

## **H. TRANSPORTATION**

Communities depend on well-maintained transportation systems. Accessibility to transportation is one of the primary factors in the location of businesses and residents within both Pembroke and Perry. Safe streets and efficient street design and linkages affect the economic viability and productivity of our businesses, the overall safety of our residents, their convenience, as well as property values. The goal of this section is to analyze, plan, and help maintain and develop efficient transportation services and facilities that will accommodate our anticipated development.

### **ROAD INVENTORY**

The majority of roads in Pembroke and Perry originated in the early days as pathways, carriage trails and access points to the shoreline. These roads followed the easiest routes and were not concerned with sight distances, sharp corners, the weight load of trucks, or intersection design. As our roads experienced increased traffic, higher speeds and larger vehicles, they were improved. In recent years, the Maine Department of Transportation (MDOT) through its Local Roads Assistance Program has attempted to assist municipalities in improving further these areas to meet state and national safety design standards.

Roads can be divided into three classifications by function: arterial, collector, and local.

1. Arterials are roadways that serve long distance, high speed, through-traffic between communities, and are maintained by the state. The most important travel routes in the state, state highways are arterials.
2. Collectors gather and distribute traffic to and from arterials and generally provide access to abutting properties. Collectors serve places with smaller population densities, are often some distance from main travel routes, and often are maintained in part by the state.
3. Local roads are all roads not in the arterial or collector classification. Local roads are maintained by municipalities; provide access to adjacent land areas usually carry low volumes of traffic.

There are 4.33 miles of arterial, 3.86 miles of collector and 35.84 miles of local roads within Pembroke and 11.43 miles of arterial, 0 miles of collector and 32.4 miles of local roads within Perry. A listing of all roads within each town with their classification, length, maintenance responsibility and overall condition can be found in Tables H-1 for Pembroke and H-2 for Perry, their geographic location is illustrated in Map 9 - Transportation.

Table H-1 PEMBROKE ROADWAY INVENTORY

Route/Street	Arterial, Collector, Local, Public Easement, or Private	Length in Miles to nearest tenth	Owned by	Maintained by	Surface	Condition
US Route 1	Arterial	4.33	State	State	paved	Fair
Route 214 Ayers Junction Road	Collector	3.86	State	Town	Paved	Good
Ridge Road	Local	1.75	Town	Town	Paved	Good
Upper Cross Road	Local	1.35	Town	Town	Paved	Fair
Front Street	Local	0.5	Town	Town	Paved	Good
Little Falls Road	Local	2.59	Town	Town	Paved	Fair-Poor
Mt. Tom Road	Local	1.16	Town	Town	Paved	Fair-Poor
Ox Cove Rd.	Local	3.66	Town	Town	Gravel	Poor
Reversing Falls	Local	1.69	Town	Town	Gravel	Poor
Youngs Cove Rd.	Local	2.35	Town	Town	Gravel	Poor
Brickyard Rd.	Local	1.56	Town	Town	Gravel	Poor
Clarkside Rd.	Local	1.22	Town	Town	Paved	Poor
Garnet Head Rd.	Local	3.15	Town	Town	Paved	Fair
E. River Rd.	Local	2.55	Town	Town	Paved	Fair
Hersey Rd.	Local	1.46	Town	Town	Paved	Fair
Station Rd.	Local	0.16	Town	Town	Paved	Poor
Middle St.	Local	0.43	Town	Town	Gravel	Poor
Shore Rd.	Local	0.12	Town	Town	Paved	Fair
Hardy Point Rd.	Local	0.91	Town	Town	Paved	Fair
Masonic Ln.	Local	0.05	Town	Town	Gravel	Poor
Liberty Hill Rd.	Local	0.46	Town	Town	Paved	Poor
Aubrey Ln.	Local	.023	Town	Town	Gravel	Poor
Leighton Pt. Rd.	Local	4.76	Town	Town	Paved	Fair
High St.	Local	0.38	Town	Town	Dirt	Poor

Route/Street	Arterial, Collector, Local, Public Easement, or Private	Length in Miles to nearest tenth	Owned by	Maintained by	Surface	Condition
Old County Rd.	Local	3.03	Town	Town	Paved	Fair
Fifth Ave.	Local	0.18	Town	Town	Dirt	Poor
Old Route 1	Local	0.14	Town	Town	Paved	Fair

