

## I. TRANSPORTATION

The purpose of this section is to:

1. Describe Lubec's roadway and transportation systems in terms of extent, capacity, and use;
2. Assess the adequacy of those systems in handling current use demands;
3. Assess the conditions of existing pedestrian and transit facilities and services; and
4. Predict major transportation improvements needed to address identified deficiencies and accommodate the projected demand for transportation in Lubec and Washington County.

### FINDINGS

There are more than 60 miles of roadway in Lubec, including 35 miles of local roads, 13 miles of state highway and state aid roads and over 14 miles of private roadways (not counting woods roads and agricultural access roads). Lubec's road network is extensive when compared to its population, tax base and in comparison with other nearby communities. As a result of both its large road network and backlog of deferred maintenance, the Town anticipates that maintaining the existing network of public roads in Lubec will require careful planning and prudent fiscal management over the planning period.

The major traffic flows in Lubec are found along Route 189 with the highest traffic counts in the downtown area where local traffic overlaps with through traffic to and from Campobello Island. However, traffic volumes as a whole are relatively low, with no roadways exceeding 4,000 vehicles per day as measured by Average Annual Daily Traffic data counted in 2004.

### ROADS INVENTORY

Many roads in Lubec originated in the early days as pathways or carriage trails. These roads followed the easiest routes and were not concerned with sight distances, sharp corners, the weight load of trucks, or intersection design. Some of the roads were improved over the years to accommodate increased traffic, higher speeds and larger vehicles. In the last decade, the Maine Department of Transportation (MDOT), through its Local Roads Assistance Program, has assisted municipalities in improving these roads to meet modern 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. Interstate highways may function as arterials. Access to adjacent land is often provided.

2. Collector roads 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 are maintained in part by the state. Collector roads are roadways which connect local streets to arterials, and generally provide access to adjacent land.
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, and usually carry low volumes of traffic.

Lubec has over 45 miles of public roadway, made up of thirteen miles of collector roads, and 33 miles of local roads. There are no roadway segments in Lubec classified as “arterial” by the Maine DOT. In addition to public roads, there are approximately 14 miles of private roads in Lubec with no public maintenance. A listing of all roads in Lubec by classification, length, and maintenance responsibility and overall condition can be found in Table I-1 and Table I-3, their geographic location is illustrated on *Map 2: Public Facilities and Services*.

Maine DOT is responsible for 13 miles of roadway in Lubec, which include: Routes 189 (County Rd / Washington St), Route 191 (Dixie Rd) and the South Lubec Rd. Maine DOT's jurisdiction includes permitting of curb cuts, summer and winter maintenance, and traffic flow and safety decisions such as traffic signals, signs, reconstruction and widening.

**Table I-1 PUBLIC ROADWAY INVENTORY**

Road Name	Length	Jurisdiction	Surface	Condition <sup>1</sup>	Comments
Dixie Rd/Rte 191	3.1 mi	State aid	Asphalt	-	
South Lubec Rd	4.6 mi	State aid	Asphalt	-	
County Rd/Rte 189	5.3 mi	State highway	Asphalt	-	
Washington St/Rte 189	0.4 mi	State highway	Asphalt	-	
Airport Rd	0.1 mi	Townway	Gravel	A/B	
Bar Rd	0.4 mi	Townway	Gravel	B	
Bayview St	0.1 mi	Townway	Asphalt	C	
Boot Cove Rd	6.4 mi	Townway	Asphalt	B	~3 mi. still need surfacing
Border Cove Ln	0.7 mi	Townway	Asphalt	B	
Carrying Place Cv	0.4 mi	Townway	Asphalt	B	
Church St	0.2 mi	Townway	Asphalt	A/B	
Crows Neck Rd	2.0 mi	Townway	Asphalt	B	
Denbow Rd	0.6 mi	Townway	Asphalt	B	
Dewey-Mowry St	0.2 mi	Townway	Asphalt	C	Significant drainage issues
Doherty Ln	1.3 mi	Townway	Asphalt	B	No longer maintained.

<sup>1</sup> Grade Classification System:

- A Relatively new roadway, lifetime expected in excess of 20 years (with proper maintenance)
- B Roadway is older and has been well cared for, lifetime expected to be in excess of 10 years
- C Older roadway that may not be in the best of shape & may need minor improvements within 5 years
- D Old roadway that needs considerable maintenance within 2 years and/or significant renovation
- F Very old roadway that has outlived its usefulness or is in severe disrepair. This facility (or equipment) is unsafe or unusable and should be attended to very soon.

Road Name	Length	Jurisdiction	Surface	Condition	Comments
Doran Ln	0.3 mi	Townway	Asphalt	<b>B</b>	
Eureka St	0.1 Mi	Townway	Asphalt	<b>C</b>	Needs work at lower end
Hamilton St	0.1 Mi	Townway	Asphalt	<b>B</b>	Unpaved part connect to 189
High St	0.1 Mi	Townway	Asphalt	<b>B</b>	
Hobson St	0.1 Mi	Townway	Asphalt	<b>B</b>	
Jims Head Rd	0.5 Mi	Townway	Gravel	<b>C/D</b>	Needs grading and fill
Johnson St	0.5 Mi	Townway	Asphalt	<b>B</b>	
Jones Rd	>0.1 Mi	Townway	Asphalt	<b>B</b>	
Klondike Ln	0.2 Mi	Townway	Gravel	<b>B</b>	
Lead Mine Rd	2.4 Mi	Townway	Gravel/Asph	<b>B</b>	Paved part: <b>A</b> ; gravel part: <b>C</b>
Lower Water St	0.2 Mi	Townway	Asphalt	<b>B</b>	
Lyons Rd	1.6 Mi	Townway	Gravel	<b>B</b>	
Main St	0.9 Mi	Townway	Asphalt	<b>B</b>	
Maple Tree Rd	1.5 Mi	Townway	Asphalt	<b>A/B</b>	
Monument St	0.1 Mi	Townway	Asphalt	<b>B</b>	
North Lubec Rd	5.8 Mi	Townway	Asphalt	<b>B</b>	
Pleasant St	0.5 Mi	Townway	Asphalt	<b>D</b>	
Pumping Station Rd	0.7 Mi	Townway	Asphalt	<b>B</b>	
Sardine Wy	0.1 Mi	Townway	Gravel	<b>C</b>	No longer maintained.
School St	0.3 Mi	Townway	Asphalt	<b>B</b>	
Somersville Av	0.1 Mi	Townway	Asphalt	<b>B</b>	
South St	0.4 Mi	Townway	Asphalt	<b>B</b>	
Spring St	0.1 Mi	Townway	Asphalt	<b>B</b>	
Straight Bay Rd	4.9 Mi	Townway	Gravel/Asph	<b>B</b>	
Summer St	0.2 Mi	Townway	Asphalt	<b>B</b>	
Thompson Ln	0.4 Mi	Townway	Asphalt	<b>B</b>	
Water St	0.2 Mi	Townway	Asphalt	<b>B</b>	
Willow St	0.1 Mi	Townway	Asphalt	<b>B</b>	

