2
Tier 1 Alternatives Analysis and Description of Corridors and Segments

How to Read This Chapter. This chapter summarizes the Tier 1 alternatives analysis and summarizes the SDEIS comments and responses in regard to the Tier 1 Corridors.

All accompanying figures are bound separately in Volume 2 of this FEIS.

2.1 Introduction

As discussed in Chapter 1, Section 1.3.1 (page 1-7), the ACTS has been undertaken as a phased or tiered NEPA study. MaineDOT and FHWA have prepared this FEIS as a Tiered NEPA document, and it includes both Tier 1 level analysis for the entire study, and Tier 2 level analysis for the Route 1-161 Connector in Caribou only. At the Tier 1 level, similar to the DEIS and SDEIS, it describes four major north-south corridors connecting I-95 to the St. John Valley.

The DEIS identified potential corridors within which specific highway alignments could be further refined and analyzed in subsequent NEPA documents. Since the publication of the DEIS, one of the DEIS Corridors (Corridor Km) has been dismissed from further consideration. The remaining 3 (Corridors C1, C2, and Hm) were modified and analyzed further. A fourth corridor was also developed for study (Corridor C3). These four corridors have been divided into 11 segments that represent potential second phase or Tier 2 projects. The SDEIS described and evaluated these corridors and segments.

At this time, FHWA and MaineDOT have deferred the selection of an overall preferred north-south corridor. MaineDOT has determined that were they to identify and select an overall preferred north-south corridor, they would still not be able to reasonably fund its construction for many years. Given the magnitude of the cost to construct a full 90- to 100-mile corridor from I-95 to the St. John Valley and the constraints on available federal funding for new highway construction, it will likely
take decades for MaineDOT to fully complete an overall north-south corridor, regardless of which corridor is selected. Therefore, in lieu of an overall preferred corridor, this FEIS identifies a “Proposed Action” that consists of highway construction on one of the 11 SDEIS Corridor segments. This segment would partially satisfy the Purpose and Need of the ACTS as a whole and, as described below, has logical termini, and independent utility. The Proposed Action can be reasonably funded and constructed in the relative short term (less than 20 years). The segment included in the Proposed Action and evaluated in this FEIS is Segment 4, the Caribou Route 1-161 Connector (see Chapter 3 for details). Segment 7, the Presque Isle Bypass, is also an element of the Proposed Action. MaineDOT anticipates filing a separate Tier 2 FEIS for Segment 7, the Presque Isle Bypass in the near future.

MaineDOT is deferring decision making on 9 of 10 of the remaining segments until such time as conditions warrant construction and there is reasonable funding available for them. MaineDOT is deferring the selection of an overall preferred corridor for the following reasons. The economic and transportation analyses done on the overall corridors found very little difference among them. They 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 corridor (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 funding for construction is available. For example, in the southern portion of the Study Area, the selection of a preferred corridor essentially is a choice between upgrading the existing Route 1 to four lanes (i.e., Corridors C1 modified [C1m] and C3) and establishing a new location corridor (i.e. Corridors Hm and C2 modified [C2m]).

Were MaineDOT to select the Route 1 corridor, they might find that, when traffic conditions warranted an upgrade and funding was available to do so, that the corridor had been developed such that widening to four lanes would be impracticable given the cost and impacts associated with the number of structures that would have to be displaced. Or conversely, should they select a new location corridor, they might find that environmental regulations had changed in the interim period and precluded the construction of a new highway. Therefore, given the level of uncertainty inherent over such a long planning horizon, MaineDOT believes it is prudent to identify potential corridors, but to defer the decision on the individual segments that compose them until such time as they are in a position to advance the segments within a reasonably foreseeable time frame.
2.2 The DEIS Corridors

The DEIS analyzed four north-south highway corridors that span the length of the Study Area from I-95 to the St. John Valley. The screening process that led to the identification of these four corridors was presented in Chapter 2 of the DEIS. It is briefly summarized here to provide context for the summary of the analysis conducted for the SDEIS, described in Section 2.3 (page 2-7).

MaineDOT began the corridor screening process by identifying a reasonable range of corridors that could potentially satisfy the Purpose and Need of the ACTS. The process was documented in two supporting documents: Initial Corridor Screening Technical Memorandum, DEIS Corridor Screening Analysis, June 2001, and Corridor Screening Results: Economic Effects, August 2001 and included the following major steps:

- Identification of a wide range of potential corridors;
- Preliminary screening to identify a reasonable range of corridors likely to satisfy the Purpose and Need;
- Evaluation of the potential transportation, economic, and environmental consequences of each corridor;
- An intermediate screening process to eliminate those corridors that could not reasonably be expected to satisfy the Purpose and Need or had high levels of potential environmental impacts;
- Evaluation of corridor elements within the northern, central, and southern sections of the Study Area to determine if combinations of segments of these corridors had the potential to better satisfy the Study Purpose; and
- Identification of the most effective corridors for which a detailed analysis of the potential transportation, economic, and environmental consequences would be conducted and documented in the DEIS.