Source: Maine DOT; Pembroke Comprehensive Plan Committee, 2008

**Table H-2 PERRY ROADWAY INVENTORY**

Route/Street	Arterial, Collector, Local, Public Easement, or Private	Length in Miles to nearest tenth	Owned by	Maintained by	Surface	Condition
US Route 1	Arterial	9.86	State	State	Paved	Good
State Route 190	Arterial	1.57	State	State	Paved	Good
Ridge Road	Local	0.22	Town	Town	Paved	Good
Birch Point Rd.	Local	1.69	Town	Town	Gravel	Poor
Pottle Rd.	Local	0.34	Town	Town	Gravel	Fair
South Meadow Rd.	Local	0.64	Town	Town	Paved	Fair
Golding Rd.	Local	4.27	Town	Town	Paved	Good
Shore Rd.	Local	4.21	Town	Town	Paved	Fair
Johnson Rd.	Local	0.85	Town	Town	Gravel	Poor
Indian Rd.	Local	0.01	Town	Town	Paved	Good
Cannon Hill Rd.	Local	2.63	Town	Town	80% Paved	Fair
Lake Rd.	Local	2.35	Town	Town	Paved	Good
Gin Cove Rd.	Local	2.43	Town	Town	Paved	Fair
South Meadow Rd.	Local	5.66	Town	Town	Paved	Good
Lincoln Cove Rd.	Local	0.50	Town	Town	Gravel	Fair
Gleason Cove Rd.	Local	0.79	Town	Town	Paved	Poor
Burby Rd.	Local	0.53	Town	Town	Paved	Good

Route/Street	Arterial, Collector, Local, Public Easement, or Private	Length in Miles to nearest tenth	Owned by	Maintained by	Surface	Condition
Devereux Rd.	Local	0.33	Town	Town	Paved	Good
Mahar Ln.	Local	0.42	Town	Town	Paved	Good
Davis Rd.	Local	0.22	Town	Town	Gravel	Good
Boat Landing Rd.	Local	0.09	Town	Town	Gravel	Fair
Leland Cemetery Rd.	Local	0.18	Town	Town	Dirt	Fair
Leach Point Rd.	Local	0.37	Town	Town	Gravel	Good
Thompson Store Rd.	Local	0.14	Town	Town	Paved	Fair
Old Eastport Rd.	Local	2.67	Town	Town	Paved	Fair/Good
Mahar Lane	Local	0.38	Town	Town	Paved	Good
<b>Total year round maintenance</b>		<b>31.72</b>				
Birch Point Rd.	Local	0.20	Town	Town	Gravel	Fair
McBride Rd.	Local	0.09	Town	Town	Paved	Good
Boat Landing Rd.	Local	0.14	Town	Town	Gravel	Fair
Leach Point Rd.	Local	0.20	Town	Town	Gravel	Fair
<b>Total summer seasonal maintenance</b>		<b>0.63</b>				

Source: Maine DOT; Perry Comprehensive Plan Committee, 2008

## ROAD MAINTENANCE

Overall, roadways in Pembroke are in fair condition and roadways in Perry are in fair to good condition. Both towns have done a good job of maintaining local roads. Pembroke contracts by open bid for snow plowing, salting and sanding each year for town roads. Perry has a two man highway maintenance crew and town owned equipment (see Public Facilities chapter). The cost is covered from tax appropriations. The state reimburses the town about half the actual costs to the town for the State Roads that the town is mandated to maintain. Total yearly payment to Pembroke from DOT is \$43,260.00 (local road 35.84 miles + state aid minor collector miles 3.86 x 1200/mile = \$47,640.00). Total yearly payment to Perry from DOT is \$40,462.00 (local road 32.4 miles + state aid minor collector miles 0 x 1200/mile = \$38,880.00).

The amount from DOT does not add up exactly when calculated according to actual road lengths and the formula for reimbursement because all towns got a reduction when the legislature

reduced the appropriation in fiscal year 1999. The reimbursement to each town will not drop below the amount received in 2006, which for Pembroke was \$43,260.00 and for Perry was \$40,462.00.

MDOT is responsible for all the non-local roads. Their authority includes permitting of driveways and entrances, curb cuts, summer and winter maintenance, and traffic flow and safety decisions such as traffic signals, signs, reconstruction and road widening.

The MDOT prepares a Six-Year Plan, updated every two years, to link their policy based Twenty-Year Plan to the project based and fiscally constrained Biennial Capital Improvement Plan (formerly Biennial Transportation Improvement Program (BTIP)). The most recent Six-Year Plan was issued in 2003 covering the period 2004-2009. The BCIPs (formerly BTIPs) are issued every fiscal biennium. Other state agencies and business interests use the Six-Year Plan as they develop public and private investment strategies. Likewise, municipalities can use it to plan for anticipated improvements. The 2004-2009 Six-Year Plan contains no recommendations for any highway improvements in Pembroke. In Perry, it includes a recommendation for highway reconstruction on Route 1 beginning 0.4 miles north of Route 190 and extending northerly 4.1 miles to 0.1 miles south of Gin Cove Road. This recommendation also includes two bridge replacements, one a steel culvert over Upper Sipps Brook and the other a traditional bridge over Pottle Brook, both on Route 1.