Source: MDOT and Town of Lubec

Overall, local roads in Lubec are in fair condition. Included in the 33 miles of local roads maintained by the town of Lubec are approximately 4 miles of unpaved roadway. The Town of Lubec does not consider paving those unpaved sections of local road to be a municipal priority.

Based on the road conditions assessment (see Table I-1), the Comprehensive Plan Update committee recommends the following priorities for road improvement over the next 5 years:

- **Dewey-Mowry St.** (~0.2 mi) – Address drainage issue.
- **Boot Cove Rd.** (6.4 mi) – Complete surfacing of rebuilt section (~3.0 remaining)
- **Bayview St.** (~0.1 mi) – Repave

Anticipated roadway improvements are included in the Capital Investment Plan, see *Chapter J: Fiscal Capacity*.

## MAINTENANCE AND CONSTRUCTION OF PUBLIC ROADS

The town Public Works Department oversees road maintenance. The town works diligently with limited resources to maintain local roads. However, as a result of the town's unique geography, Lubec has a large network of public roads as compared with other nearby communities.

Table I-2 shows that the miles of State highway and State-aid roads in Lubec are comparable to other communities in the area. The miles of locally owned and maintained roadway in Lubec exceed the total number of miles of roadway in many nearby communities.

**Table I-2: COMPARISON OF MILES OF ROADWAY  
FOR SELECTED WASHINGTON COUNTY COMMUNITIES**

	State & State Aid	Local	Total	Ratio of Local to State
Addison	22 mi.	15 mi.	37 mi.	0.7 : 1
Alexander	15 mi.	12 mi.	27 mi.	0.8 : 1
Dennysville	4 mi.	10 mi.	14 mi.	2.3 : 1
Harrington	16 mi.	12 mi.	28 mi.	0.8 : 1
Jonesport	15 mi.	11 mi.	25 mi.	0.7 : 1
Machias	14 mi.	13 mi.	27 mi.	0.9 : 1
Machiasport	12 mi.	12 mi.	24 mi.	1.0 : 1
Whiting	13 mi.	8 mi.	21 mi.	0.6 : 1
Cherryfield	15 mi.	21 mi.	36 mi.	1.4 : 1
<b>Lubec</b>	<b>13 mi.</b>	<b>33 mi.</b>	<b>46 mi.</b>	<b>2.5 : 1</b>

Source: WCCOG, Town Comprehensive Plans

This large network of public roads – and in particular the large network of local roads for which the town is solely responsible – place a significant economic burden on the Town as compared with the more compact road network in nearby communities.<sup>2</sup>

Damage that occurs to the roads is largely the result of inadequate road design, base material and drainage. A combination of harsh weather, frost, spring thaw and truck activity are another causes of road deterioration. Roads are most vulnerable to the weight of trucks and other heavy vehicles during the spring thaw, which is also a time of year when many natural resource-based products are transported to market.

The Town of Lubec's Public Works Department is responsible for road maintenance, plowing and capital improvement projects on local roads. Lubec receives some funding from the State through the Urban Rural Initiative Program (URIP) for capital improvements to local roads and StateAid/Minor Collector projects. Non-capital projects (e.g. plowing, sanding, and

<sup>2</sup> Another way to demonstrate this phenomenon is by comparing the miles of local roadway in each community to the available property tax base. Among the selected communities, there is an average of \$7.2M of valuation for each mile of local road way, as compared to only \$5M in valuation for each mile of local roadway in Lubec. This means that if roadway maintenance costs per mile of roadway are comparable among the 10 communities, there will either be fewer dollars per mile of road in Lubec or taxes will be correspondingly higher. (Among the 10 communities, only Cherryfield and Alexander had fewer dollars of valuation backing each mile of local roadway).

maintenance) are funded through local taxation. In recent years, the level of revenue sharing from the State through URIP has declined while the Town's overall transportation budget has increased (reflecting rising material and labor costs). This has resulted in a significant and unsustainable increase in the amount of transportation dollars that must be raised through local taxation (see *Chapter J. Fiscal Capacity*).

The Maine DOT Local Roads Center provides a "Road Surface Management System for Maine Towns" training program, including Road Surface Management System (RSMS)<sup>3</sup> 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 communities to inventory their road network, record road surface condition data, interpret the surface distress information gathered, and "defend" their road maintenance budgets. The system is generic and provides an objective tool that a municipality can "customize" with its own repair techniques and local costs. The town of Lubec does not currently utilize the RSMS software, but is considering its use in the future.

### **PRIVATE ROADS IN LUBEC**

In addition to the thirteen miles of State and State-aid roads and 33 miles of local roads, there are an additional 14 miles of private roads in Lubec (not counting woods roads and agricultural access roads). These roads, which are not publicly maintained, provide access to private homes and businesses. A list of private roads derived from E911 data is included in Table I-3.

Lubec does not currently have municipal design standards for private roads or policies to guide the acquisition of private roads. With the high cost of maintaining Lubec's existing public roads, the cost associated with accepting any additional public roads only increases the burden on Lubec taxpayers.

