses the village to the north and Route 175 to Castine passes just west of the village.

**Historic Houses along Narramissic River**

The village center includes a short bridge crossing the Narramissic. At this time the pedestrian way is somewhat deteriorated. MaineDOT should improve the pedestrian way when the bridge is renovated if not sooner. Adequate shoulders are recommended for roads that do not have sidewalks or trails.

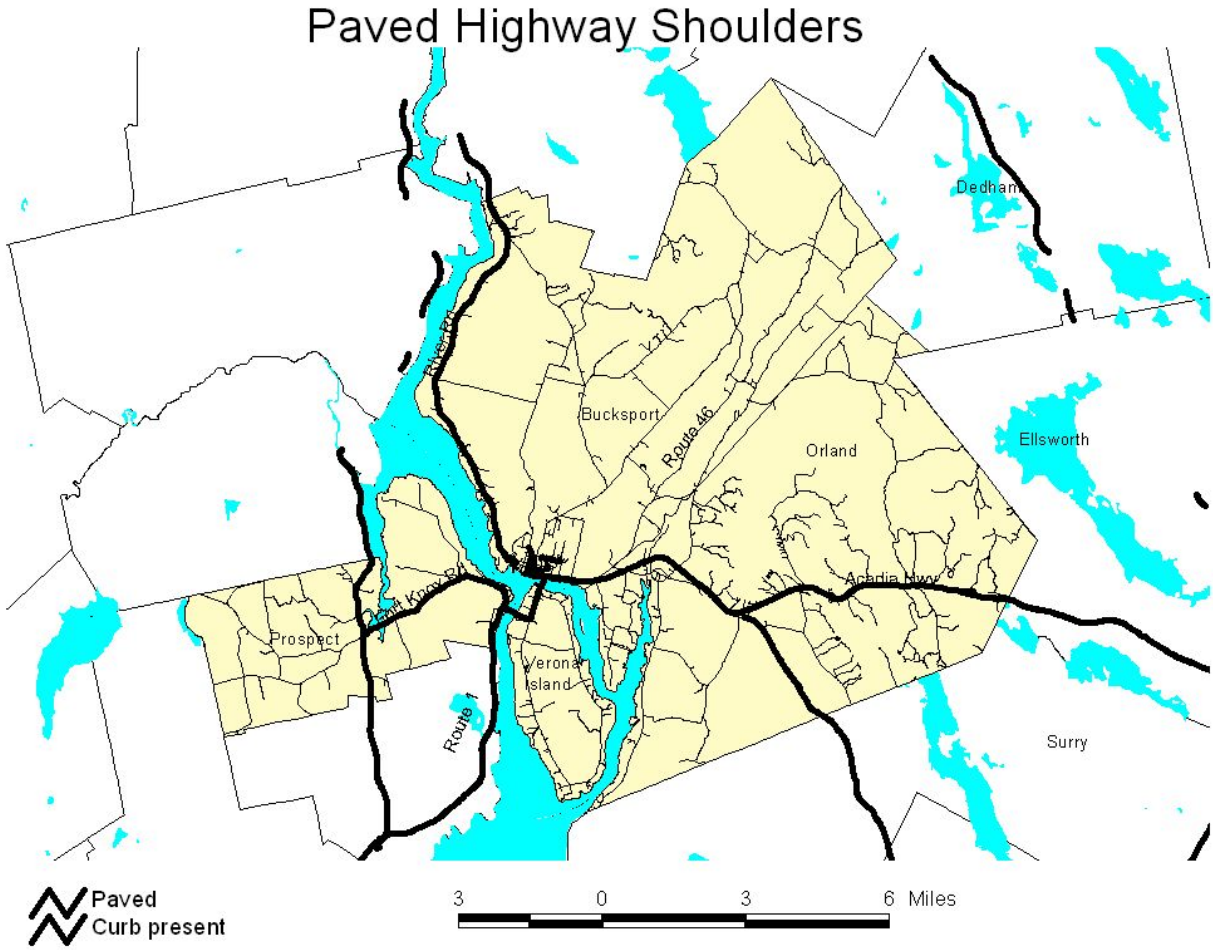
## Recreational Area

The 1.5 miles from the Orland Village center and the Orland recreation and conservation area is more than most pedestrians would consider. An infrequently used section of Old Route 1 covers part of this distance, but pedestrians must walk on the shoulder of Route 1 to reach the

recreation area. A fixed route shuttle bus could help travelers to traverse between Bucksport, the Orland Village center and the conservation - recreation venues.

## *Bicycle Access and Safety*

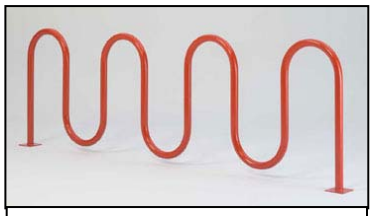
There are few issues inhibiting bicycle use in the Penobscot Narrows. Route 1 has paved shoulder in all four towns and the new bridge resolves the only remaining narrow section. Route 15 from Brewer to Bucksport has adequate shoulders, while Route 15 from Orland to Blue Hill has narrow shoulders that are sufficient for experienced riders. Route 174 between Route 1A in Prospect and the Fort Knox also has adequate shoulders for experienced riders. Data from the MaineDOT GIS system are presented below, with modifications for recent road improvements. Shoulder data for Route 46 requires additional updating.




Two state roads would benefit from additional width when they are being renovated or reconstructed. Some sections of Route 46 between Bucksport and Holden lacks adequate shoulders for cycling. Route 175 between Orland and Castine also has sections that lack adequate shoulders for cycling.