The 2008-2009 Biennial Capital Work Plan includes the following projects in Pembroke and Perry:

<b>Pembroke,Perry</b>		<b>Route 1</b>	<b>4.53 miles</b>	<b>Pavement Preservation</b>							
<input checked="" type="radio"/> <b>Engineering</b> <input type="radio"/> <b>Property Aquisition</b> <input checked="" type="radio"/> <b>Construction</b> <input type="radio"/> <b>Other</b>				<i>Pin #:</i> 015873.00							
<i>Funding Requisites:</i> None				<i>Asset Type:</i> Highways-Minor Arterial							
<table border="1"> <thead> <tr> <th colspan="2">Work Plan Funding Detail</th> </tr> </thead> <tbody> <tr> <td>Federal</td> <td>\$220,160</td> </tr> <tr> <td>State</td> <td>\$55,040</td> </tr> <tr> <td><b>Total:</b></td> <td><b>\$275,200</b></td> </tr> </tbody> </table>		Work Plan Funding Detail		Federal	\$220,160	State	\$55,040	<b>Total:</b>	<b>\$275,200</b>	<i>Sponsors:</i> <b>MaineDOT</b> <i>Description:</i> <b>Highway Resurfacing: Beginning 0.06 of a mile southerly of Fifth Avenue and extending northerly 4.53 miles to 0.24 of a mile northerly of Old County Road.</b>	
Work Plan Funding Detail											
Federal	\$220,160										
State	\$55,040										
<b>Total:</b>	<b>\$275,200</b>										
<b>Perry</b>		<b>Route 1</b>	<b>1.75 mile(s)</b>	<b>Pavement Preservation</b>							
<input checked="" type="radio"/> <b>Engineering</b> <input type="radio"/> <b>Property Aquisition</b> <input checked="" type="radio"/> <b>Construction</b> <input type="radio"/> <b>Other</b>				<i>Pin #:</i> 015874.00							
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Work Plan Funding Detail											
Federal	\$384,326										
State	\$96,082										
<b>Total:</b>	<b>\$480,408</b>										
<b>Perry</b>		<b>Route 1</b>	<b>0.4 mile(s)</b>	<b>Pavement Preservation</b>							
<input checked="" type="radio"/> <b>Engineering</b> <input type="radio"/> <b>Property Aquisition</b> <input checked="" type="radio"/> <b>Construction</b> <input type="radio"/> <b>Other</b>				<i>Pin #:</i> 015949.00							
<i>Funding Requisites:</i> None				<i>Asset Type:</i> Highways-Principal Arterial							
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Work Plan Funding Detail											
Federal	\$87,848										
State	\$21,962										
<b>Total:</b>	<b>\$109,810</b>										

<b>Perry,Robbinston</b>		<b>Route 1</b>	<b>2.56 miles</b>	<b>Pavement Preservation</b>								
<input checked="" type="radio"/> <b>Engineering</b> <input type="radio"/> <b>Property Aquisition</b> <input checked="" type="radio"/> <b>Construction</b> <input type="radio"/> <b>Other</b>				<i>Pin #:</i> 012951.00								
<i>Funding Requisites:</i> None				<i>Asset Type:</i> Highways-Principal Arterial								
<table border="1"> <thead> <tr> <th colspan="2">Work Plan Funding Detail</th> </tr> </thead> <tbody> <tr> <td>Federal</td> <td>\$332,935</td> </tr> <tr> <td>State</td> <td>\$81,782</td> </tr> <tr> <td><b>Total:</b></td> <td><b>\$414,717</b></td> </tr> </tbody> </table>		Work Plan Funding Detail		Federal	\$332,935	State	\$81,782	<b>Total:</b>	<b>\$414,717</b>			<i>Sponsors:</i> MaineDOT
Work Plan Funding Detail												
Federal	\$332,935											
State	\$81,782											
<b>Total:</b>	<b>\$414,717</b>											
				<i>Description:</i> Highway Resurfacing: Beginning 0.09 of a mile northerly of the Lake Road and extending northerly 2.56 miles to 0.67 of a mile northerly of the Ridge Road.								

  

<b>Pleasant Point,Eastport,Perry</b>		<b>Route 190</b>	<b>5.24 miles</b>	<b>Crack Sealing</b>								
<input checked="" type="radio"/> <b>Engineering</b> <input type="radio"/> <b>Property Aquisition</b> <input checked="" type="radio"/> <b>Construction</b> <input type="radio"/> <b>Other</b>				<i>Pin #:</i> 015950.00								
<i>Funding Requisites:</i> None				<i>Asset Type:</i> Highways-Principal Arterial								
<table border="1"> <thead> <tr> <th colspan="2">Work Plan Funding Detail</th> </tr> </thead> <tbody> <tr> <td>Federal</td> <td>\$20,110</td> </tr> <tr> <td>State</td> <td>\$5,028</td> </tr> <tr> <td><b>Total:</b></td> <td><b>\$25,138</b></td> </tr> </tbody> </table>		Work Plan Funding Detail		Federal	\$20,110	State	\$5,028	<b>Total:</b>	<b>\$25,138</b>			<i>Sponsors:</i> MaineDOT
Work Plan Funding Detail												
Federal	\$20,110											
State	\$5,028											
<b>Total:</b>	<b>\$25,138</b>											
				<i>Description:</i> Crack Sealing: Beginning at Route 1 and extending southerly 5.24 miles to 0.07 of a mile northerly of Deep Cove Road.								