To help manage and minimize the cost of adopting additional public roads, the Town should adopt a road adoption ordinance requiring that any additional private roads meet standards for the type of roadway as recommended by the Maine Local Roads Center in order to be considered for municipal adoption (MDOT – see Figure H-4). Road design standards should also be included in any future land use ordinance (see *Chapter K. Land Use*).<sup>4</sup> Any road design standards should differentiate between growth areas and rural areas, and encourage paper roads that would allow for connectivity with future development as part of subdivision plans in designated growth areas.

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<sup>3</sup> **Road Surface Management System (RSMS)** is a road network pavement management system implemented using a computer based software package. RSMS provides information on the condition, traffic, and importance of roads in a network to create a long-term maintenance program. This helps municipalities apply limited budget resources where they will provide the greatest road quality benefits.

<sup>4</sup> Model subdivision ordinances with road adoption standard are available online at <http://www.smrpc.org/landuse/subord/subord.htm>.

**Table I-3 INVENTORY OF PRIVATE E911 ROADS**

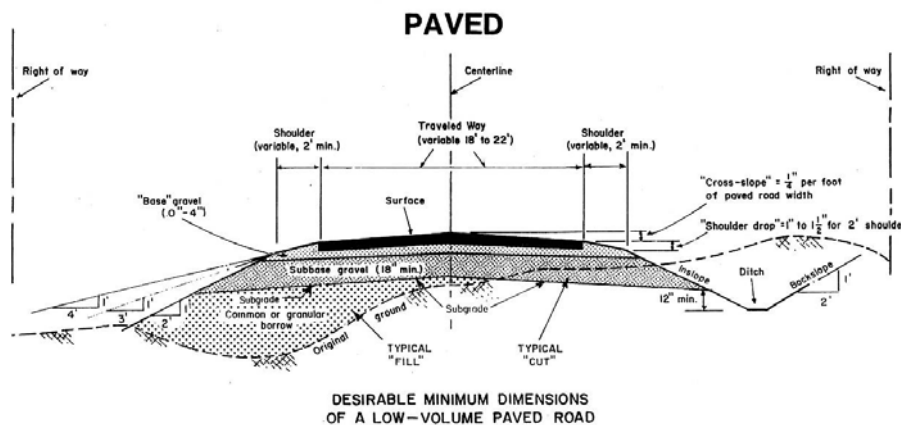
Road Name	Length
Allen Ln	0.1 Mi
Apple Tree Ln	0.2 Mi
Barker Ln	>0.1 Mi
Bassett Creek Ln	0.1 Mi
Bayview Park	0.1 Mi
Birch Point Ln	0.3 Mi
Blanch Ln	0.2 Mi
Border Cove Ln	0.7 Mi
Bridges Ln	0.1 Mi
Captains Lady Ln	0.1 Mi
Case Dr	0.1 Mi
Cecelias Wy	0.3 Mi
Clark Ln	>0.1 Mi
Coffins Neck Rd	1.3 Mi
Comstock Ln	0.1 Mi
Corey Ln	0.1 Mi
Cove Dr	0.1 Mi
Cox Ln	0.1 Mi
Cumberland Ln	>0.1 Mi
Diamond Point Rd	0.3 Mi
Easy St	0.1 Mi
Edgecomb Ln	0.7 Mi
Emery Cir	0.1 Mi
Fleming Ln	>0.1 Mi
Forest Ln	0.3 Mi
Glidden Wy	0.1 Mi
Green St	0.1 Mi

Road Name	Length
Grey Feathers Dr	>0.1 mi
Hallett Cir	0.1 mi
Harbor Heights Ln	0.1 mi
Horror Hill Ln	0.1 mi
Hunter Av	0.1 mi
Julia Cove Ln	0.5 mi
Katies Cove Ln	0.2 mi
Lawrence Ln	0.1 mi
Ledge Ln	0.2 mi
Legion Rd	0.1 mi
Lighthouse Ln	0.2 mi
Locke Ln	0.1 mi
Loon Ln	0.2 mi
McConnell Ln	0.2 mi
Mill Creek Ln	0.3 mi
Morang Cove Ln	0.2 mi
Mulholland Ln	0.1 mi
Museum Ln	0.1 mi
Newman Ln	>0.1 mi
North Shore Rd	0.8 mi
Nutters Cove Rd	0.3 mi
Old Campground Ln	0.2 mi
Paradise Ln	0.1 mi
Peacock Ln	0.1 mi
Petes Ln	0.1 mi
Pike Ln	0.1 mi
Plaster Mill Ln	0.1 mi

Road Name	Length
Pop Joy Ln	0.1 Mi
Pork Hill Ln	0.1 Mi
Quoddy Farm Rd	0.2 Mi
Retreat Ln	0.1 Mi
Reynolds Ln	0.1 Mi
Riggs Ln	0.1 Mi
Saltus Cove Ln	0.2 Mi
Sawtelle Ln	0.2 Mi
Scoville Ln	0.1 Mi
Simpkins Ln	0.1 Mi
Spark Plug Ln	0.3 Mi
Split Hill Ln	0.1 Mi
Stanley Rd	0.2 Mi
Sunset Rd	0.2 Mi
Supeg Ln	0.1 Mi
Tavern Dr	0.1 Mi
Thistlewood Ln	>0.1 Mi
Townsend Ln	>0.1 Mi
Tucker Ln	>0.1 Mi
Wallace Cove Rd	0.2 Mi
Weir Ln	0.1 Mi
Westside Ln	>0.1 Mi
Woodward Cove Rd	0.1 Mi
Yates Ln	0.4 Mi

Source: Town of Lubec, MEGIS

**Figure I-4. CROSS SECTION OF LOW-VOLUME, PAVED ROAD BUILT TO STANDARDS**



Source: MDOT, Maine Local Roads Center (<http://www.state.me.us/mdot/mlrc/documents/CrossSection.pdf>)

**TRANSPORTATION PLANS**

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 Transportation Improvement Program (BTIP). The most recent Six-Year Plan was issued in 2008 covering the period 2010-2015. 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. The Town of Lubec actively participates in regional transportation planning efforts, and provides input to MDOT regarding local transportation investment priorities for inclusion in MDOT’s Six-Year Plan and BTIPs.