Bicycling Through Verona Island

The currently low volume of bicycle tourism in the area may accelerate with the completion of the new bridge and ongoing improvements to roads like Route 15. With higher volumes of bicycle visitation, additional bicycle parking may become desirable. Modern "wave" style bike racks have proven to be more flexible and aesthetically appealing than some traditional designs. In the absence of bike racks, cyclists lock the bikes onto utility poles, railings and other fixed objects, and may at times obstruct pedestrian ways. Recommended locations for bike racks include Fort Knox, the entrance to the bridge observatory, Bucksport's water front, Main Street and recreational sites, Orland's village center, Toddy Pond, Craig Brook Hatchery and the trail head for Great Pond Mountain.



**Wave Bike Rack**

*Close the Gap – Brewer to Bucksport*

Penobscot River Bicycle and Pedestrian Trail from Brewer to Bucksport

A bicycle-pedestrian route running parallel to Route 15 from Bangor to Bucksport has the potential of significantly improving local and regional tourism. EMDC has identified the area along the Penobscot River from Brewer to Bucksport as a potential location for a new bicycle and pedestrian trail. The Springfield Terminal Railway, a Guilford Industries short-line rail operator, operates a rail line that crosses the Penobscot River into Brewer and extends southerly along the river to the International Paper Mill in Bucksport. The presence of the rail line and Guilford's reluctance to issue new permits to cross its tracks has, in effect, discouraged residential development along the Penobscot River. The majority of the proposed trail would be off-road and would connect Brewer's waterfront trail system with Bucksport's waterfront. Some

portions of the trail may need to follow S.R. 15 to avoid crossing the rail line or in the event the State cannot acquire the necessary right-of-way between the rail line and the river.

The East Coast Greenway, connecting Key West, Florida with Calais, Maine, has two routes between Brunswick and Ellsworth. The interior route connects Lewiston, Augusta, Bangor and follows a series of back roads and dirt roads from Bangor to Ellsworth. The coastal alternative follows Route 1 through the Penobscot Narrows area to Ellsworth. Greenway advocates have expressed interest in development of the proposed trail.

**Brewer** has expressed support of the proposed trail. Brewer is in the process of re-developing their waterfront with mixed use trails extending to the Brewer-Orrington town line. Brewer officials envision the proposed Penobscot River trail will connect with their waterfront trail.

**Orrington** has expressed support of the proposed Penobscot River trail and currently holds easements across some of its shore frontage. Municipal officials have also contacted some landowners along the river to gauge their interest in developing a trail.
Negotiated with land owners.

**Bucksport** officials have expressed their support of a proposed Penobscot River trail. Bucksport comprises about half of the proposed trail's total length.

The next step will be to test the feasibility of creating the Penobscot River Trail. Accordingly EMDC, HCPC and representatives from the East Coast Greenway will be seeking planning funds to conduct a routing study in FY 2006-2007. This study will involve mapping a route or alternative routes, identifying environmental constraints, contacting property owners for input and developing a preliminary plan for the trail. This study will also estimate potential demand for the trail as well as preliminary economic costs and benefits.

## *River Access*

The Penobscot Narrows Asset Map indicates several Penobscot River based transportation and recreation assets as well as access points for the Narramissic River and local lakes and ponds in the Penobscot Narrows. While this network of access points has improved significantly in the last decade, several additional improvements are suggested.

One of the most debated issues to arise in the course of this study has been how to mix water and land based access to the immediate Penobscot Narrows area. The following map indicates three points of access to the Penobscot River as purple triangles. Triangle 5 is by far the most developed, providing users with public and private options for docking boats, mooring space, close proximity to restaurants, banks and other services. This is the only facility that currently handles commercial boats. Triangle 3 is the Verona Island Boat Ramp maintained by the Department of Conservation. This facility currently has no docking, moorings or adjacent services. The water currents across the ramp can be extremely challenging when the tide is running in or out at full strength. Triangle 2 was a docking facility used during the construction of Fort Knox. Currently there are granite steps that lead into the water, but no dock, boat ramp or moorings. As such, this facility is only useable by the Department of Conservation for specific projects, and like Verona Island has no place to leave a boat unattended.

Visitors arriving by water are confronted by several choices, but none appears to meet all needs conveniently. Boats can only dock in Bucksport, can only load onto a trailer in Verona Island and can only reach Fort Knox by walking or hiring a taxi for the two mile trip from Bucksport.

During the study several options for improving visitor circulation were presented.

OPTION 1: Improving the boating facility on Verona Island with floats and temporary mooring space. The Verona Island Comprehensive Plan calls for these improvements to the boat ramp. The strong tidal currents passing this location push the construction and annual maintenance cost of stabilizing floats up considerably. Visitors arriving with boats on trailers and local residents would benefit significantly from the addition of floats. Visitors wanting to leave their boats in the water during day visits would still prefer to land in Bucksport.

OPTION 2: Install floats at one or both of the historic docking areas at Fort Knox. This is not a new concept. The facility that was built originally to offload granite blocks is architecturally

interesting and functional as it provides some shelter from the strong river currents. The Department of Conservation would benefit by opening Fort Knox to visitors arriving by boat. Programs at the Fort would benefit by the introduction of water-based events, re-enactments, event-specific water taxies, and water tours. A landing facility at the fort might also encourage new economic activity, such as water tours and water taxis operating out of Bucksport and surrounding river front communities. However, the Department of Conservation would be assuming significant ongoing expenses installing, operating and maintaining floats. Issues including accidents, liability insurance, emergency response, environmental impacts and user fees would need to be addressed. Whether improved of not, this site should have interpretive signage, describing the process by which granite was quarried from Mount Waldo and transported by barge to these docking areas.

