

Summary

Study Overview

The Federal Highway Administration (FHWA) and the Maine Department of Transportation (MaineDOT) have undertaken the Aroostook County Transportation Study (ACTS) pursuant to the National Environmental Policy Act (NEPA) and the Maine Sensible Transportation Policy Act (STPA) to identify transportation improvements that will enhance travel mobility and efficiency within northeastern Aroostook County and support regional economic growth.

The Study Area for the ACTS comprises the northeast corner of the state and is shown on Figure S-1. It includes the central and northeastern portions of Aroostook County, and is bounded on the south by I-95; on the west by Route 11; and on the north and east by the Canadian Province of New Brunswick. Because I-95 terminates in Houlton in the far southeast corner of the Study Area, the majority of the Study Area has no Interstate highway access. The Study Area is approximately 100 miles long and 25 to 40 miles wide, encompassing approximately 2,760 square miles. The Study Area is sparsely populated, with a population of 70,576 people according to the 2000 United States (U.S.) Census. The majority of the population (39,115) lives in the Presque Isle-Caribou area in the central portion of the Study Area.

This Final Environmental Impact Statement (FEIS) serves as a Tier 1 FEIS for the entire Aroostook County Transportation Study (ACTS) and a Tier 2 FEIS for the Proposed Action, the Route 1 –161 Connector Project in Caribou (Segment 4). This document has been prepared in conformance with the requirements of the Council on Environmental Quality (CEQ) NEPA regulations and with FHWA’s NEPA regulations and guidance documents.

Comments on the SDEIS

Comments on the SDEIS were received at 3 public hearings and through the mail. Over 400 people attended the public hearings. FHWA received 40 comment letters regarding the SDEIS. Comment letters are found in Appendix B. Responses to SDEIS comments are provided in Chapter 6.

Federal agency comments were submitted by the USACE and the U.S. Environmental Protection Agency (EPA). One state elected official provided comments. State agency comments were submitted by the State Historic Preservation Officer. Local and regional comments were submitted by officials of Caribou, Presque Isle, and the County of Aroostook.

Community organizations and businesses that submitted comments included the Aroostook Municipal Association, the Aroostook Partnership for Progress, Leaders Encouraging Aroostook Development, Loring Commerce Center, Maine Public Service Company, the Northern Maine Development Commission, the Presque Isle Snowmobile Club, and Sleeper’s Store of Caribou.

The EPA noted that on-alignment upgrades would be less environmentally damaging than new alignment highways. The EPA recommended that extensive further study would be required for any corridor to address concerns regarding impacts to wetlands, groundwater, and water supplies, and that secondary impacts (uncontrolled growth and induced growth) were also concerns.

Municipalities, community organizations, and businesses expressed a wide range of opinions concerning the preferred corridor. Most communities indicated that the corridor segments proposed as an upgrade or widening of existing highways would adversely impact communities and residents, and would not meet the transportation objectives of the study.

Many of the citizens’ letters express concerns that their property would be adversely affected by the proposed highway corridors.

Concerning Segment 4, several citizens and elected officials expressed support for a Route 1-161 Connector in Caribou but many others expressed concern about impacts to residential and commercial property and resulting loss of tax revenue. Several private citizens and federal agencies were concerned about potential impact to wetlands and farmland.

Comment letters are found in Appendix B. Responses to SDEIS comments specific to Segment 4 are provided in Chapter 7.

Relevant Issues for the FEIS

Based upon comments that were received on the SDEIS and others received throughout the study, the major issues for the FEIS analysis, particularly concerning Segment 4 in Caribou, include:

- Transportation impacts, including improved mobility, safety, and reduced travel times.
- Land use impacts, particularly those to active farms, and impacts caused by property takings along existing and proposed new highways.
- Impacts to cultural resources, primarily those to historic properties along existing and proposed new highways.
- Impacts to the natural environment, particularly those to aquatic systems, and the potential for habitat fragmentation.
- The potential for secondary impacts, beneficial and/or adverse, caused by induced development.

Purpose of the Study

The purpose of the ACTS is to evaluate transportation alternatives that would improve the region's economy by improving transportation mobility. Aroostook County has an inadequate transportation system that limits access and mobility to, from, and within the county. Poor mobility in turn limits economic opportunity.

Specific elements of the need for transportation improvements include:

- A long-term loss of population in Aroostook County;
- A chronically higher unemployment rate in the Study Area than the state average;
- A job growth rate which has been chronically below the state average;
- A lack of diverse job opportunities, which would retain and attract workers; and
- A need to improve transportation access to, from, and within Aroostook County and the surrounding provinces to improve access to jobs, reduce long distances and travel times for goods to market, and address issues of transportation system continuity.