MDOT has proposed one bridge replacement project in the Six-Year Transportation Improvement Plan for 2010-2015. No projects in Lubec were included in the current Biennial Transportation Plan. In addition, Maine DOT utilized American Recovery and Reinvestment Act (federal stimulus) funding to resurface a portion of Route 189 from Whiting Corner during the 2009 construction season.

**Table I-5 LUBEC PROJECTS IDENTIFIED IN 6-YEAR PLAN**

<b>Project Type</b>	<b>Functional Class Route #, Length</b>	<b>Description</b>	<b>Estimated Cost/ Fund Source</b>
Bridge Replacement	Route 189, 875 ft.	FDR Memorial Bridge (#5978) over Lubec Narrows, located 0.11 of a mile northerly of Water Street.	\$15,000,000.00/ Unknown

Source: MDOT

According to the Maine Department of Transportation’s Bridge Management Office, the FDR Memorial bridge replacement project is currently scheduled for 2014. MDOT has not conducted detailed scoping for the project and anticipates that the timeline may change based on funding and other considerations.

The Town of Lubec has a number of concerns about the potential impact from construction of a replacement bridge on Lubec’s downtown and community character. Some specific concerns that the Town of Lubec has regarding this project include:

- disruption of traffic during construction,
- impacts on downtown businesses,
- displacement of residences and businesses, and
- keeping the waterway open to boat traffic during construction.

As the Maine Department of Transportation moves ahead with refining the project scope, the Town of Lubec requests that the process include early and frequent opportunities for local community input.

Some design considerations that the Town of Lubec would like to bring to the table early in the planning process include the following:

1. Support pillars should be further apart than they are on the current bridge to allow for safer movement of fishing vessels.
2. The access ramps for the replacement bridge should be aligned in a way that does not disrupt traffic to the downtown.
3. A pedestrian walkway should be included as part of the bridge design.

In addition to the suggestions regarding the bridge construction project, the Town also has several suggestions for roadway improvements to increase safety for turning traffic (see Table I-8).

Other regional transportation plans that address transportation facilities in Lubec include the 2007 Strategic Investment Plan for Corridors of Regional Economic Significance (SIPCREs). Development of a Multi-Modal Corridor Management Plan for the Downeast Coastal Corridor is currently under development. The Town of Lubec supports and is actively engaged in regional transportation efforts in eastern Washington County.

### **LEVEL OF SERVICE**

Traffic congestion can lower 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.

MDOT has noted an LOS of C on Route 189 from the North Lubec Road to junction the FDR Memorial Bridge, along Water Street and a portion of Main Street. MDOT has noted a LOS of B on the remainder of Route 189, along the North Lubec Road from Route 189 north for approximately one mile, and on Maple Tree Road. MDOT notes a LOS of A on all other roads within the town (see *Map 9: Transportation*).

Lubec is a rural community and traffic volumes are low except along portions of Route 189. As indicated by the level of service data, traffic flow through, in, and around downtown Lubec is somewhat impeded due to the density of development, multiple roadway functions and reduced speed limits. However, reduced traffic speed is consistent with the land use pattern and roadway function in these areas. The Town does not consider that traffic delays are excessive or burdensome in any areas of Lubec.

### **TRAFFIC VOLUMES AND PATTERNS**

Although the population of Washington County has decreased during the 1990s, MDOT reports that the total number of vehicle miles traveled has increased by 13 percent. MDOT estimates the average annual daily traffic volume (AADT) of most State and State-aid roadways. Traffic counts taken every few years help the state calculate changes in traffic volume so that road

improvements can be 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 inform the overall growth or decline of traffic on a roadway and the pattern of traffic on road networks.

Table I-6 shows AADT counts for the most recent year (2004) for which data is available for State highways, State-aid roads and town roads in Lubec. The volumes shown represent both through traffic and local activity.

AADT data shows low traffic volumes through most of Lubec. In 2004, traffic volume did not exceed 4,000 vehicles per day for any segments. Not surprisingly, the AADT data indicates that the highest traffic volume in Lubec is along Route 189 between the North Lubec Road and the FDR Memorial Bridge – where local, downtown traffic overlaps with international and tourist traffic crossing onto and off Campobello Island (see Table I-6).

**Table I-6 TRAFFIC VOLUMES (Average Annual Daily Traffic – AADT, 2004)\***

Route	Location	AADT
RTE 189	Main St SW of trans lines @ cul	4,000
RTE 189	Main St SW of Washington St	3,950
RTE 189	Washington St E/O Main St	3,310
RTE 189	SW of N Lubec Rd	3,220
RTE 189	E of Rte 191	2,920
RTE 189	Washington St W of Pleasant St	2,670
RTE 189	BR# 2527	2,310
WATER ST	E of Pleasant St	1,520
MAIN ST	NE of Rte 189 (Washington St)	1,450
WATER ST	S of School St	1,380
WATER ST	N of School St	1,330
RTE 189	Washington @ Customs on Br	1,260
N LUBEC RD	NW of Rte 189	770
MAIN ST	NE of School St	650
MAIN ST	SW of Eureka St	630
RTE 191	S of Rte 189	620
MAIN ST	Main St E of Eureka St	610
MAIN ST	Main St E of Forest Ave	610
MAIN ST	Main St W of Water St	440
RTE 191	NE of Boot Cove Rd	420
MAPLE TREE RD	SE of Rte 189	400
MOMUMENT ST	NW of Main St	400

Source: Maine Department of Transportation, 2008

\* For roadway segments with average annual daily traffic volume greater than 400.

## LAND USE AND ENVIRONMENTAL CONSIDERATIONS

Aside from State-required minimums, the Town of Lubec has a limited set of regulations to affect the nature and pattern of development. Regarding transportation in particular, the Town of Lubec does not currently have municipal ordinances regulating roadway design or standards for the acquisition of public ways. Similarly, town land use regulations do not address standards for transportation-related noise, provision of on-site parking, parking lay-out or design, and internal circulation.