**Fort Knox: One of two historic docking areas at low tide.**

OPTION 3: develop road-based passenger transportation to connect arrivals in Bucksport with Verona Island and Fort Knox. Road based transit or taxi services would permit visitors to use existing facilities in Bucksport and Verona Island, and could offer additional destinations and serve other categories of riders, such as commuters and residents traveling to Bucksport for shopping and services. This proposal will be described in greater detail in the next section on transit services.

OPTION 4: Maintain the current infrastructure as built. This option has been the norm for decades. Visitors by water seldom visited Fort Knox, unless the tour operator provided land transportation.

With the exception of doing nothing, these three options are not "alternatives." Each is likely to work more effectively when combined with the others. Improvements to the Verona Island boat ramp supports additional use of the Bucksport floats. A transit system would facilitate use of all three water access points and would serve a broader ridership. Development of a float at Fort Knox would encourage additional tourism to the area, spawning new recreational events and economic activity. Concerns were expressed by committee members that building a large float facility at Fort Knox would compete with Bucksport's infrastructure, resulting in two underutilized facilities. The historic docking facilities at Fort Knox would not permit a very large float before issues such as fast currents and obstructing the waterway would emerge. A small float with the limited boat tethering capacity would limit competition between sites.

Development of each of these options would probably draw funds from different sources. A transit solution may attract support from the Federal Transit Administration, area towns and businesses. The Department of Conservation maintains the Verona Island site under their

Bureau of Parks and Lands which derives funding from a variety of sources including vehicle registrations. Fort Knox is also supported by the Department of Conservation, but also draws funds through National Historic Landmarks programs, gate fees, and support from Friends of Fort Knox.

Given the mutually reinforcing nature of these options and the likely separation of funding streams, each project should be assessed in greater detail, with estimates of cost for construction of infrastructure, operations and maintenance.

## *Transit Services*

This section describes transit options for the Penobscot Narrows. The historic model, providing subsidized fixed route services connecting Bucksport with Ellsworth has declined to very low levels of ridership. Seniors moving into retirement communities and assisted living housing are increasingly provided with transportation services by housing providers. Predictable demand for one-day-per-week transit services may remain at low levels for the foreseeable future. At the same time, new opportunities for transit providers are emerging. These include subscription services for commuters, transportation packages for tourists and local shuttles to meet the needs of a variety of users. Bucksport's Wednesday shuttle service has strong ridership numbers and has forged a successful satellite taxi service to extend their reach into rural communities.

Downeast Transit, Inc. has recognized the need to adapt to changing markets and is launching a strategic planning process to identify ways to provide better services to this evolving market. The planning process is expected to continue through 2006. On-demand providers, including WHCA are also seeking new ways to meet local transportation needs, a challenge under the best of circumstance, but more so when subsidies for on-demand transportation are declining.

### *Fixed Route Service*

Public transit needs in the Bucksport area have been identified by the Bucksport Transportation Committee. The most immediate need, an in-town bus system, has been met. Additional proposals from the transit committee include:

- Add days of operation to local shuttle service
- Expand shuttle service to neighboring owns
- Expand current intercity bus service to neighboring towns
- Add intercity bus service to Bangor

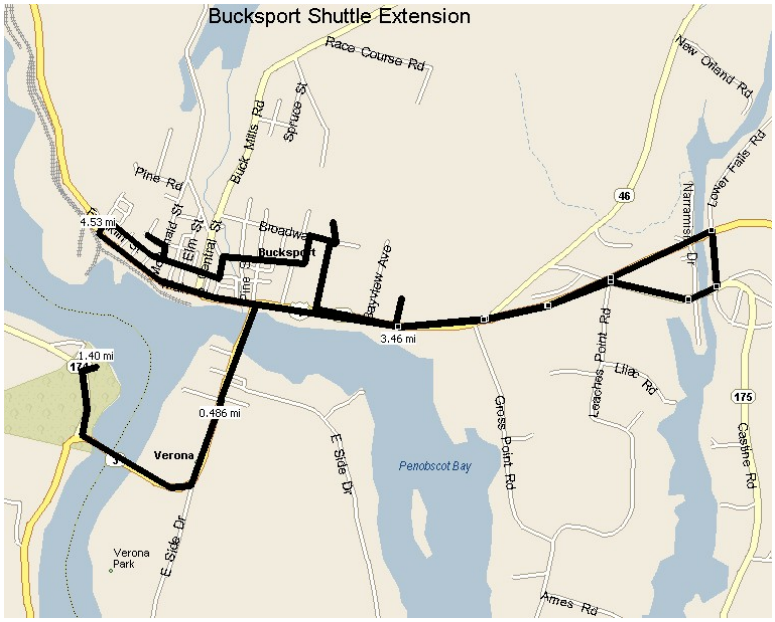
<u>Add days of operation to local shuttle service</u>

The current riders of the weekly shuttle are primarily retired persons traveling to services, such as health care, and retail activity. Adding a second day of service would expand the options for this rider group, but might not attract additional riders.

Daily shuttle service might be required to attract labor force commuters. In this case, hours of operation would also need to be extended significantly to match a variety of worksites. The current shuttle service only operates between 9:30 AM and 2:30 PM. Increasing services to this level would increase cost of operations more nearly 10 fold.