Figure 2-1 graphically illustrates the corridor screening process. As shown, the screening process initially identified and evaluated more than 40 corridors. This process resulted in 13 corridors that were examined in the Preliminary Screening stage, resulting in 5 corridors being carried forward in the Intermediate Screening stage. A parallel, Regional Screening process evaluated 11 options within the 5 corridors carried forward in the Intermediate Screening stage. The Regional Screening process resulted in the identification of the identification of 2 Composite Corridors (C1 and C2) for detailed evaluation in the DEIS. Following the Regional Screening, the 5 corridors from the Intermediate Screening process were re-evaluated. Two of these corridors were modified and carried forward for detailed evaluation in the DEIS (Corridors Hm and Km).
Each of the 4 DEIS corridors would satisfy the Study Purpose and Need by improving mobility and north-south access to activity centers in the Study Area; providing travel time savings; improving safety; and improving functional conflicts in town centers.

The corridor screening process described the four corridors that were analyzed in the DEIS: Composite Corridor 1 (C1), Composite Corridor 2 (C2), Corridor Hm, and Corridor Km. The DEIS corridors are shown on Figure 1-2.

### 2.2.1 Composite Corridor 1 – Houlton to Fort Kent and Van Buren

Composite Corridor 1 provided a combination of 140 miles of new and upgraded highway corridors between Houlton, Fort Kent, and Van Buren. It consisted of the following:

- A 30.3-mile upgrade of Route 1 beginning at I-95 in Houlton and extending north to Westfield;
- A short bypass of the town centers in Monticello, Bridgewater, and Mars Hill totaling 7.1 miles;
- A 10.0-mile segment of new location highway leaving Route 1 in Westfield, extending north, bypassing downtown Presque Isle to the east, and reconnecting with Route 1 north of the Aroostook River in Presque Isle;
- A 31.2-mile upgrade of Route 1 beginning in Presque Isle and extending north through Caribou, ending at Route 1A in Van Buren;
- A 4.3-mile segment of new location east-west highway connecting Route 161 and Route 1 in Caribou, located approximately 2.0 miles north of downtown Caribou;
- A 42.8-mile upgrade of Route 161 between Caribou and Fort Kent;
- An 8.3-mile segment of combination new location highway and upgrade of local secondary roads between Route 161 and Route 1 in Frenchville; and
- An 8.5-mile upgrade of Route 1 between Frenchville and Madawaska.

DEIS traffic modeling indicated that Composite Corridor 1 would reduce travel time by 17 minutes between Houlton and Caribou and 9 minutes between Caribou and Madawaska. In 2030, Composite Corridor 1 would reduce vehicle hours traveled (VHT) by approximately 3,700 hours per day and would reduce vehicle miles traveled (VMT) by approximately 13,100 miles per day.
During the preparation of the SDEIS, Composite Corridor 1 was modified as described in Section 2.4.2 (page 2-12), and analyzed in the transportation, economic, and environmental technical reports that were prepared to support the SDEIS.1

2.2.2 Composite Corridor 2 – Smyrna Mills to Fort Kent and Van Buren

Composite Corridor 2 provided a combination of 142 miles of new and upgraded highway corridors between Smyrna Mills, Fort Kent, and Van Buren. It consisted of the following:

- A 39.3-mile segment of new location highway extending from I-95 in Smyrna Mills to Route 1 in Westfield;
- A 10.0-mile segment of new location highway leaving Route 1 in Westfield, extending north, bypassing downtown Presque Isle to the east, and reconnecting with Route 1 north of the Aroostook River in Presque Isle;
- A 31.2-mile upgrade of Route 1 beginning in Presque Isle and extending north through Caribou, ending at Route 1A in Van Buren;
- A 4.3-mile segment of new location east-west highway connecting Route 161 and Route 1 in Caribou, located approximately 2.0 miles north of downtown Caribou;
- A 42.8-mile upgrade of Route 161 between Caribou and Fort Kent;
- An 8.3-mile segment of combination new location highway and upgrade of local secondary roads between Route 161 and Route 1 in Frenchville; and
- An 8.5-mile upgrade of Route 1 between Frenchville and Madawaska.