Limited land use regulation in Lubec is a consequence of the rural nature of the community and a response to limited development over the last couple of decades. Residential and commercial development has largely occurred in a piecemeal fashion over the last several decades. It has been influenced by the existing land use regulation and market demand for quiet, rural lots. In particular, road frontage requirements and state access management requirements have tended to direct new commercial development to areas outside of the traditional village. New residential development has likewise taken place largely outside of the tradition village along existing roadways or on relatively short dead-end roads that serve small subdivisions.

As a result of these and other changes, Lubec’s “Main Street” has moved such that a greater proportion of commercial activity now occurs on Washington Street rather than on Water Street. The community has looked at several ideas on how to move more traffic back onto Water Street. However a lack of parking, and “traffic calming” measures make it difficult for large vehicles to navigate Water Street and impede these efforts.

### 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 the need to build costly new highway capacity such as new travel lanes and bypasses is reduced.

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>5</sup>, retrograde arterials<sup>6</sup>, and all other state and state-aid roads. Due to the low volume of traffic on Lubec’s roadways, the town has no roads in the retrograde category of roadways, which come under stricter access management standards.

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5 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.

6 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.

In a few instances, access management issues contribute to traffic hazards. Those locations are noted in **Table I-8**.

### **Environmental Concerns**

Habitat fragmentation can result from roads and other transportation facilities and is likely occurring in Lubec. Poorly sized, installed or maintained culverts and water crossing structures can physically block fish passage and/or result in increased flow velocities that cause excessive channel scouring, bank slumping and flows that limit fish and aquatic invertebrate passage in streams and can lead to local extinctions of fish species.

The Town has not assessed existing water crossing structures (culverts and bridges) for their potential as barriers to fish and aquatic species passage. As part of on-going maintenance, the Public Works Department should determine the extent to which existing structures act as barriers to fish and aquatic species passage and incorporate this information into plans for the repair and/or replacement of these structures.<sup>7</sup>

### **Noise-Related Concerns**

The Town is not aware of any noise-related concerns or significant environmental degradation within Lubec caused by state or local transportation facilities or operations.

### **Impacts on Scenic, Historic and Cultural Resources**

The Town is not aware of any significant scenic, historic or cultural resources that are being negatively impacted by state or local transportation facilities or operations at this time. The Town has not identified any scenic, historic or cultural resources that would be impacted as a result of roadway expansion or other transportation improvements.

## **DANGEROUS INTERSECTIONS AND STRETCHES OF ROADS**

Maine DOT maps and records statewide collision data based on public safety reporting in order to determine High Crash Location, which are defined as a place where eight or more collisions occur within a given three year period. As may be expected – given the relatively low traffic volume in Lubec – Maine DOT did not identify any high crash locations in Lubec in 2006 (the most recent year for which data is available).

Statewide collision data show that there were 259 collisions involving motor vehicles in Lubec in the ten-year period from 1996-2006. Of the 259 reported collisions, 88 collisions resulted in injuries and one collision resulted in a fatality. The most common type of traffic accident during this time period was vehicles running off the road (89 occurrences, the majority of which occurs in winter), followed by rear end/sideswipe collision (52 occurrences) and intersection movement collisions (42 occurrences).

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<sup>7</sup> For more information of the effects of roads on streams visit:  
[http://www.maine.gov/doc/mfs/fpm/water/docs/stream\\_crossing\\_2008/MaineStreamCrossingsPoster.pdf](http://www.maine.gov/doc/mfs/fpm/water/docs/stream_crossing_2008/MaineStreamCrossingsPoster.pdf).

**Table I-7: TRAFFIC ACCIDENTS IN LUBEC  
BY TYPE, 1996-2006**

Type	Number
Ran-off road	89
Rear end/sideswipe	52
Intersection movement	42
Deer collisions	29
Head on/sideswipe	16
Roll-over	4
Object in road	3
Pedestrian collisions	2
Moose collisions	2
Fire	2
Bicycle collision	1
Other	11

Source: Maine DOT

Mapping of crash data (included as Appendix J) shows that the overwhelming majority of traffic accidents in Lubec occur along Route 189, with noteworthy concentrations of vehicle collisions near the intersections of Route 189 with: 1) Dixie Road (Route 191) & Crows Neck Road, 2) North Lubec Road & Maple Tree Road and 3) South Lubec Road

A significant portion of accidents involving vehicles running off the road also occurred on the North Lubec Road and the South Lubec Road. Based on crash information and local knowledge of driving conditions, the town of Lubec has identified the specific locations in which road conditions result in traffic safety issues – see Table I-8.

**Table I-8 LOCALLY IDENTIFIED TRAFFIC HAZARD AREAS**

Road/Intersection	Safety Issue	Cause of Safety Issue	Possible Solutions
Rte 189/N. Lubec Rd	Short sight distance for left turn onto Rte 189 from N Lubec Rd	Buildings; service vehicle obstruct view of roadway	<i>None recommended.</i>
Rte 189/Crows Neck Rd	Short sight distance for left turn onto Route 189; on-coming traffic moves at >50 mph	Banking and vegetation	Improve roadway geometry
“Morton’s Corner” N. Lubec Road	Sharp curve on a hill; narrow roadway; frequently run off road	Roadway design: roadway too narrow	<i>None recommended.</i>
Pleasant St/School St	Short sight distance for traffic crossing School St on Pleasant	Roadway geometry: steep hill	Improve roadway geometry on School St
Washington St / @ Pleasant, Water, & bridge	Confusing intersection.	Five-point corner with traffic moving at different speeds	Improve intersection in association with bridge replacement project.
Washington St / Dewey-Mowry St	Short sight distance turning onto Washington Street	Signage and vegetative encroachment	
Boot Cove Road	Cars run off road	S-Curves	Paved shoulders

Source: Lubec Comprehensive Plan Update Committee

## TRANSPORTATION FACILITIES AND SERVICES

### Traffic Control Devices

There are no traffic control devices in Lubec. It is not anticipated that any traffic control devices will be needed in Lubec during the next several years.