Transportation improvements should be developed to address the economic and transportation needs and to meet the following major objectives.

Economic Objectives:

- Help to maintain and expand Aroostook County's economy;
- Enhance the marketability of Aroostook County's existing and potential economic assets;
- Improve access to jobs and services; and

- Improve connections to markets within and outside of Aroostook County including New England, Canada, and more distant areas.

Transportation Objectives:

- Reduce travel time to, from, and within Aroostook County;
- Enhance the reliability of Aroostook County's transportation system;
- Improve traffic flow through Houlton, Mars Hill, Presque Isle, and Caribou;
- Reduce the potential for crashes;
- Provide an adequate highway geometry;
- Reduce speed differentials in developed areas, and among highway users;
- Reduce conflicts caused by the varied traffic mix; and
- Improve access management along existing highways.

Study Phasing/Tiering

The ACTS has been undertaken as a phased or tiered study. NEPA regulations encourage the use of tiered Environmental Impact Statements (EIS) to focus analysis on the actual issues that are ripe for decision and exclude from consideration issues that are already decided or not yet ripe. For highway projects, Tier 1 EISs generally focus on broad issues, such as general location, while Tier 2 NEPA documents (usually an EIS or Environmental Assessment [EA]) focus on site-specific impacts and mitigation for individual elements of the larger study.

The purpose of the Draft Environmental Impact Statement (DEIS) was to identify potential corridors, as shown on Figure S-2, within which specific highway alignments could be further refined and analyzed in subsequent NEPA documents. The Tier 1 DEIS, published in March 2002, examined four major corridors at a macro-level, basing the impact analysis on GIS-level information. It did not attempt to identify or analyze impacts of specific highway alignments within the corridors, nor did it examine the use of reduced right-of-way (ROW) widths and/or specific roadway cross sections.

MaineDOT and FHWA prepared a Supplemental Draft Environmental Impact (SDEIS) (published in June 2006) as a Tiered NEPA document, and it included both Tier 1 and Tier 2 level analyses. At the Tier 1 level, similar to the DEIS, it described four major north-south corridors connecting I-95 to the St. John Valley (Figure S-3). These corridors were generally modifications of those studied in the DEIS. The SDEIS Tier 2 analysis consisted of an evaluation of 3 of the 11 segments. The 3 segments listed below comprised the SDEIS Proposed Action (see Figure S-4).

- Segment 2 – an approximately 25.9-mile, 2-lane upgrade of Route 161 between Caribou and Cross Lake Township;
- Segment 4 – an approximately 5.5-mile new connection between the Route 1/ High Street intersection and Route 161 in Caribou; and
- Segment 7 – a new 10-mile long bypass east of downtown Presque Isle.

As stated in the SDEIS, FHWA and MaineDOT have deferred the selection of an overall preferred corridor and instead intend to advance a FEIS Proposed Action consisting of 2 of the specific segments from the overall corridors as well as Corridor Management Plans (CMPs) for portions of Route 1 between Presque Isle and Caribou and between Caribou and Van Buren. This FEIS presents Tier 2 alignment-specific information for one element of the Proposed Action, the Route 1 – 161 Connector in Caribou (Segment 4). The alignment options evaluated for Segment 4 in this FEIS are shown on Figure S-5. These segments vary in length from 4.3 to 5.5 miles long.

Upon FHWA’s issuance of the Record of Decision (ROD) following completion of the Final Environmental Impact Statement (FEIS), MaineDOT expects to be able to proceed into final design, right-of-way acquisition, and permitting for the Route 1-161 Connector. MaineDOT and FHWA are preparing a separate Tier 2 FEIS for the second element of the Proposed Action, the Presque Isle Bypass (Segment 7).

This FEIS also provides MaineDOT with the decision-making tool required by Maine’s STPA, which requires MaineDOT to “evaluate the full range of reasonable transportation alternatives for significant highway construction or reconstruction projects.” The STPA also encompasses transportation improvements that provide economic benefits. MaineDOT actions that may proceed after completion of the EIS review and issuance of the FHWA ROD may include final design, right-of-way acquisition, and construction.

Those segments for which the decision is being postponed until a later time are referred to as “Deferred Segments.” Because decision making regarding the selection of a Preferred Corridor and the segments that compose it is being deferred for an unspecified amount of time, this FEIS presents less detailed information on these Tier 2 Deferred Segments.