Expand shuttle service to neighboring owns

The current 4.5 mile shuttle loop is takes 25 minutes to complete. A variety of changes in the route within Bucksport's central area are possible without dramatically increasing distance and time. Travel to outlying communities would be more difficult. Adding a spur to Verona Island adds approximately 1 mile round trip, which increases to 3.75 miles round trip to include Fort Knox. A spur to the Orland village center would add 3.5 miles and the Great Pond Mountain recreation areas (not shown in map) would increase this by another 4 miles. Travel time to these spurs would be relatively quick as there would be fewer stops. The full route would require an hour round trip, and might discourage current Bucksport users with less frequent service.




Expand current weekly intercity bus service to neighboring towns

The current DTI route connects downtown Bucksport with downtown Ellsworth. The bus passes through Orland on Route 1, but does not make a scheduled stop in the Orland village area. DTI is responsive to rider requests and can deviate from the route in order to pick up and drop off passengers if notified in advance. Verona Island is not part of the current route. Addition of one stop in Verona Island is also possible, provided there is reasonable evidence of demand. This addition would add only about 1 mile to the 40 mile round trip. Route 1A in Prospect lies well beyond the range of the current DTI service and is served by a different rural transit provider. Fort Knox falls between the two services and is unlikely to generate one-day per week ridership.

Changing the weekly service schedule requires coordinated changes throughout the system. For instance, the Bucksport to Ellsworth services also functions as a local Ellsworth shuttle one day per week. Sending the bus to Bangor would require another bus to provide the local Ellsworth service.

Expansion is in the near term would require removing service from some other communities. There are a limited number of buses which are used throughout the DTI system and these are operating close to capacity. New buses are being added to the fleet in 2006, primarily to replace retiring buses, though some additional capacity may be added.

Add intercity bus service to Bangor

The Bucksport Transportation Committee recommends provision of intercity service between Bucksport, Orrington, Brewer and Bangor along Route 15. This concept is supported by demographic and economic data all of which point to much stronger connections between Bucksport and Bangor than Bucksport with Ellsworth. Outbound and inbound work force commuting, service and retail trips are all much higher to Bangor. However, one DTI attempt to provide this service by generated minimal ridership. As in other situations, providing weekly service would not attract work force riders. The elderly and disable populations would require bus service to fairly specific locations in Bangor and Bucksport or would require efficient transfers in Bangor to the BAT transit system. The Bangor Spur, like the Ellsworth route, would be approximately 40 miles round trip. Similarly, a spur to Belfast would be an approximately 40 mile round trip.

Other Changes to Fixed Route Services

The Board of Downeast Transit is launching a strategic planning effort to analyze ridership trends and redesign services to increase utilization. A number of issues will be considered including customers, routes, scheduling, pricing, intermodal coordination, and promotion. For instance, DTI will consider the ramifications of offering free transit services throughout Hancock County. Currently only seasonal Island Explorer Services do not charge fares, a strategy that has dramatically increased ridership. Labor force commuting has proven to be a very successful new service in terms of ridership and cost recovery while traditional transit for elderly has seen declining ridership.

*On Demand Service*

A recent University of Maine Center on Aging study titled Eastern Maine Transportation Collaborative: Health Services Initiative supports retention of the fixed route system, but encourages expansion of more flexible on demand services. The report also recognizes that volunteer drivers are scarce, necessitating addition expenditures to pay or partially reimburse drivers in rural areas.

The hybrid system crafted in Bucksport, using a local taxi service with transfers to the Bucksport town shuttle appears to be working successfully and may be expanded in the future provided adequate funding is available to subsidize the base fare.

*Subscription "Commuter" Service*

Higher fuel costs and the emergence of major employers in Belfast, Bangor, Castine and Bar Harbor are presenting new opportunities for transit operators to offer subscription services. The term "subscription buses" refers to those done on contractual basis and that transport employees from a given area to a certain employer at set times. DTI has expanded Jackson Lab commuter service to Cherryfield, Franklin and Bangor successfully. Residence data for the Penobscot Narrows area should be further analyzed to see whether this would be a viable transit route in the future.

Commuter data presented earlier indicate that commuter service to Bangor would have the greatest likelihood of finding subscribers, particularly if the service offers quick connections to the Bangor Area Transit System (BAT) buses. Two additional potential workplace destinations for subscription service in the Bucksport area are to the Maine Maritime Academy in Castine and MBNA in Belfast.

*Seasonal Bus Service*

Another option would be expanding services during the summer months. These could include a bus route connecting the Bucksport waterfront, Verona Island, Fort Knox, and the Great Pond Mountain recreation area. The experiences of the Island Explorer bus service on Mount Desert Island and other transit services aimed at tourists show that no passenger fare systems attract the most riders. A 2002 preliminary cost estimate from Tom Crikelair Associates shows that a 74-day Fort Knox service from the last week of June through Labor Day would cost approximately $13,320. Operating costs have increase significantly since that time. This cost estimate does not include vehicle purchase or leasing. Operating subsidies would be required to sustain this service, particularly if fares are nominal.

*Funding*

The initial cost of establishing transit systems can be relatively modest while ongoing operating costs can be quite significant. Funding for transit services often emphasizes capital , such as grants to purchase buses or other infrastructure, while providing less support for day to day operations.

## *Traveler Information*

Passenger transportation systems serve many customers, including residents, commuters, special needs populations, youth and tourists. This section primarily addresses ways that the these communities can leverage local assets to increase visitation and at the same time compliment visitation with transportation services.