These projects are complete except for the first and last in the table above.

By far, commercial trucks do the most damage to our roads. The second cause of road deterioration is harsh weather, which includes rapid changes in weather conditions. Roads are most vulnerable to the weight of trucks and other heavy vehicles during the spring thaw. As road weight limit postings are put in place, the conflict between the economic necessity of local businesses and road maintenance needs is clear. Most roads were not originally engineered for the weight they now carry.

The Maine DOT Local Roads Center provides a “Road Surface Management for Maine Towns” training program, including Road Surface Management System (RSMS) software to identify which road maintenance techniques should be considered for individual roads or streets in a local street network. Introduced in 1990, it is being used by many towns to inventory their road network, record road surface condition data, and interpret the surface distress information gathered. The system is generic and provides an objective tool that a town can “customize” with its own repair techniques and local costs and help the municipality apply limited budget resources where they will provide the greatest road quality benefits.

**TRAFFIC VOLUMES AND PATTERNS**

Transportation linkages in Pembroke and Perry consist of US Route 1 which traverses the two towns in a north-south travel corridor although the actual road orientation is east-west through the two village areas. Route 214 connects the center of Pembroke to the town of Charlotte to the north and Route 190 connects Route 1 from the center of Perry to the port and city of Eastport.

MDOT estimates the annual average daily traffic volume (AADT) of most state and state aid roadways. Traffic counts taken every few years help MDOT calculate changes in traffic volume so that road improvements are designed and built accordingly to handle those changes. AADT volumes do not reflect seasonal variations in traffic or daily peak traffic volume. Instead, AADT volumes help us understand the overall growth or decline of traffic on a roadway and the pattern of traffic on our road networks. The most recently available AADT counts for both towns are listed in Table H-2 and depicted on Map 9.

Table H-2 TRAFFIC VOLUMES

Town	Location	AADT 2002	AADT 2003	AADT 2004	AADT 2005	AADT 2006
PEMBROKE	1 NE/O SR 214	.	.	3180	.	.
PEMBROKE	1 SW/O IR 1231 (OLD COUNTY RD)	.	.	2880	.	.
PEMBROKE	1 E/O IR 341 (FRONT ST) @ BR# 5326	.	.	2410	.	.
PEMBROKE	1 W/O IR 925 (HIGH ST)	.	.	2840	.	.
PEMBROKE	214 SE/O US 1	.	.	1020	.	.
PEMBROKE	305 (RIDGE RD) N/O IR 361 (E RIVER)	.	.490	.	.	.
PEMBROKE	305 (RIDGE RD) NE/O IR 341 @ BR# 3884	.	410	480	.	.
PEMBROKE	305 (UPR CROSS RD) NE/O SR 214	.	180	160	.	.
PEMBROKE	341 (LITTLE FALLS) SE/O IR 305(RIDGE)	.	390	.	.	.
PEMBROKE	341 (MT TOM RD) NW/O IR 305 (RIDGE)	.	260	.	.	.
PEMBROKE	341 (FRONT ST) S/O US 1	.	.	440	.	.
PEMBROKE	351 (OX COVE) SE/O IR 357(CLARK RDG)	.	.	80	.	.
PEMBROKE	361 (E RIVER RD) E/O IR 305 (RIDGE)	.	150	.	.	.
PEMBROKE	361(LITTLE RV RD) NE/O IR 341@BR#1166	.	.	280	.	.
PEMBROKE	903 S/O IR 1231 (OLD COUNTY RD)	.	.	610	.	.
PEMBROKE	925 (HIGH ST) S/O US 1	.	.	60	.	.
PEMBROKE	1231(OLD COUNTY) SW/O IR 1004@BR#2208	.	.	590	.	.
PEMBROKE	1231 (OLD COUNTY RD) E/O US 1	.	.	460	.	.
PEMBROKE	1231(OLD COUNTY) SE/O IR 341 @BR#2021	.	.	590	.	.
PEMBROKE	214 (AYERS JCT RD) NW/O US 1	.	.	1730	.	.
PEMBROKE	214 (AYERS JCT RD) NW/O IR 305	.	.	1410	.	.
PERRY	1 N/O IR 371 (SHORE RD) (S JCT)	.	.	2500	.	.
PERRY	1 NW/O IR 371 (SHORE RD) (N JCT)	.	.	2330	.	.
PERRY	1 NW/O IR 476 (LAKE RD) @ BR# 2683	.	.	2210	.	.
PERRY	1 N/O SR 190	.	.	2710	.	.
PERRY	1 S/O SR 190	.	2410	2710	.	.
PERRY	1 NW/O IR 1231 (OLD COUNTY RD)	.	.	2460	.	.
PERRY	1 SW/O IR 900	.	.	2490	.	.
PERRY	1 NW/O IR 464	.	.	2470	.	.
PERRY	305 (UPR CROSS RD) NE/O IR 480	.	.	460	.	.
PERRY	369(GOLDING RD) NW/O IR 480(S MEADOW)	.	.	290	.	.
PERRY	371 (SHORE RD) NE/O US 1	.	.	500	.	.
PERRY	464 (CANNON HILL RD) S/O US 1	.	.	180	.	.
PERRY	472 (OLD EASTPORT RD) SW/O SR 190	.	.	300	.	.
PERRY	476 (LAKE RD) SW/O US 1	.	.	320	.	.
PERRY	1231(OLD COUNTY RD) SW/O US 1@BR#2770	.	.	220	.	.
PERRY	190 SE/O IR 472 (OLD EASTPORT RD)	.	.	4610	.	.
PERRY	190 SE/O US 1	.	3920	4220	.	.