In the future, if and when MaineDOT reconsiders these segments (either individually or as part of an overall corridor), they will require additional NEPA review. Future NEPA studies will, however, be able to build on the information that has been gathered and analyzed as part of this EIS process.

The FEIS Corridors and Segments are described in greater detail in the following section.

FEIS Corridors and Segments

Similar to the DEIS and SDEIS, the FEIS examines four major north-south corridors extending the length of the Study Area from I-95 north to the St. John Valley. These corridors are designated as Corridor C1m, C2m, C3, and Hm (Figure S-3). Corridor C3 is a combination of Corridor C1m in the southern portion of the Study Area and Corridor Hm in the northern portion. Chapter 2 of this FEIS presents summary Tier 1 information on the impacts of these overall north-south corridors.

As discussed in the preceding section, MaineDOT is deferring the selection of an overall Preferred Corridor for several reasons. The economic and transportation analyses done on the overall corridors found very little difference among them. The overall corridors would provide similar transportation benefits and have similar economic impacts on Aroostook County. Therefore, the discerning factors among the corridors became their environmental impacts and their cost. Given, however, that the majority of the corridors (regardless of which were to be selected) will likely not be constructed for many years, the costs and environmental considerations that would guide the selection of a corridor today are very likely to change, potentially making today's decision inappropriate by the time construction is ready to proceed. Given the level of uncertainty inherent over a long planning horizon, MaineDOT believes it is prudent to identify potential corridors and present preliminary information on their impacts, but to defer the decision making on the individual segments for construction until such time as they are in a position to advance the segments within a reasonably foreseeable time frame.

Table S-1 (page S-7) presents summary information regarding the environmental impacts of the 4 overall FEIS corridors. Major impacts related to these FEIS corridors are similar to one another.

MaineDOT has divided the 4 FEIS corridors into 11 segments that represent potential second phase or Tier 2 projects. Each segment has been developed such that it could be funded and constructed within a reasonable timeframe, as funding becomes available. Table S-2 (page S-8) presents summary information regarding the 11 FEIS Segments. Segment 4, highlighted in bold text in Table S-2, comprises one element of the Proposed Action. MaineDOT intends to prepare a Tier 2 FEIS for Segment 7, the Presque Isle Bypass, in the near future. The Segments are depicted graphically on Figure S-4. Decision making with regard to the remaining 9 segments is being deferred. Action on Segment 2, described previously in the SDEIS as part of the Proposed Action, is now being deferred.

**Table S-1
 Comparison of FEIS Corridor Major Impacts**

	FEIS Corridor			
	C1m	C2m	Hm	C3
Total Right-of-Way Required (acres)	1,922	2,776	2,903	2,049
Total Number of Structures (buildings) Affected	237	143	150	244
Potential Section 4(f) Trail Crossings (number)	4	1	2	5
Active Farmland Impacted (acres)	756	469	387	674
Section 106 Adverse Effects	16	11	6	11
Wetland Impacts (acres)	192	278	266	180
Deer Wintering Area Affected (acres)	7.5	29.5	21	0
Inland Wading Bird Habitat Affected (acres)	22	13	13	22
Critical Habitat for Federally Endangered Lynx Affected (acres)	166	1,551	1,387	2
Critical Habitat for Federally Endangered Atlantic Salmon DPS (acres)	0	325	325	0

Proposed Action

Based upon the transportation, economic, and environmental analyses, MaineDOT intends to advance a Proposed Action consisting of two segments that have independent utility and which will partially satisfy the Purpose and Need of the overall ACTS. Construction of these two segments will not completely satisfy the ACTS Purpose and Need because they fail to address some elements of the ACTS Purpose and Need. For example, construction of these two segments will not improve traffic flow through Houlton or Mars Hill or improve safety at high crash locations outside of Caribou or Presque Isle. The Action on Segment 2, described previously in the SDEIS as part of the Proposed Action, is now being deferred. The Proposed Action consists of:

- Segment 4 – an approximately 4.3-mile new connection between the Route 1/ High Street intersection and Route 161 in Caribou.
- Segment 7 – a new 10-mile long bypass east of downtown Presque Isle.

The Tier 2 portion of this FEIS examines Segment 4. This FEIS also evaluates the No-Action Alternative as required by NEPA regulations. No-Action is defined as continuing MaineDOT’s ongoing construction program with no additional extraordinary projects. MaineDOT’s *Six-Year Transportation Improvement Plan (Six-Year Plan) for 2010-2015* lists the projects that the Department expects to fund during that period.