The Penobscot Narrows Region has several opportunities for improving visitor information. The communications program should be coordinated with respect to promotion of venues, way-finding, interpretation and safety. This report has identified a number of recreational venues in the region, some being of state and national significance, but most being little known outside the region. Building awareness of these venues invites additional visitation that stimulates new economic activity. Making these venues accessible to non-automotive visitors can contribute to visitation, as well as providing local benefits, such increasing accessibility for residents who do not drive.

Basic marketing factors: Product, Placement, Price and Promotion contribute to creating a successful communications package.

### *Product*

Current thinking in recreation marketing suggests that presenting a package or thematic tour for visitors provides greater benefit than disjointed promotion of specific sites. The "package" speaks to visitor interests as opposed to specific site qualities.

The Penobscot Narrows can offer a variety of visitor packages. Each package or theme coordinates content available in the region. Three examples are:

- Heritage Touring

  The role played by geography in shaping a region's past and present is plain to see in this region. Visitors will learn about Maine's role in the revolutionary war, with tours of Fort Knox, Mount Waldo, Castine and the Bucksport village area including the Bucksport Historical Society Museum and Col. Bucks Tomb. The rise of Maine's river-based industries is exemplified by the prominence of the International Paper Mill. The transition of the river from early contact and trade, to industry and now the restoration of the riverfront to accommodate tourism, local social interaction and cultural events are all visible within a short-walk. Overnight accommodations in historic bed-and-breakfast facilities add to the heritage experience. Historical societies and museums operate in Bucksport, Orland, Castine and surrounding communities. The Alamo Theater and Northeastern Historic Film (www.oldfilm.org) is a unique facility that restores, preserves and presents in Bucksport some of our nations oldest movies.

- River Tours

The environmental restoration and adherence to statewide shoreland zoning regulations makes the Penobscot River an attractive regional venue for a variety of river-based activities. Visitors can travel from Bangor to Bucksport and beyond on cruise ships that feature presentations by local historians and archeologists, visits to riverside venues, and local cuisine. Regional and local operators offer visitors shorter trips for fishing, bird watching and sight seeing. Visitors arriving by water can find temporary mooring space, encouraging land-based excursions.

- Outdoor Recreation

The Penobscot Narrows offers a variety of outdoor recreational opportunities, including:

Bird watching: A popular activity on the waterways and the Great Pond Mountain area.

Boating and fishing: People looking for water sports can paddle, sail and motor on rivers, bays, lakes and ponds all within a few miles. Boat launch facilities are available in Orland for Toddy Pond and Verona Island from the Penobscot River. Silver Lake in Bucksport includes waterfront for hand launch boats. Fishing is popular on local lakes, ponds and rivers. Visitors interested in learning more about the fisheries can visit the museum and production aquarium at the Craig Brook Hatchery.

Cycling: The East Coast Greenway passes through the Penobscot Narrows. Shoulders are paved along Route 1 and Route 15, with relatively low volumes of traffic on other roads. For instance, the "tour de Verona" is featured in one MaineDOT publication. The Verona Island loop road offers a relatively safe and peaceful, if unspectacular, place for cycling. HCPC and EMDC are working together to identify options for trail connections between Brewer and Bucksport. Horses and bicycles are welcome on multi-use gravel paths in the Great Pond Mountain Trust area.

Walking and Hiking: Great Pond Mountain and the Craig Brook Hatchery have many miles of maintained trails for hiker. Gentle walks are available at Fort Knox and the Bucksport waterfront.

*Price*

Many Penobscot Narrows activities are free or very low cost. Modest fees are required for some activities, including the planned Penobscot Narrows Bridge Observatory, Fort Knox and the Alamo Theater. Pricing for restaurants and lodging is also competitive. Local transportation options are the local taxi service and DTI Wednesday Bucksport Shuttle. Both provide basic transportation at a modest price.

*Promotion*

Recent qualitative data from the Acadia National Park Thompson Island Visitor Center suggest that increasing numbers of visitors are opting to stay in Bucksport, Bangor and other outlying locations and making day-visits to Acadia National Park and other coastal destinations. The planned Acadia Gateway Center in Trenton would facilitate use of the Island Explorer for day visitors. Similarly, improvements in recreation venues in the Penobscot Narrows region and improvements in passenger transportation options will add to demand for local accommodations.

This emerging pattern of regional visitation may also contribute to demand for lodging in the Penobscot Narrows region provided that visitors have adequate information and prices remain competitive. One key to growing this market will be to promote regional packages providing visitors with a high value for their vacation investment. Promotion has long been the domain of the private sector, including tour operators, lodging owners and chambers of commerce. Local governments can assist by providing easy access to local information with links from municipal web sites to local chambers, inclusion of local businesses in municipal events and reasonable allowances for signage that contributes to the town's visual landscape. Events, like the Bucksport Bay Festival and the Orland River Day can also be complimented by town support for ongoing creative activities, such as community art displays, regular musical performances, community theater and writing workshops. One regional group promoting these events is the Bucksport Area Cultural Arts Society (www.bacas.org).

*Placement*

Placement refers to the way a product is positioned or placed in the market. Placement affects who learns about the product and under what circumstances. Placement of these venues is fixed, but placement of information about these venues in order to build awareness is a matter of great importance. Who are the likely visitors to the Penobscot Narrow? When and where should information be placed in order to meet their needs and potentially attract them to the region?

## *Multi-tiered Information Program*

The Penobscot Narrows has historically been overlooked as a recreation area as visitors direct their attention to Bar Harbor and Acadia National Park. A multi-tiered information program that builds awareness through the internet, provides wayfinding signage and interpretation as travelers draw near and additional information and interpretation within the region.