### Shoulders

With the exception of Washington Street, the shoulders along Route 189, Route 191 and the South Lubec Road are narrow; and in many places there are no shoulders at all. Many town roads are narrow, two-rod roads. On the North Lubec Road there are no paved shoulders and in some places soft shoulders are higher than the roadway, contributing to run-off and roadway deterioration.

Paved shoulders make the road safer, allow an area that is more useful for temporary maintenance of vehicles, provide increased opportunities for faster vehicles to pass slow-moving vehicles, offer safer opportunities for pedestrian travel, and allow easier and safer travel for the increased numbers of bicyclists touring the town. Lubec will have an increased need for paved shoulders as the community grows and as traffic on these minor collector roads increases. The Town should work with MDOT to include the addition of paved shoulders in roadway maintenance and reconstruction plans.

### Culverts and Bridges

The town's Road Commissioner and Selectmen are responsible for inspecting and maintaining culverts/bridges. Lubec has seven bridges, four of which are the responsibility of the State, and three that are owned and maintained by the town. The bridge information in Table I-9 below describes these bridges. The bridges and culverts in town are in generally good condition. As discussed above, MaineDOT plans to replace the FDR Memorial Bridge (#5978), which received a federal sufficiency rating of 51.7% in the most recent assessment of bridge conditions conducted by Maine DOT in 2007. MaineDOT currently has no plans to replace Kelley Bridge (#2426) on Route 189 which received a federal sufficiency rating of 60.9%.

**Table I-9 BRIDGES IN LUBEC**

Bridge Name (Br#)	Location	Capital Responsibility/ Maintenance Responsibility	Feature Under	Structure Type/ Year Built	Sufficiency Rating
South Lubec (5496)	S Lubec Rd	MDOT/MDOT	Tidal inlet	18' Alum. culvert (1990)	98.6%
McCurdy's (5308)	Crow Neck Rd	Lubec/Lubec	Mays Brook	12' Steel culvert (1951)	73.6%
Kelley (2426)	Rte 189	MDOT/MDOT	Kelly Brook	21' Concrete slab (1956)	60.9%
FDR Memorial (5978)	Rte 189	MDOT/MDOT	Lubec Narrows	875' Steel Girder (1962)	51.7%
Mill Hill (3075)	N Lubec Rd	Lubec/Lubec	Mill Stream	10' Alum. culvert (1970)	77.4%
Mays (2527)	Rte 189	MDOT/MDOT	Mays Stream	12' Steel culvert (1956)	74.2%
Hamilton Brook (1163)	Rte 191	Lubec/Lubec	Hamilton Bk	8' Concrete culvert (UNK)	75.7%

Source: MDOT

The town anticipates that Kelley bridge (#2426), which is owned and maintained by Maine DOT will need to be replaced within the next 5 to 10 years. The town will continue to assess the condition of municipally owned bridges and major culverts. At this time the bridges are functioning satisfactorily. However the town anticipates that McCurdy's (#5308), built in 1951; Mays (#2527), built in 1956; and Mill Hill (#3075) built in 1970 will all need to be replaced or significantly repaired during the planning period.

In addition to major culverts, there are a number of small culverts under town roads. The town also has standards for driveway culverts along town roads and assumes responsibility for their replacement and repair. Minor culvert maintenance replacement is normally included as part of the town's road maintenance budget. Given the level of residential development outside of the traditional downtown during the 1990s and early years of the 21<sup>st</sup> century, the cost of minor culvert replacement is anticipated to rise during the planning period.

### **Parking Facilities**

Lubec is a rural community. Land use regulations in Lubec do not address parking requirements for either residential or commercial development. Outside of the downtown area parking is associated with individual land uses and the availability of parking is not a significant concern.

Within the downtown area there are a number of public buildings and facilities that have associated off-street parking including: Lubec Consolidated School, Lubec Fire Station/Town Office, the boat launch (on Johnson Street), the Bandstand (on High Street), the Public Library (on Water St), and the Post Office (on Water Street) and a town parking lot located behind the Library. In addition, marked, on-street parking is provided along the whole length of Water Street. On-street parking also occurs on other downtown streets. Although on-street parking sometimes reduces roadways in the downtown to a single lane traffic volumes are light and this is not a significant concern.

Parking availability is occasionally an issue for downtown businesses particularly those located on Water Street. Parking for the post office is inadequate and contributes to the confusion at the intersection of Water Street and Washington Street (Route 189). During the summer months parking on and near Water Street has become a significant issue. The Town should proactively work with businesses and property-owners along Water Street to identify solutions to alleviate the parking problem over time. Potential solutions include additional public parking areas and improved signage directing visitors to existing parking. Respondents to the Community Survey also supported development of off-street parking requirements for new commercial development downtown.

### **Pedestrian Facilities**

In October 2008, the Washington County Council of Governments conducted a photo inventory of pedestrian facilities in Lubec that assessed the condition of each segment of sidewalk in terms of a) surface type, b) surface condition, and c) apparent accessibility issues. Table H-10 summarizes the findings of the photo inventory. (The full report is included as Appendix D). Based on current sidewalk conditions, the Lubec Comprehensive Plan Update Committee

recommends the following improvements to existing facilities:

- Seek any available funding to install curb cuts where necessary;
- Work with the Maine Department of Transportation to address pedestrian safety issues associated with the crossing at the junction of Washington St. and Main St.;
- Provide mark crossings at the following locations:
  - on Main Street (connecting sidewalk segment 9 and segment 10);
  - at the junction of Washington Street and South Street
  - from the north side of Washington Street (at “flat iron corner”) to the south side of Washington Street.

The Committee also recommends that the Town seek any available funding to extend sidewalks along the south side of Washington Street from South Street to the junction with Main Street as well as a pedestrian connection from Washington Street to the school (which may include a sidewalk along South Street or a paved trail). These improvements will provide safer pedestrian access to businesses along Washington Street and between downtown residential areas and the Lubec Consolidated School.