Table S-2
Description of FEIS Corridor Segments

Segment ¹	End Points	Approximate Length (mi) ²	Proposed Number of Lanes	Part of Corridors	Description
1	Route 1 Madawaska to Route 161 Cross Lake Township (the St. John Valley Connector)	14.5	2 with climbing lanes or 4 lanes	C1m, C2m	New location highway
2	Route 161 Cross Lake Township to Route 161 Caribou	25.9	2 with climbing lanes	C1m, C2m	Upgrade of Route 161
3	Route 1 Madawaska to Segment 4 Caribou	33.5	2 with climbing lanes or 4 lanes	Hm, C3	New location highway
4	Route 161 Caribou to Route 1 Caribou (the Route 1-161 Connector)	4.3	2 lanes ³	C1m, C2m, Hm, C3	3.7 miles of new highway between Route 161 and Route 1; and 0.58 miles of upgrade on Route 1 between Route 89 and High Street
5	Route 1 Caribou at High Street to Route 1 Caribou at Route 164	3.2	4 lanes	C1m, C2m, Hm, C3	3.2-mile upgrade of Route 1 between High Street and Route 164
6	Route 1 at Route 164 in Caribou to Route 1 in Presque Isle	6.2	4 lanes	C1m, C2m, Hm, C3	Upgrade of Route 1
7	Route 1 Presque Isle north of the Aroostook River to Route 1 near the Westfield town line (The Presque Isle Bypass)	10.0	2 lanes ³	C1m, C2m, Hm, C3	New location corridor (one alignment option would include an upgrade of Centerline Road).
8	Route 1 Presque Isle to Route 1 Blaine (the Mars Hill Bypass)	9.7	2 with climbing lanes or 4 lanes	C1m, C3	New location (5.2 miles) or bypass corridor and 4.5-mile upgrade of Route 1
9	Route 1 Presque Isle to I-95 Oakfield at Exit 286	39.1	4 lanes	C2m, Hm	New location highway
10	Route 1 Blaine to Houlton	24.6	2 with climbing lanes or 4 lanes	C1m, C3	19.4-mile upgrade of Route 1 with 2.5-mile bypass of Bridgewater and 2.7-mile bypass of Monticello
11	Route 1 Houlton to Route 1 Houlton at I-95	0.8	2 with climbing lanes or 4 lanes	C1m, C3	Upgrades and access management improvements along Route 1

Bold: Proposed Action

1 Segments and endpoints are listed from north to south.

2 Segment lengths are approximate. The exact lengths will depend on the final alignment option selected for each segment.

3 MaineDOT will initially construct Segments 4 and 7 as two-lane highways but will purchase sufficient right-of-way (300-foot wide) to allow for the expansion of these Segments to 4-lane facilities, if future conditions warrant.

The plan includes both highway reconstruction and highway bridge maintenance projects. This program of improvements will be carried out regardless of whether or not a separate construction project arises from this EIS process. For example, if MaineDOT were to decide to construct a new 4-lane highway following this study, other improvements already in the *Six-Year Plan* would still go forward. A project that arises out of this study will not preclude other programmed improvements unless, of course, the projects involved the same segment of highway. In that case the *Six-Year Plan* project would likely be subsumed by the project stemming from this study.

Decision making with regard to the other segments (Segments 1, 2, 3, 5, 6, 8, 9, 10, and 11) is being deferred at this time. Any future action with regard to these segments will require additional NEPA review. MaineDOT intends to prepare a Tier 2 FEIS for Segment 7, the Presque Isle Bypass, in the near future.

The Proposed Action, Segment 4, partially satisfies the ACTS Purpose and Need by providing:

- Improved mobility to and around Caribou;
- Better access/service to identified growth nodes in Caribou;
- Enhanced traffic flow in an existing activity center by removing trucks from downtown Caribou;
- Safety improvements by reducing traffic volumes at 3 high crash locations (HCL); and
- Savings of over 300 vehicle hours of travel per day (almost 10 percent of the transportation efficiency gains of overall north-south corridors) for about 3 percent of the costs of the complete north-south corridors.

Segment 4 would address the need for traffic relief (particularly trucks) in downtown Caribou; would improve safety at 3 HCL; would provide better access to the north side of Caribou's downtown; would support the recommendations of the Route 1 Corridor Management Plan to concentrate Caribou's growth in the vicinity of Routes 1 and 89; and would improve network connectivity by linking Route 1 to the Route 161 corridor.