*Internet*

Pre-travel information, such as brochures, websites, phone centers and advertisements are important components of the information program, but fall outside the scope of this project. Two websites based in Bucksport, www.**bucksport**.biz and www.bucksportchamber.com, provide detailed information about public and private visitor opportunities. In characteristic humility, the chamber website states,

"Though central, **Bucksport** is less bustling than some, offering spectacular views of the famous Waldo/Hancock Bridge and historic **Fort Knox, Maine's** most visited historic site, excellent outdoor activities and a .....read more"

The Maine Office of Tourism (www.visitmaine.com) and Maine Tourism Association (www.mainetourism.com) can support local efforts to promote attractions in the Bucksport area. The regional arm of the Maine Office of Tourism is Downeast Acadia Regional Tourism (DART - www.downeastregion.com). DART further subdivides eastern Maine into sub-regions and features the Eastern Penobscot Bay area including Bucksport, Orland and Verona Island.

Transportation options are an increasingly common component of these websites. Destination sites, such as Bucksport, Fort Knox and Great Pond Mountain include instructions on how to get there. Each venue should review their situations and identify alternative transportation modes including transit, preferred bicycle tours, contacts for taxi service and lodging-run shuttles. Links to the transportation provider sites is also recommended. These sites provide current information on origins, destinations, times and fares. Links to the Maine Department of Transportation bicycle pedestrian page (www.maine.gov/mdot) and the Bicycle Coalition of Maine (www.bikemaine.org). A third information category are the tour companies that arrange tours on coastal Maine. Tour providers provide a soup to nuts solution for people wanting to travel without private automobiles. These companies include air connections, transit and bicycle-based touring. Many arrange for additional connections including local walking tours, kayak tours and van-based tours. Fortunately, search engines like Yahoo and Google make it relatively easy for people planning to visit the region to find transportation providers.

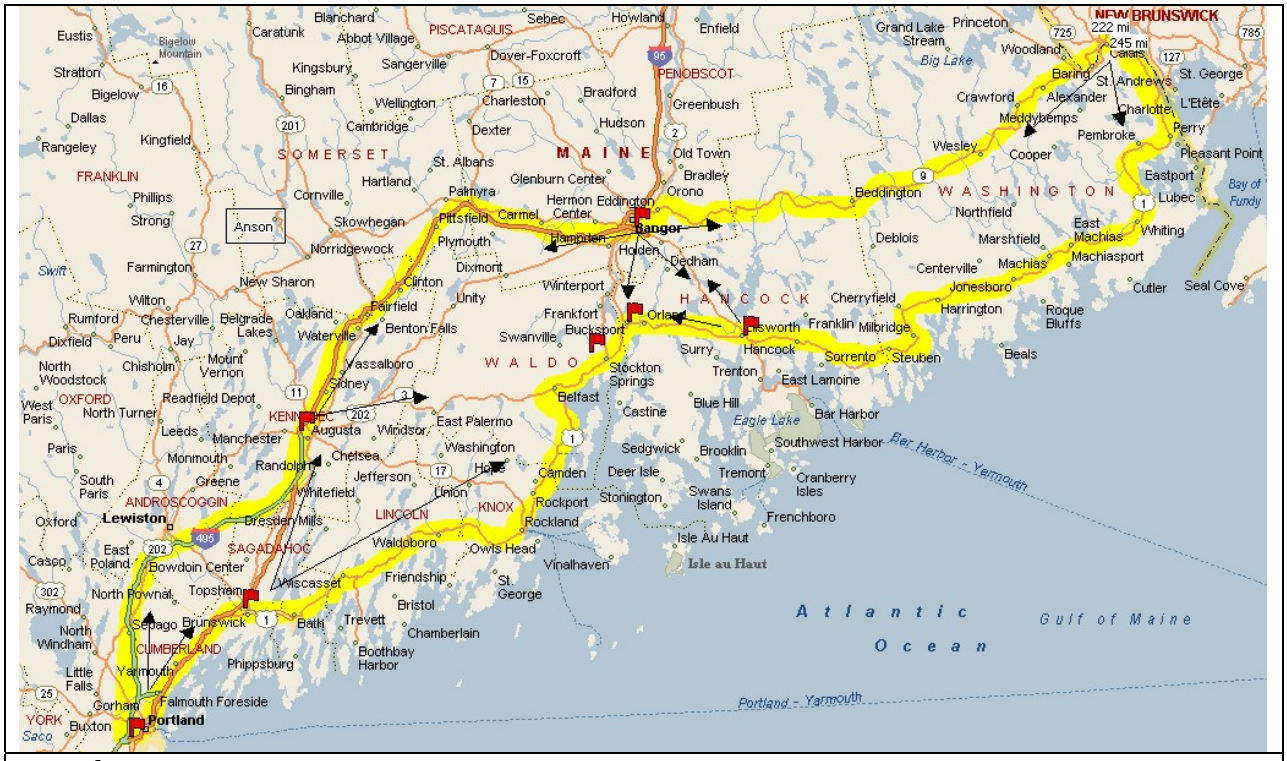
*Print Media*

While the internet provides low cost, and increasingly effective communications, many travelers prefer to have a printed map or brochure that includes transportation options, routes, annotated destination information, and contact information. The Bucksport Chamber of Commerce, Maine Office of Tourism, DART and the Maine Tourism Association have prepared a number of useful documents highlighting regional attractions. DART recently published a map-guide titled Maine's Downeast and Acadia Historical Sites and Museums provides a road map with locations for venues and scenic byways, information on each site and contact information for historical societies and chambers of commerce. The MAP does not provide suggested transportation options, but leads holders to websites where this information might be found. Future print materials should include website links to transportation information whenever possible. Placement of printed maps and brochures in tourist information centers and other gateway locations may increase awareness of local options, through primarily for automobile-based visitors.