PERRY	4012 (OLD EASTPORT RD) S/O IR 900	.	.	270	.	.
PERRY	4017 NW/O US 1	.	.	670	.	.

Source: Maine Department of Transportation

## LEVEL OF SERVICE

Level of service (LOS) is a qualitative measure that characterizes operational conditions within a traffic stream and includes speed, travel times, freedom to maneuver, traffic interruptions, and the perceptions of motorists and passengers. Traffic congestion lowers a roadway's level of service (LOS). There are six levels of service, given letter designations from A to F. LOS A represents the best operating conditions, while LOS F represents the worst. LOS E is defined as the maximum flow or capacity of a system. For most purposes, however, a level of C or D is usually used as the maximum acceptable volume. As an annual average, however, LOS does not reveal the increased congestion during the tourist season. And so, for planning purposes, a seasonally adjusted LOS should be used when analyzing the need for local traffic management improvements.

Traffic volumes are low in Pembroke and Perry relative to the capacity of most local roadways and so the LOS is rated as A (excellent) on most roadways. The LOS is rated as B on Route 1 (west of the Pennamaquan River) in Pembroke. Route 214 in Pembroke is also rated as B. In Perry Route 1 is rated as a LOS of B for roughly 2 miles north of the intersection of Route 1 and Route 190. This is an area designated as a High Crash Link as well (see below). These areas are depicted on Map 9 - Transportation.

## DANGEROUS INTERSECTIONS AND STRETCHES OF ROADS

MDOT provides data on the number and type of crashes. MDOT classifies a "high crash location" as one where at least 8 crashes have occurred in the most recent complete three-year period. Crash locations between 1996 and 2006 are depicted on three maps in Appendix C according to whether the crash was between vehicles, between a vehicle and an animal, or if a vehicle ran off the road.

There are no high crash locations in Pembroke.

In Perry there is a "High Crash Link" that extends along Route 1 in the same area where the LOS is rated as B. Recent (2007-08) reconstruction of this part of Route 1 may improve the safety of this stretch of highway. The surface is greatly improved, there are shoulders and the utility poles are further from the travelled way. However local residents indicate that this stretch of road is often the point during winter weather when rain along the coast becomes freezing rain or snow. The data in Appendix C depicting the number of crashes resulting from vehicles running off the road during the winter months supports this observation. Thus, while the road surface is much improved this stretch of Route 1 in Perry may continue as a High Crash Link as a result of weather conditions.

Residents have pointed out several other areas as dangerous. These areas are described in the following two tables with suggestions for how to address the problem.

**Table H-3 Pembroke Dangerous Intersections and Stretches of Road**

<b>Intersection/Road</b>	<b>Safety Issue</b>	<b>Possible Solutions</b>
Junction of Upper Cross Road, Mount Tom Rd and River Road at Little Falls	Driver confusion; signage is lacking and/or confusing	Warning signs ahead of intersection; stop signs; add blinking light or 4-way stop sign;
Route 1 and Route 214	Speed; visibility limited crossing Route 1; commercial attractions at intersection	Add blinking light; install stop ahead sign on Route 214 north of Route 1; enforcement of speed limits on Route 1 in Pembroke village; reduce speed limit to 45 MPH between junction of Route 214 and Route 1 and junction of Little Falls Road and Route 1
Route 1 in Pembroke	lack of shoulders is a safety concern for vehicles, bicycles and pedestrian	Reconstruction of Route 1; During any reconstruction of these roads shoulders should be added; Implement Mobility and Safety Analysis recommendations prepared by WCCOG in 2007
Junction of Front St. County Rd, Shore Road and road to fire station	Blind corner and irregular entry into intersection	

**Table H-4 Perry Dangerous Intersections and Stretches of Road**

<b>Intersection/Road</b>	<b>Safety Issue</b>	<b>Possible Solutions</b>
South Meadow Road north west of Post Office	Sharp turn; no shoulders; no advanced warning of either	Stripe center of curve; signage warning of curve; reduce speed
South Meadow Road at junction with Golding Rd.	Confusion over right of way	Replace yield with stop sign
Gin Cove Road ~ 1/3 mile north of junction with Shore Rd.	Sharp curve at bottom of slope and lack of shoulder	Stripe center of curve; addition of shoulder
Route 1 near Elementary School	Inadequate signage warning of school children as well as inconsistent and unrealistic speed limit (15MPH only in one direction) on Route 1	Add blinking light to school zone signs during school opening and closing times; Increase speed limit to DOT standard