MaineDOT evaluated 8 alternatives for Segment 4: a No-Build Alternative, a Transportation System Management (TSM) Alternative, and 6 different alignment options (Figure S-5). All 6 alignment options would begin on Route 1 in Caribou at the Route 1/High Street intersection and end on Route 161 near Ogren Road, except Alignment Option 4B, which ends on Route 161 approximately 1.5 miles south of Ogren Road.

The Route 1-161 Connector in Caribou (Segment 4) will require a Section 404 Permit under the Clean Water Act from the U.S. Army Corps of Engineers (USACE). Therefore, subsequent to the SDEIS, MaineDOT initiated the Highway Methodology process with the USACE. The Highway Methodology is the process that the New England Division of the USACE uses to coordinate the Section 404 review process with the NEPA process.

In order to coordinate the USACE's Section 404 permitting process with the NEPA process, MaineDOT submitted to the USACE a Phase I Avoidance Technical Memorandum (June 2007) and a Phase II Permit Application (December 2007) in accordance with the Highway Methodology requirements.¹

The USACE, in coordination with the U.S. Environmental Protection Agency (EPA), the U.S. Fish & Wildlife Service (USFWS), and other participating agencies, determined that of the 8 alternatives presented in the Phase I document, 5 would be advanced to Phase II: No-Build Alternative, Upgrade/Transportation System Management (TSM) Alternative, and Alignment Options 4A, 4B, and 4C. The 3 alignment options (Alignment Options 1, 2, and 3) evaluated in the SDEIS were dismissed because they had greater impact to social and natural resources than other alignment options considered. Therefore, Alignment Options 1, 2, and 3 are not evaluated in this FEIS. The USACE published a public notice on January 29, 2008 and solicited comments on the Phase II Permit Application.

Alignment Option 4A, 4B, and 4C (refinements of the SDEIS Alignment Options, see Figure S-5) were developed subsequent to the SDEIS based on recommendations from the City of Caribou to minimize impacts to the commercial/business district at the intersection of Routes 1 and 89. The USACE and the EPA also recommended that alternatives with less wetland impact be developed. Alignment Option 4C was developed specifically in response to a recommendation from the EPA that a shorter route be considered.

Based on an evaluation of transportation benefits and impacts to social and natural environmental resources, MaineDOT has identified Alignment Option 4B as the Preferred Alternative. In September 2008, the USACE identified Alignment Option 4B as the Least Environmental Damaging Practical Alternative (LEDPA) (see Appendix A).

Segment 4 - Major Environmental Impacts

This section compares the potential major impacts that may occur with Segment 4, the Caribou Route 1 -161 Connector (the Proposed Action), and considers

¹ USACE New England Division. October 1993. *The Highway Methodology Workbook. Integrating Corps Section 404 Permit Requirements with Highway Planning and Engineering and the NEPA EIS Process.*

transportation effects, economic effects, and impacts to land use, historic resources, public parks and recreation areas, floodplains, wetlands, wildlife habitat, air quality, and noise. These areas were identified by resource agencies during Scoping and in subsequent meetings received the greatest attention from the federal review agencies. The key environmental impacts of the FEIS alignment options considered for Segment 4 are provided on Table S-3 (page S-12). This FEIS considers many other areas of impact as well, including minority populations, uncontrolled petroleum and hazardous wastes, water resources, aquatic habitats, vegetation, fisheries, and endangered and threatened species. Impacts in these areas, however, are not considered critical in the state or federal review process and are not likely to be controversial. The reader should refer to the appropriate subsection of Chapter 5 for additional discussion of impacts.

The transportation effects of each alignment option were assessed for their ability to provide travel time and distance savings, improve transportation efficiency, improve safety, and improve mobility. The Proposed Action has the potential to improve community cohesion and continuity by diverting through traffic from downtown Caribou. The reduction in through traffic volumes may reduce noise, improve the ability of pedestrians to cross streets, and improve the connection between neighborhoods.

The analysis of impacts to land use and communities included determining the amount of land within each alignment option footprint, particularly in the economically and socially important categories of forest land, cultivated land, and developed land. The number of buildings within each alignment option, and the number and area of active farm fields within each of the alignment option were also assessed. Constructing Segment 4 (the Proposed Action) will require that developed and undeveloped land be converted to transportation use.

All of the alignment options studied have the potential to impact cultural resources, which include historic properties, archaeological sites, and public parks and recreation areas.