*Directional Signage*

Auto-based travelers that have not planned their itineraries and routes may be influenced by signage they encounter during there trip. At higher speeds the only signage that matters is

directional. Key decision points for visitors heading north and east include South Portland, Brunswick, Augusta and Bangor. Travelers heading south and west reach decision points in Calais, Bangor and Ellsworth. The map below illustrates these points.




Traveler Decision Points

Signage that provides information to travelers using key words such as “downeast”, “coastal”, “Route 1”, “Acadia”, “National Park” and “Bar Harbor” is likely to increase the volume of travelers selecting that route. Current information posted along Interstate 95 appears to bias travel to the greater Bangor area, potentially reducing the volume of traffic passing through the Penobscot Narrows area.

Recent completion of the Third Kennebec River Bridge and ramp onto Route 95 in Augusta has improved travel time to Bucksport, Ellsworth and Bar Harbor through Belfast. Signage at this off-ramp currently refers only to Belfast. Further north on Route 95, the exit through Route 395 includes a longer list of destinations, including “Bar Harbor Region.” Information about the Bar Harbor Region at the August Route 3 exit would encourage additional visitor traffic through the Penobscot Narrows area.

Travelers that elect to use Route 1 have the option of staying on Route 1/3 and bypassing the Bucksport downtown. Particular attention should be paid to creating an inviting gateway into Bucksport. Similarly, Fort Knox and Route 174 are easily missed by travelers. The new entrance to the Penobscot Narrows Bridge in the Town of Prospect will be slightly further from the current Route 174 turnoff and will permit faster entrance speeds onto the bridge than the current sharp-right turn. Directional signage will play a more important role in providing timely information to travelers about Route 174 and Fort Knox. Going further on Route 174 and Route

1A will bring visitors to Mendell Marsh and Mount Waldo. Currently there is no information about these venues. If improvements are made to these facilities, additional informational signage will be warranted.

| | |
|---|---|
| | |
| Interstate 95 Signage in Augusta | Interstate 95 Signage in Bangor |

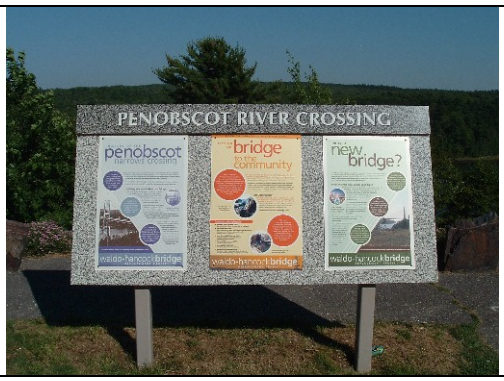
*Interpretive Signage*

As visitors approach the Penobscot Narrow area, a second tier of signage is recommended. Interpretive signage provides visitors with a closer look at the venues available to them as the pass through Prospect, Verona Island, Bucksport and Orland. Interpretive areas with adequate short-term parking space are particularly useful for travelers arriving in tour buses. A coordinate interpretive strategy improves visitor's experience, knitting-together a number of regional stories such as the construction of Fort Knox, life on the Penobscot River and the history of forestry and paper production.

There are several existing interpretive areas that function quite well, and will be improved over time.

<u>Prospect – Penobscot Narrows Scenic Turnout</u>

Travelers going north and east first encounter a small scenic turnout on Route 1/3 in Prospect. This site was designed particularly to give visitors a safe place from which to view bridge construction. It replaced a site a short distance west on Route 1/3. This site has proven very popular, particularly for people interested in watching bridge construction. As bridge construction winds down the interpretive and way-finding information presented at this site should be adjusted to direct people to "where the action is". As such, an overview of the region with places to visit and a short history are good candidates. Visitors will need information on how to get to the Penobscot Narrows Observatory, Fort Knox and Bucksport's waterfront. A regional map highlighting outlying venues such as Mendel Marsh, Great Pond Mountain, Craig Brook Hatchery and Silver Lake is recommended.

| | |
|---|---|
| |  |
| Penobscot Narrows Scenic Turnout | Interpretive Panel at PNST |

Fort Knox

Interpretive services at Fort Knox have expanded significantly in recent years. Connecting Fort Knox historically to other venues, including Mount Waldo and Bucksport helps to tie the venues together and promotes more circulation within the region.

| | |
|---|---|
| | |
| Inside Fort Knox Museum | Historic Interpretation Panel in Museum |

Penobscot Narrows Bridge Observatory

Interpretation within the observatory can take advantage of the panoramic view with illustrations indicating what people are seeing, including Fort Knox, the new bridge, the Penobscot River, Bucksport's waterfront, Great Pond Mountain, and Acadia National Park.

Bucksport Gateway

The gateway to Bucksport is undergoing important changes. Improvements to the Riverfront make this an

attractive venue for visitors, but are often missed in the process of crossing the Bucksport Bridge. Additional work in landscaping and signage may encourage more visitors to visit downtown attractions including the waterfront, Colonel Bucks Tomb and Alamo Theater.

Great Pond Mountain Conservation Area

Interpretation at the Craig Brook Hatchery is quite effective. Visitors will be surprised by how much is available in the museum and grounds. Great Pond Mountain provides good information in some locations, but in others there is little to be found. A popular trail head up the mountain is unmarked and roadside parking haphazard. Toddy Pond provides regulatory signage but little in the way of interpretation. A coordinated interpretation and way-finding initiative will help visitors to this recreation and conservation areas to make better use of the facility. Signage can also reinforce messages such as "leave no trace."