**Table I-10: SIDEWALK INVENTORY**

<b>Id</b>	<b>Location</b>	<b>Length</b>	<b>Surface</b>	<b>Condition</b>
2	Church St.	290'	Concrete	C
3	Church St.	250'	Asphalt	C
4	Church St.	320'	Asphalt	A
5	Johnson St.	150'	Concrete	B/C
6	Lower Water St.	170'	Concrete	F
7	Main St.	430'	Concrete	A
8	Main St.	160'	Concrete	A
9	Main St.	340'	Concrete	A
10	Main St.	310'	Concrete	A
11	Main St.	70'	Concrete	A
12	Main St.	260'	Concrete	A
13	Main St.	180'	Concrete	A
14	Main St.	90'	Concrete	A
15	Main St.	910'	Concrete	A
16	Pleasant St.	320'	Concrete w/asphalt overlay	C
17	Pleasant St.	350'	Concrete w/asphalt overlay	C
18	Pleasant St.	300'	Concrete w/asphalt overlay	B
19	School St.	390'	Concrete w/asphalt overlay	C
20	School St.	370'	Concrete w/asphalt overlay	B
21	School St.	370'	Concrete	B
22	School St.	190'	Largely missing	F
23	Spring St.	310'	Concrete	A
24	Summer St.	330'	Concrete w/asphalt overlay	A/B
25	Summer St.	140'	Concrete w/asphalt overlay	B

<b>Id</b>	<b>Location</b>	<b>Length</b>	<b>Surface</b>	<b>Condition</b>
26	Summer St.	250'	Concrete w/asphalt overlay	A
27	Washington St.	280'	Asphalt	A
28	Washington St.	40'	Asphalt	A
29	Washington St.	490'	Asphalt	A
30	Washington St.	210'	Asphalt	A
31	Washington St.	370'	Asphalt	A
1	Water St.	580'	Concrete	A
33	Water St.	110'	Brick with granite berm	A
34	Water St.	520'	Brick with granite berm	A
35	Water St.	240'	Asphalt	B
36	Water St.	690'	Brick with granite berm	A
37	Water St.	290'	Brick with granite berm	A

### **Public Transportation**

Lubec has very limited public transportation options.

West's Bus Service offers round-trip bus service to Machias on the first Wednesday of each month. During summer months, West's Bus also operates an on-demand daily bus service from Lubec to Whiting where passengers can transfer to the Coastal Connector Bus operating between Calais and Bangor.

The Washington Hancock Community Agency (WHCA) provides scheduled van and door-to-door on-demand transportation for clients referred to them by the State of Maine Department of Human Services and for members of the general public on space-available basis. These services are provided to income-eligible persons and are typically children in state custody, welfare clients, Medicaid patients with medical appointments, the elderly and disabled, or people needing transportation to Meals for Me. Most of the longer trips are for medical services and shorter trips are to local doctors, pharmacies and groceries. Users of this service are mostly families living below the poverty level, people with mobility limitations, people with one or no available vehicles, and the elderly.

There are currently no taxi operators that provide service in Lubec.

There are no dedicated public transit facilities in town.

In the context of rising fuel prices, the lack of public transportation in Lubec is an increasing concern. The Town should actively participate in regional planning efforts through Washington County: One Community and WHCA to develop additional transportation options and seek funding to develop facilities that would support public transportation (such as a Park-and-Ride lot or GoMaine! commuter van).

### **Air Facilities**

Lubec has a small municipal air strip used by small, private planes. It has no scheduled air service. The Lubec Municipal Airport has a 2032-foot gravel/turf runway, with beacon, but no fueling services. It was last rated by the state in good condition. The Town of Lubec does not currently have any plan to upgrade or improve facilities at the airport. Other regional airports include:

1. Bangor International Airport, provides national and international commercial passenger and freight services, as well as civil defense operations. 11,441-foot main runway. Car rental services are available.
2. Deblois Flight Strip, off State Route 193, has a 4,000-foot runway but no beacon or fueling services. Last rated by the state in poor condition.
3. Eastport Municipal Airport has a 4000-foot runway and provides limited charter and instructional services. Beacon and fueling services. Last rated by the state in good condition.
4. Hancock County - Bar Harbor Airport in Trenton is the nearest airport with regularly scheduled passenger commercial service. In addition to daily commuter service to Boston, Massachusetts, charter service is offered. Car rental services are available. 5,200-foot main runway.
5. Machias Airport has a 2900-foot runway and is used by private plane owners and in an emergency, by air ambulance services. It has a beacon, but no fueling services and was last rated by the state in good condition.
6. Princeton Municipal Airport has two runways, the larger of which is 3999 feet, and is used primarily by private businesses and recreational fliers. Beacon, but no fueling services. Last rated by the state in poor condition.

### **Rail Facilities**

There has never been direct passenger or freight rail service to Lubec. 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.

### **Ports**

There are no port facilities in the town. The deep water Port of Eastport is the closest port. It has two piers, three berths, with a low tide depth of 40 feet, and over 75,000 square feet of covered storage. The outer berth can accommodate a ship up to 900 feet in length.

### **Multi-Modal Facilities**

There are currently no park-and-ride or multi-modal facilities in Lubec.

## **FINDINGS OF PREVIOUS COMPREHENSIVE PLAN & EXISTING POLICIES**

Relative to transportation, the Comprehensive Plan adopted by the Town of Lubec in 1992 found that most residents felt that the bulk of maintenance and road work was carried out by the Public Works Department. In the preceding five-year period, Town expenditures on this Department

had remained relatively stable. The 1992 Comprehensive Plan notes that most tax payers felt that snow plowing and road sanding was generally acceptable but that pothole repair and grading of gravel roads was in need improvement. The Plan also noted the need for a new sand and salt storage shed “within the next 10 years.”

Based on these findings, the Comprehensive Plan established policy recommendations as summarized in the table below along with notes on the status of the policy recommendations. A complete list of the policy recommendation from the previous Comprehensive Plan is included in *Appendix A: Executive Summary of the Town of Lubec Comprehensive Plan, 1996*. A full copy of the previous plan is on file in the Town Office.