Potential impacts to wetlands include direct impacts (the loss of wetland area, functions and values) and indirect impacts (changes in water quality, hydrology, or wildlife habitat values). The analysis of impacts to wildlife and fisheries included the amount of wildlife habitat potentially lost due to construction, the locations of work within fisheries habitats, the potential indirect effects on wildlife communities due to fragmentation and the creation of highway barriers, and the potential impacts to state-regulated wildlife resources, which include deer wintering areas and inland waterfowl and wading bird habitats.

For air quality, a localized (microscale) analysis examined changes in carbon monoxide (CO) concentrations at the most congested intersection in the ACTS Study Area with respect to the National Ambient Air Quality Standards (NAAQS) for CO

and particulate matter (PM10). A regional (mesoscale) analysis examined changes in CO, volatile organic compounds (VOCs), nitrogen oxides (NOx), and particulate matter.

The noise analysis evaluated potential noise impacts by calculating the distance from the edge of a new or widened highway to where the future sound levels are expected to be substantially higher than the existing sound levels. An increase of 15 decibels (dBA) is MaineDOT’s noise impact criterion for new highway corridors. The environmental impact analysis, summarized below, was used by MaineDOT and FHWA to identify a Preferred Alternative for Segment 4.

The major environmental impacts that would result from the Segment 4 alignment options are those to agricultural lands and wetlands. Table S-3 (page S-12) summarizes some of the key environmental impacts for Segment 4. Chapter 5 presents the impacts to all resources in detail. As indicated in Table S-3, Alignment Option 4B, the Preferred Alternative, results in the least amount of wetland and farmland impact, and results in the loss of the fewest structures. Alignment Option 4B does not affect any Section 4(f) or historic resources.

**Table S-3
 Key Environmental Impacts- Segment 4**

	No. of Structures Impacted	Active Farmland Impacted (acres)	Forest Impacted (acres)	Number of Section 106 Adverse Effects	Section 4(f) Uses	Wetlands Impacted (acres)
Alignment Option 4A	10	66	75	0	1	16
Alignment Option 4B (Preferred Alternative)	4	32	54	0	0	3
Alignment Option 4C	5	62	27	0	2	8

Segment 4 Mitigation Measures

Following the issuance of a ROD by FHWA, MaineDOT will initiate final design of Segment 4. During these design phases, MaineDOT will further refine the Preferred Alternative for Segment 4 to avoid and minimize impacts to resources to the greatest extent practicable and mitigate for unavoidable impacts.

This section summarizes the measures for Segment 4 that MaineDOT is committing to in order to mitigate for impacts to the various resources that will be affected. MaineDOT considers many Best Management Practices (BMPs) to be standard operating procedures that are not included in the category of “mitigation.” Many BMPs will be implemented in accordance with MaineDOT policies and procedures. The following mitigation measures will be employed after potential unavoidable impacts have been minimized.

Property Impacts

MaineDOT will determine specific property needs for the Preferred Alternative after completion of the planning process, funding allocation, and final design for the improvements. At this time, it is anticipated that 21 individual properties would be wholly or partially taken. Once parcels are identified, property owners will be notified of MaineDOT's interest in acquiring the property as well as the acquisition process. The acquisition process is guided by the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the Uniform Act). The Uniform Act provides for fair and equitable treatment of persons whose property will be acquired or who will be displaced because of programs or projects financed with federal funds.

Snowmobile Impact

Alignment Option 4B, the Preferred Alternative, would require crossing a snowmobile trail on the Interconnected Trail System, ITS 83, between Route 161 and Route 1. Alignment Option 4B also requires the acquisition of the Otter Street parking lot owned by the City of Caribou. This park and ride lot is often used by trail users to access the Bangor-Aroostook Trail (ITS 90). MaineDOT has initiated coordination with the Caribou Parks and Recreation Department to discuss relocating the parking lot. The width of the proposed highway right-of-way has been narrowed slightly east of Otter Street to eliminate any impact to the adjacent Bangor-Aroostook Trail.

Farmland

Mitigation for farmland impacts will be developed during final design of the Preferred Alternative. MaineDOT will work with land owners and farm operators to further refine the Preferred Alternative such that it avoids impacting productive fields to the greatest extent practicable. Where practicable, MaineDOT avoided bisecting large fields and instead followed the edges of fields to minimize disruption to farming operations. MaineDOT will also work with farmers to minimize the effect of the new highway on farming operations. MaineDOT will consider providing underpasses for farm equipment where needed and where practical to do so.