Chambers of Commerce

The Greater Bucksport Area Chamber of Commerce will continue to play an important role in providing on-site visitor information. They have worked to coordinate events and visitor information with local historical societies, area businesses, non-profit organizations and government offices. Collaboration with neighboring Chambers of Commerce, particularly Belfast, Ellsworth, Bangor, and Blue Hill should be encouraged.

Mobile Exhibits

The bridge construction process has permitted MaineDOT to produce some excellent mobile exhibits for public engagement. The photo below shows one exhibit used at the 2005 Bucksport Bay Festival. This approach has helped turn initial concerns of residents to a more positive, even excited attitude. The October 14, 2006 opening day for the Penobscot Narrows Bridge drew large crowds.

| | |
|---|---|
| | |
| Bucksport Bay Festival | Penobscot Narrows Pedestrian Opening |

# Conclusions

The Penobscot Narrows area is at a crossroads. Approximately 4,000 residents in the four area towns have a great many local assets, including an environment rich in scenic beauty, natural resources and local history. Many times that number of visitors pass through the area. But, as in many rural areas passenger transportation services are extremely limited. This study considers potential demand, or markets, for passenger transportation and makes recommendations for improving transportation and related information services for this area.

Demand for transportation services stems from a variety of users including home to work and school commuting, trips for shopping, trips for medical and other services, recreational travel and tourism travel to and through the area. This study finds that the current and potential volume of travel from commuting, intercity travel and tourism may justify additional investments in transportation services. Strong local support was evident particularly for better transit connections between Bucksport and the Bangor Area Transportation System (BAT).

Located "eighteen miles from everything", the Penobscot Narrows has been underutilized by tourists and the services that follow them. The completion of the Penobscot Narrows Bridge changes this local dynamic in several ways. Perhaps most importantly, the new bridge and observation tower will be a destination for some travelers. Rides to the top of the bridge tower for a bird's eye view of the region, combined with the historic and architectural venues at Fort Knox and nearby Bucksport are an opportunity for this area to coordinate and expand tourism. Transportation services are generally a means to an end and will follow demand. The new bridge also allows bicycles and pedestrians to cross the river in relative safety. This bridge was a significant obstacle to increasing travel through the area by bicycle tours and residents seeking places to exercise.

In the case of the Penobscot Narrows, transportation can play a generative role as well. River-based tourism, including small cruise ships, local water taxis and even kayaking is a means and an end in travel. Recent designation of Route 1/3 through this area as a section of the East Coast Greenway is attracting a small, but growing number of long distance bike tours.

Several specific recommendations emerge from this study.

1. Expand transit

   Intercity connections following a north-south corridor between Bangor, Bucksport and Belfast would capitalize on significant commuter demand, but also can provide needed transportation links for retail and service trips.

2. Connect the dots

   The Wednesday shuttle has exceeded target ridership since its inception and has extended service beyond the fixed route through an innovate collaboration with a local taxi service.

Opportunities to expand this concept to serve new rider segments and provide seasonal connections between Bucksport, Fort Knox and more distant venues should be explored.

3. Complete the streets, the bridge and the trails

   Continue ongoing improvements in state and local roads, particularly in the village centers, including adequate shoulders and/or sidewalks to encourage non-automotive uses. Each town must determine what level of safety and convenience they can afford, but are encouraged to seek state and federal grants to make needed improvements. The pedestrian way designed to run under the new bridge will provide a safer and more enjoyable opportunity for residents and visitors. Exploratory planning for the creation of a Penobscot River Trail connecting Brewer to Bucksport is recommended.

4. Bring the armada

   The Penobscot River is cleaner than it has been in decades. Dam removal, improved industrial and municipal sewage treatment systems and better land conservation techniques have allowed the river to emerge as a travel and recreation destination. Current tour operations are expanding and others are watching for new opportunities. Adding limited landing capacity at Fort Knox would provide water-based visitor with flexibility to enjoy both sides of the river.

5. Let the world know

   The impacts of every action are multiplied when we take the time to let people know. Each existing and emerging asset in the Penobscot Narrows area, taken individually, will generate local demand. Taken together, the recreational, historical and natural resource opportunities can produce more significant regional interest. A collaborative, multi-tiered information campaign that integrates use of the internet, print media, directional and interpretive signage can contribute to economic growth through expanding tourism.

These recommendations and the analyses supporting them are provided to the residents of the Penobscot Narrows towns and the Maine Department of Transportation as a starting point for planning. There are many details to be considered, including how to test market expanded transit services, how to pay for new infrastructure and how to coordinate communications. The ideas presented in this document deserve additional local discussion, with participation from residents, business, leaders and transportation providers. Implementation can only occur when a consensus forms around how to pursue better passenger transportation services and resources are identified to make it happen.

# References

Crikelair, Tom (2002) “Bucksport Transit Alternatives” A study prepared for Downeast Transit, Inc.

Duquette Andrea, Martin Puckett and Sandra Tardiff (2004) “Technical Report 04-05 Evaluation of Transit Route Development: A Case Study of Downeast Transportation Inc.’s Bucksport, Maine, Bus Route Prepared for the MaineDOT Office of Passenger Transportation

Kaye, Dr. Lenard W. (2005) Eastern Maine Transportation Collaborative: Health Services Initiative Research Findings and Recommendations. University of Maine, Orono.

US Census Bureau, 2000 Census of Population. Washington, DC.