## ACCESS MANAGEMENT

Access Management is the planned location and design of driveways and entrances to public roads to help reduce accidents and prolong the useful life of an arterial. While arterial highways represent only 12% of the state-maintained highway system, they carry 62% of the statewide traffic volume. Maintaining posted speeds on this system means helping people and products move faster, which enhances productivity, reduces congestion-related delays and environmental degradation. By preserving the capacity of the system we have now, we reduce the need to build costly new highway capacity such as new travel lanes and bypasses in the future.

MDOT has established standards, including greater sight distance requirements for the permitting of driveways and entrances for three categories of roadways: mobility arterial corridors<sup>1</sup>, retrograde arterials<sup>2</sup>, and all other state and state-aid roads. Due to the low volume of traffic on the roadways, neither Pembroke or Perry has any roads in the retrograde category of roadways, which come under stricter access management standards. However Route 1 is considered a mobility corridor and is the most significant arterial corridor in the coastal part of the county. As such it is subject to the Access Rules administered by MDOT. To maintain and improve traffic flows, the Land Use section of this plan and future Land Use Ordinances should include access management performance standards that are in accordance with current law.

The Planning Board or Code Enforcement Officer in each town currently refers applicants to the Maine DOT for permits when taking access on State Highways and will continue to do so. The same access management standards are applied when entrance permit requests are submitted to the Road Commissioner on local roads.

The current state-required setback for structures from the center-line is 35 feet. Increasing this setback locally to 50 feet would provide all concerned with greater flexibility (for maintenance, snow removal, safety and services) and reduce conflicts. This would only affect new construction and existing structures would be grandfathered.

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1 A Mobility Arterial is a non-compact arterial that has a posted speed limit of 40 mph or more and is part of an arterial corridor located between Urban compact Areas or Service Centers that carries an average annual daily traffic of at least 5,000 vehicles per day of at least 50% of its length or is part of a Retrograde Arterial Corridor located between Mobility Arterials.

2 A Retrograde Arterial is a Mobility Arterial where the access related crash-per-mile rate exceeds the 1999 statewide average for Arterials of the same-posted speed limit.

## TRAFFIC CONTROL DEVICES

There are no traffic lights in Pembroke or Perry. Two additional blinking lights are possible solutions to dangerous intersections described in Pembroke (see Table H-3) and a blinking light on the school zone sign is a possible solution to a dangerous situation near the Elementary School in Perry (see Table H-4).

## BRIDGE INVENTORY

Pembroke has ten bridges, four of which are a state responsibility, five of which are a municipal responsibility and one that is shared between the state and the town. Perry has five bridges all of which are a state responsibility. The names, locations and features under these bridges are summarized for each town in the following two tables.

**Pembroke Bridge Inventory**

Bridge Name	Location/On	Capital Responsibility/ Maintenance Responsibility	Feature Under
Arch Bridge	0.6 MI SW RT 1/Old County Road	Municipal	Pennamaquan River
Pennamaquan	1.5 MI E #214/ Route 1	MDOT/MDOT	Pennamaquan River
Upper Crow Brook	1.5 MI W TOWNLINE/Route 1	MDOT/MDOT	Crow Brook
Ohio Brook	.5 MI S TOWNLINE/Route 214	MDOT/MDOT	Ohio Brook
Pennamaquan East	0.1 MI E OF E RIVER RD/East River Rd.	Municipal	Pennamaquan River
Little Falls	1.4 MI NE OF RTE 214/Cross Road	Municipal	Pennamaquan River
Crow Brook	1 MI SE JCT US 1/ Town Way	MDOT/Municipal	Crow Brook
Plank	.1 MI E JACT 1A @214 INT/Cross Rd.	Municipal/Municipal	Willow Brook
Sipps Brook	.3 MI S RTE 1/Old County Road	Municipal/Municipal	Sipps Brook
Willow Brook	.3 SE JCT RTE 1/RTE 214/Old County Rd.	Municipal/Municipal	Willow Brook

Arch Bridge guard rails are detached from the bridge causing a safety issue and need replacing. Pennamaquan East bridge needs replacing with a larger capacity bridge.