Oil and Hazardous Materials

Contamination could be encountered during construction, particularly at the southern terminus of the Route 1-161 Connector where the Preferred Alternative crosses a MaineDOT salt storage area at the intersection of Route 1 and Route 89.

If required, MaineDOT will perform Phase II subsurface explorations and testing for the Preferred Alternative during the final design phase to determine if waste or

contamination would be encountered during construction. These explorations would be focused on areas where excavation would be necessary to construct the highway and in areas where drainage structures or utilities may be installed below the existing grade.

Historic Resources

Mitigation measures to minimize impacts to historic properties include reducing the proposed right-of-way acquisition, replacement of removed features, and vegetative screening. These measures are required for compliance under Section 106 of the National Historic Preservation Act. MaineDOT does not anticipate the need to acquire and demolish any historic buildings.

Water Quality

No significant impact to surface or ground water quality are expected to result from the Proposed Action as MaineDOT will implement the BMPs as described in their *Best Management Practices for Erosion and Sedimentation Control Manual* (the BMP Manual). The BMPs are designed to reduce alteration to stream hydrology, treat stormwater runoff, and control erosion and sedimentation. These BMPs are required for any MaineDOT action, and would be incorporated into the design and specifications for the Proposed Action. Additional (mitigation) measures to protect water quality are not necessary or proposed.

Aquatic Habitat

During final design and permitting, MaineDOT will attempt to further avoid and minimize impacts to aquatic habitats of all types by adjusting the alignment of Preferred Alternative, and by steepening roadway side slopes to minimize encroachment into wetland areas, where practicable.

Mitigation of river and stream impacts will focus on minimizing the impacts of new or widened crossings. These measures may include:

- Crossing streams at their narrowest points;
- Using bridges rather than culverts to maintain channel substrate, flow, and bank characteristics where possible; and
- Using retaining walls rather than fill slopes to minimize impact areas.

All culverts will be designed in accordance with MaineDOT's July 2008 *Waterway and Wildlife Policy and Design Guide for Aquatic Organism, Wildlife Habitat, and Hydrologic Connectivity*. Additional mitigation measures may also include bank and channel

restoration of crossing areas to provide naturally vegetated banks and increase channel habitat. These measures will provide stabilization to reduce erosion and sedimentation.

Wetlands

Segment 4, Alignment Option 4B in Caribou would result in approximately 3 acres of wetland impact. MaineDOT is committed to mitigating for unavoidable impacts to wetlands and will work with the USACE and the Maine Department of Environmental Protection (Maine DEP) during the design and permitting phase to ensure that a wetland mitigation program that fully meets federal and state regulatory requirements is designed and implemented.

Fifteen preliminary sites have been identified in Caribou as potential wetland mitigation areas that could provide a range of 3 to 25 acres of mitigation for impacts expected to occur from the Proposed Action. A detailed description of each of these potential wetland mitigation areas is provided in Chapter 5 (page 5-41). MaineDOT will continue to investigate the feasibility of these sites and will consult with agencies throughout the mitigation site selection process and development of the wetland mitigation program.

Wildlife Habitat and Fisheries

Mitigation measures for impacts to wildlife habitat may include a variety of structural measures intended to prevent wildlife mortality and mitigate for fragmentation effects of new highways, as well as measures to protect water quality and habitat quality.

MaineDOT will consider the use of wildlife overpasses, extended bridges, and oversized culverts as mitigation for impacts to wildlife habitat to reduce conflicts between motorists and moose or deer. To reduce costs, MaineDOT may combine waterway structures and wildlife passage structures. Other measures, such as habitat preservation and vegetation management that may mitigate for impacts to wildlife habitat, will also be considered. MaineDOT will consult further with Maine Department of Inland Fisheries and Wildlife (MDIF&W) to evaluate potential locations for wildlife mitigation measures and site-specific fisheries mitigation measures. Design details of these mitigation measures will be determined during the final design and permitting phase for Segment 4.

Applicable Regulations, Permits, Preliminary Cost Estimate, and Required Coordination

This section describes federal and state statutes and regulations that require interagency and public coordination during preparation and review of an EIS. These programs also require that certain permits and approvals be obtained prior to

construction. A preliminary cost estimate for the Segment 4 Alternatives and Alignment Options is also provided.

This FEIS helps MaineDOT meet the requirements of the Maine Sensible Transportation Policy Act (STPA), which requires MaineDOT to “evaluate the full range of reasonable transportation alternatives for significant highway construction or reconstruction projects.”