**Table I-11. TRANSPORTATION POLICIES FROM THE 1992 COMP PLAN**

<b>Policy</b>	<b>Notes</b>
It is the policy of the Town of Lubec to plan for, finance and maintain an efficient system of public facilities and services to accommodate current and projected needs through the development, adoption and implementation of a capital improvement program.	<i>This policy continues to align with municipals goals and should be continued.</i>
It is the policy of the Town of Lubec to plan for optimum use, construction, maintenance and repair of roads in conjunction and cooperation with neighboring towns, given available resources.	<i>This policy continues to align with municipals goals and should be continued.</i>
It is the policy of the Town of Lubec to prepare and maintain a long range Town Road Maintenance and Improvement Program.	<i>This has not been fully implemented, but it continues to align with municipals goals and should be continued.</i>
It is the policy of the Town of Lubec to maintain, expand and improve its road system in accordance with its adopted long range Road Maintenance and Improvement Program.	<i>The Town does not anticipate any planning expansion of the municipal road system over the planning period. The word “expand” should be struck.</i>
<b>Implementation Strategies</b>	<b>Notes</b>
Develop a long range town road maintenance and improvement program which anticipates diminishing funding the Maine Department of Transportation and includes road standards for town roads, subdivisions and other private roads.	<i>This implementation strategy continues to align with municipals goals and policy and should be continued.</i>

Source: Town of Lubec Comprehensive Plan, 1992

Policies and implementation strategies to relative to transportation in Lubec are presented on the following pages. They include revisions as noted above, along with additional policies and strategies that reflect changes in conditions on the ground, local priorities and State and Federal policy since the previous Comprehensive Plan was adopted.

## POLICIES AND IMPLEMENTATION

In order to encourage, promote and develop efficient and safe transportation facilities and services that will accommodate the town's anticipated growth and economic development, the following policies and implementation strategies have been developed:

<b>Goal: Lubec will encourage, promote and develop efficient and safe transportation facilities that will accommodate our town's anticipated growth and economic development.</b>			
<b>Policy</b>	<b>Implementation Strategy</b>	<b>Responsibility</b>	<b>Timeframe</b>
Plan for, finance and maintain an efficient system of public facilities and services to accommodate current and projected needs through the development, adoption and implementation of a capital improvement program.	Purchase and implement use of Road Surface Management System (RSMS) or similar software to maximize efficiencies in the road maintenance budget.	Selectmen/Road Commissioners	Short Term (2-5 years)
Prepare and maintain a long range Town Road Maintenance and Improvement Program.	Develop a long-range town road maintenance and improvement program which anticipates diminishing funding from the Maine DOT and includes road standards for town roads, subdivisions and other private roads.	Selectmen/Road Commissioners	On-going
Maintain, expand and improve the road system in accordance with its adopted long range Road Maintenance and Improvement Program.	The town will consider a local roads ordinance that harmonizes the access of driveways and entrances with the state access management regulations. New state regulations will be available at the town office for property owners.	Selectmen	Long Term (5-10 years)
	When State roads require reconstruction or repair the town will request that shoulders be added to improve public safety.	Selectmen/Road Commissioners	Long Term (5-10 years)
The town will ensure that new development does not negatively impact the capacity or safety of existing roadways.	Consider additional parking requirements in future commercial development planning.	Planning Board	Short Term (2-5 years)
	The town will consider increasing center line setbacks on collector roads outside of the village area from 35 feet to 50 feet to accommodate future drainage, utility and safety concerns.	Selectmen/ Planning Board	Short Term (2-5 years)
Improve the pedestrian environment including adequate parking, pedestrian and inter-modal facilities serving the village center.	Implement the recommendations of the sidewalk inventory as outlined above.	Planning Board	Immediate (1-2 years)
	Submit an application to the Safe Route to School Program to fund new sidewalks along Washington and South Streets	Selectmen	Short Term (2-5 years)

<b>Goal: Lubec will encourage, promote and develop efficient and safe transportation facilities that will accommodate our town's anticipated growth and economic development.</b>			
<b>Policy</b>	<b>Implementation Strategy</b>	<b>Responsibility</b>	<b>Timeframe</b>
Establish an integrated transportation plan	Develop a comprehensive transportation plan to include traffic flow, pedestrian links, sidewalk, scenic turnoffs, etc.	Selectmen or their designee	Short Term (2-5 years)
Promote fiscal prudence by maximizing the efficiency of the state or state-aid highway network.	Enact or amend local ordinances as appropriate to be consistent with local, regional and state transportation policies identified in this plan.	Selectmen	Short Term (2-5 years)
	Enact or amend local ordinances as appropriate to address or avoid conflicts with: a) Policy objectives of the Sensible Transportation Policy Act (23 MRSA §73); b) State access management regulations pursuant to 23 MRSA §704; and c) State traffic permitting regulations for large developments pursuant to 23 MRSA §704-A.	Selectmen	Short Term (2-5 years)
	Work with the MaineDOT as appropriate to address deficiencies in the system or conflicts between local, regional and state priorities for the local transportation system.	Selectmen	Ongoing
Promote public health, protect natural and cultural resources, and enhance livability by managing land use in ways that maximize the efficiency of the transportation system and minimize increases in vehicle miles traveled.	Enact ordinance standards for subdivisions and for public and private roads as appropriate to foster transportation-efficient growth patterns and provide for future street and transit connections.	Selectmen	Short Term (2-5 years)
	Require that replacement road crossing structures incorporate the design recommendations in the Maine Department of Transportation's <i>Waterway and Wildlife Crossing Policy and Design Guide</i> .	Public Works Director	Immediate
Plan for optimum use, construction, maintenance and repair of roads in conjunction and cooperation with neighboring towns, given available resources.	Participate in regional transportation planning efforts facilitated by MaineDOT, WCCOG and other groups interested in improving regional coordination of transportation.	Selectmen	Ongoing
	The town will participate in the CEDS (Community Economic Development Strategy) Transportation sub-committee policy committee.	Selectmen	On-going