**Perry Bridge Inventory**

Bridge Name	Location	Capital Responsibility/ Maintenance Responsibility	Feature Under
Willow Brook	.5 MI S TOWNLINE/Route 1	MDOT/MDOT	Willow Brook
Smelt Brook	2 MI E TOWNLINE/Route 1	MDOT/MDOT	Smelt Brook
Upper Sipps Brook	.2 MI E TOWNLINE/Route 1	MDOT/MDOT	Upper Sipps Brook
Leighton	.4 MI W JCT US1/Townway	MDOT/MDOT	Little River
Village	.2 MI E 190/Route 1	MDOT/MDOT	Little River

## PARKING FACILITIES

There are public parking facilities available in Pembroke within the village area at the post

office, the elementary school and at public access points to the water. Parking within the village is adequate except at the post office. Parking is insufficient at the Elementary School when the facility is used for large gatherings such as athletic events and town meeting. Additional parking is used on private land in the village through informal arrangements to enable car pools. There is no designated on-street parking along roadways in the village area. Additional parking may be needed within the village to enable additional car pools.

There are parking facilities in Perry at the municipal building, the post office and public access sites. Parking at the municipal building is adequate. There is insufficient parking available at the post office and dangerous access from that site onto Route 1 as cars must back out directly into traffic. There is also insufficient parking at the Elementary School and dangerous conditions are created when even small crowds use the building for public events and park along both sides of Route 1. The municipal building parking lot is used by some for car pools. There is no designated on-street parking and none is anticipated as needed. Parking is currently only a problem during the annual harvest fair.

On-site parking should be required by future business development proposals in both towns.

Three grant programs, two from the Maine DOT and one from the Department of Marine Resources, could provide resources to each town to fund identified parking needs associated with the water access facilities in Pembroke and Perry. From Maine DOT, these include the Small Harbor Improvement Program (SHIP) which provides grants of up to \$250,000 for publicly owned facilities to improve floats, ramps, parking, dredging and other projects. Another program, the Boating Infrastructure Program (BIP) provides grants to improve piers, docks, marine facilities for transient work or recreational vessels 26' or longer. Eligibility is restricted to publicly owned facilities though it can extend to projects on privately owned facilities that have a public benefit. From Maine DMR, the Working Waterfront Access Pilot Program (WWAPP) provides funds to purchase property, or for the purchase of access easements, rights of way, or development rights to preserve walk-in or small boat access, properties entirely dedicated to commercial fisheries uses, or mixed use properties. This is a competitive application process where matching funds are available to assist commercial fisheries businesses, co-ops, municipalities and other interested parties in securing strategically significant working waterfront properties.

## **PEDESTRIAN AND BICYCLING FACILITIES**

There are currently no sidewalks anywhere in Pembroke or Perry.

There are a very limited amount of shoulders on Route 1 in Pembroke. Where they exist they are available only intermittently, broken up in some locations and located on one side and not the other. There are no shoulders at all on Route 1 near the Pembroke Elementary School and it is virtually impossible for children to walk or bike to school. In fact it is not permissible for children to walk or bike to school.

Shoulders were constructed in the recent reconstruction of Route 1 in Perry and much of the remainder of Route 1 in Perry has shoulders as well.

In both towns the elementary schools are located nowhere near the village centers or any population centers or neighborhoods. It is not therefore safe or feasible to encourage children to walk and bike to school.

Shoulders are needed along the entirety of Route 1 in both towns. Those that are very narrow and in disrepair should also be reconstructed as they create both a traffic hazard and dangerous conditions for bicyclists and pedestrians.

## **REGIONAL TRANSPORTATION ISSUES**

### **Roads**

As communities with limited employment and services, Pembroke and Perry residents often travel to other communities for shopping and work. Residents are thus affected by the condition of arterial roads in Washington County. They are also affected by the poor condition of many state collector roads. It is important that both towns continue to participate in regional transportation planning efforts.

While the population of Washington County decreased during the 1990s, the total number of vehicle miles traveled county-wide increased by over 13 percent. Most roads are not congested now, but there is a need to protect them from future degradation and the significant taxpayer expense of adding remedial capacity. The town should ensure that access management standards are used to keep the Level of Service (LOS) on Route 1 from deteriorating any further.

Municipalities can cooperate with neighboring communities and regional committees (eg. Corridor Planning initiatives, Route One Corridor Committee) to formulate corridor management plans that seek to encourage residential, commercial and industrial development with entrances and driveways co-located and with the needed road improvements paid for by the developer. Corridor management plans outline the appropriate locations for such access management techniques as frontage roads, shared driveways, intersections, turn lanes and signals.

At present Pembroke and Perry coordinate on road maintenance. Both towns manage their roads through elected Road Commissioners (also the Selectmen) and hired employees. Winter plowing and salt maintenance is contracted in Pembroke. Pembroke owns no public works equipment of its own. Perry has its own public works department with two full-time employees and four major pieces of equipment. Perry owns a culvert cleaner and a power broom. This equipment is shared with other towns in an emergency situation.

### **Public Transportation**

The Washington Hancock Community Agency (WHCA) provides scheduled van and door-to-door on demand transportation from either town to Calais, Eastport, Machias, Ellsworth and Bangor for clients referred to them by the State of Maine Department of Human Services. These services are provided to income eligible persons and are typically children in state custody, those on public assistance, Medicaid patients with medical appointments, the elderly and disabled, or people needing transportation to meals provided by the Eastern Agency on Aging. Most of the longer trips are for medical services: shorter trips are to local doctors, pharmacies and groceries.