MaineDOT actions that may proceed after the completion of this EIS process may include final design, right-of-way acquisition, construction, permitting, and implementation of mitigation measures.

Applicable Regulations

Federal statutes and regulations that are applicable to this study include:

- NEPA as amended, and regulations found at 40 CFR 1500-1508 and the FHWA NEPA regulations at 23 CFR 774;
- Sections 401 and 404 of the Clean Water Act of 1972, as regulated by the USACE and the EPA through 33 U.S.C. 1251-1376;
- Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. 303 and 23 CFR 774;
- Section 6(f) of the Land and Water Conservation Fund Act of 1965, 16 U.S.C. 460;
- Section 106 of the National Historic Preservation Act of 1966, 36 CFR 800;
- Clean Air Act, 42 U.S.C. 7401-7671q;
- Farmland Protection Policy Act, 7 U.S.C. 4201-4209;
- 23 USC 109, Federal-aid Highway Standards;
- Endangered Species Act of 1973, 16 U.S.C. 1531 et. seq as regulated at 50 CFR 17;
- Executive Order 11990, Protection of Wetlands, May 24, 1977;
- Executive Order 11988, Protection of Floodplains, May 24, 1977;
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, February 11, 1994;
- EPA, National Pollutant Discharge Elimination System, 40 CFR 122;
- Magnuson-Stevens Fishery Conservation and Management Act, 50 CFR Part 600; and
- Uniform Relocation Assistance and Real Property Act of 1970, 42 U.S.C. 61.

State statutes and regulations that are applicable to this study include:

- Maine Sensible Transportation Policy Act of 1991, 23 M.R.S.A. § 73;
- Maine Department of Environmental Protection, Natural Resources Protection Act, 38 M.R.S.A. § 480-A et seq;
- Maine Department of Environmental Protection, Solid Waste Management Law, 38 M.R.S.A. § 1301;
- Maine Department of Environmental Protection/Maine Department of Transportation, Stormwater Memorandum of Agreement, December, 2007;
- Maine Endangered Species Act of 1975, 12 M.R.S.A. § 7751 et seq; and
- Maine Land Use Regulatory Commission, 12 M.R.S.A. § 684.

Required Permits

Table S-4 (page S-17) lists the federal and state permit and approvals required for the Route 1-161 Connector in Caribou.

**Table S-4
 Required Permits and Approvals**

PERMIT OR APPROVAL	AGENCY
Federal	
FEIS	Federal Highway Administration
Individual Clean Water Act Section 401/404 permit	U.S. Army Corps of Engineers
NPDES - General Permit for Stormwater Discharges from Construction Sites	U.S. Environmental Protection Agency (US EPA)
Section 106 of the National Historic Preservation Act	Advisory Council on Historic Preservation/ Maine Historic Preservation Commission
State	
Wetlands Individual Permit/ Water Quality Certificate	Maine Department of Environmental Protection

Preliminary Costs Estimates

Table S-5 (page S-18) presents preliminary cost estimates for the each of the Segment 4 Alternatives and Alignment Options.

Table S-5
Preliminary Cost Estimates for Segment 4 Alternatives
and Alignment Options¹

Alternative	Cost (\$ Million)
TSM	unknown
Alignment Option 4A	44.4
Alignment Option 4B	35.0
Alignment Option 4C	21.0

¹ 2008 construction cost estimate

Coordination

The FHWA and MaineDOT have solicited the input of other state and federal agencies through interagency meetings and correspondence.

The Study Team coordinated with federal and state agencies during the preparation of this FEIS to obtain information on environmental conditions, review potential impacts, and obtain agency input. These agencies included the USACE, EPA, NRCS, USFWS, NMFS, MDIF&W, Maine DEP, LURC, MHPC, the Maine State Planning Office (SPO), and the MNAP.

The Study Team also presented information on the progress of the ACTS at Interagency Coordination Meetings held on the following dates:

- April 11, 2006
- August 8, 2006
- March 13, 2007
- April 10, 2007
- June 27, 2007

These meetings were attended by representatives of the USFWS, USACE, EPA, and Maine DEP. A two-day interagency wetland mitigation field visit was held on November 1 and November 2, 2006.

A two-day interagency wetland mitigation field visit was held on November 1 and 2, 2006. Additionally, an informal public meeting, hosted by the City of Caribou, was held on March 12, 2008 at the Caribou High School. MaineDOT, FHWA, and the

USACE attended the meeting and presented information concerning the USACE Highway Methodology Phase II Permit Application for Route 1-161 Connector in Caribou.

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