Users of this service are mostly families living below poverty level, those with mobility limitation, those with no available vehicle, and the elderly. When space is available, the Washington Hancock Community Agency will accommodate other riders and other destinations.

Sunrise Transportation started a fee-based bus operation of two runs per day in 2009 from Eastport to Calais with pick up points along the way.

West's Coastal Connection Bus Service offers daily service from Calais along Route 1 through Pembroke and Perry, and Machias to Bangor, round trip. West's also operates services three times weekly, connecting coastal communities from Lubec to Ellsworth and coordinating its schedule with other service providers. Pick up points are at various locations throughout the county.

### **Railroad Facilities and Rail Services**

Abandoned rail lines stretch across Washington County and are generally in poor condition, as passenger service stopped nearly fifty years ago and freight service stopped in the mid-1980s. A management plan for the Ellsworth-Ayers Junction portion of this line was adopted in 2006 to renovate and preserve the corridor for rail in the event it becomes feasible. In the interim the corridor will be managed as a multimodal trail. Some rail line rights-of-way may be used by the East Coast Greenway, a bicycle and walking trail, to complete its route planned to extend from Key West, Florida to Calais, Maine.

With the recent dramatic increase in the cost of fuel it is felt by some that rail service needs to be addressed again. Both Pembroke and Perry, along with all of Washington County, would benefit from an economical method to move freight and people to and from our area. Indeed if any segment of the rail corridor is to become economically feasible again it is likely to be some portion of the connection between the port in Eastport and the functioning rail corridor in Calais. Accordingly both towns have identified future potential Commercial/Industrial areas on their Proposed Land Use Map (Map 11) where the rail corridor intersects with a road.

### **Airports**

There is no private airstrip in Pembroke but one private airstrip in Perry (Morrison's Airstrip that is open for public use). Primary regional airports include:

1. Machias Municipal Airport has 2900-foot runway is used by private plane owners or, in an emergency, by air ambulance services. The town of Machias is sponsoring the creation of a regional airport authority to develop a new airport in Washington County that seeks to expand and improve services to the region.
2. Deblois Flight Strip, off State Route 193, has a 4,000-foot runway but no navigational aids or fueling services.
3. Eastport Municipal Airport has a 4000-foot runway and provides limited charter services.
4. Princeton Regional Airport has two 4000-foot runways, and is used primarily by private businesses and recreational fliers. Fuel is available on site but there are no permanent fueling services.
5. Lubec Municipal Airport - 2032-foot gravel/turf runway, with beacon, no fueling services. Last rated by the state in good condition.

6. Hancock County - Bar Harbor Airport in Trenton is the nearest airport with regularly scheduled commercial service. In addition to daily commuter service to Boston, Massachusetts, charter service is offered. Car rental services are available.
7. Bangor International Airport, over two hours distant, provides national, international and civil defense services. Car rental services are available.

**Ferries**

There are no public or private ferry services in Pembroke or Perry and none are planned. A passenger ferry runs seasonally between Eastport and Lubec. A car ferry runs seasonally between Eastport and Deer Island, NB.

**PUBLIC OPINION SURVEY**

Opinions varied on the level of satisfaction of road conditions. Most respondents in Pembroke felt that summer road conditions were fine, while many more were dissatisfied with winter road conditions. In Perry most respondents were also generally satisfied with summer road conditions and less satisfied with winter conditions.

In both towns the survey also asked about the types of investments the town should make on its roads and under what conditions the town should consider take-over of private roads. Responses were the same in both towns. Town investments to add shoulders and address stormwater runoff were supported. Improving public safety on private roads was less clearly supported and encouraging development in certain areas produced a very mixed response.

**SUMMARY**

Transportation linkages in Pembroke and Perry consist of US Route 1 which traverses the two towns in a north-south travel corridor although the actual road orientation is east-west through the two village areas. Route 214 connects the center of Pembroke to the town of Charlotte to the north and Route 190 connects Route 1 from the center of Perry to the port and city of Eastport. Both towns will designate future potential commercial/industrial districts at the junctions of roads and the exempt rail corridor to allow for any future rail service or for a warehousing and marshalling yard to connect the port of Eastport to the rail corridor.

Pembroke, Perry and the entire region are reliant on Route 1 as the primary means of transportation movement. Local roads should provide safe, reliable access to work, school, stores, and residences. Overall, roadways in Pembroke are in fair condition and roadways in Perry are in fair to good condition. Given limited funding and the significant expense, each town has done a noteworthy job of maintaining its roads. Continued proper and affordable maintenance of the road network in both towns is in the interest of all residents.

Since MDOT has a jurisdiction over the roads supporting the highest volume of traffic in Pembroke and Perry, each town will continue to communicate and cooperate with the department. Both towns have a paving schedule for paved roads and require all private roads serving new development to be constructed to specific standards.