Composite Corridor 2 would reduce travel time by approximately 30 minutes on a trip between Smyrna Mills and Presque Isle, and another 10 minutes between Caribou and Madawaska. Traffic modeling indicates that in 2030, Composite Corridor 2 would reduce VHT by approximately 3,600 hours per day and VMT by approximately 35,700 miles per day.

During the preparation of the SDEIS, Composite Corridor 2 was modified as described in Section 2.4.3 (page 2-12), and analyzed in the transportation, economic, and environmental technical reports that were prepared to support the SDEIS.

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1 Three technical reports covering the transportation, economic, and environmental Corridors were impacts of the SDEIS prepared by MaineDOT in August 2005 to support the SDEIS. They are: SDEIS Corridor Traffic Analysis Technical Report; SDEIS Economic Technical Report; and SDEIS Environmental Technical Report.
2.2.3 Corridor Hm – Smyrna Mills to Madawaska

Corridor Hm was 99 miles long, consisting primarily of a new location highway between I-95 at Smyrna Mills and Route 1 at Madawaska. It improved connections to and from the Study Area by improving access to I-95. Corridor Hm consisted of the following:

- A 48.5-mile segment of new location highway between Smyrna Mills and Route 1 north of Presque Isle;
- A 12.5-mile upgrade of Route 1 from Presque Isle to north of Caribou;
- A 33.5-mile segment of new location highway from Route 1 north of downtown Caribou to Route 1 east of Madawaska; and
- A 4.6-mile upgrade of Route 1 from the new highway to Madawaska.

Traffic modeling indicated that Corridor Hm would reduce travel time by approximately 30 minutes on a trip between Smyrna Mills and Presque Isle, and another 16 minutes between Caribou and Madawaska. In 2030, Corridor Hm would reduce VHT by approximately 3,800 hours per day and VMT by approximately 41,600 miles per day.

During the preparation of the SDEIS, Corridor Hm was modified as described in Section 2.4.4 (page 2-13), and analyzed in the transportation, economic, and environmental technical reports that were prepared to support the SDEIS.

2.2.4 Corridor Km – Houlton to Madawaska

Corridor Km provided a new highway connection between I-95 at Houlton and Route 1 in Madawaska. Corridor Km improved access to I-95 and bypassed bottlenecks in the town centers along Route 1. Corridor Km consisted of the following:

- A 49.4-mile segment of new location highway between I-95 in Houlton and Route 1 north of Presque Isle;
- A 7.1-mile upgrade of Route 1 beginning north of Presque Isle and extending north through Caribou;
- A 33.5-mile segment of new location highway from Route 1 north of downtown Caribou to Route 1 east of downtown Madawaska; and
- A 4.6-mile upgrade of Route 1 from the new highway to Madawaska.

The total length of the corridor would be 95 miles. DEIS traffic modeling indicated that Corridor Km would reduce travel time by approximately 20 minutes from Houlton to Caribou and 15 minutes from Caribou to Madawaska. In 2030, Corridor
Km would reduce VHT by approximately 3,700 hours per day, but would increase VMT by approximately 9,900 miles per day.

Based upon a review of the DEIS and the comments received, MaineDOT dismissed DEIS Corridor Km from further consideration. Corridor Km was not studied in the SDEIS nor in this FEIS. This corridor was dismissed because of its adverse economic and transportation impacts to businesses along the southern portion of Route 1, particularly to trucking-related businesses, as Corridor Km would divert the most traffic from Route 1 between Mars Hill and Houlton. Corridor Km also resulted in the greatest overall level of wetland impacts and would have impacted 99 percent of the active farm fields within new highway location corridors.

Since other corridors are practicable, satisfy the study Purpose and Need, and would have less impact to wetlands, farm fields, and the natural environment, it is unlikely that the USACE could determine that Corridor Km is the “least environmentally damaging practicable alternative” (LEDPA) as required under their Section 404 regulatory program for them to issue Section 404 permits.

Although Corridor Km was dismissed and others retained, it is important to keep in mind that FHWA and MaineDOT have deferred identifying a single overall preferred corridor during this Tier 1/Tier 2 NEPA study.

### 2.3 Post-DEIS Evaluations Which Led to Changes in the DEIS Corridors

Review of the DEIS analysis and comments on the document, particularly those from the federal resource agencies, led FHWA and MaineDOT to two general conclusions with regard to the overall DEIS corridors, as well as several more specific conclusions regarding the northern portions of the four DEIS Corridors.

With regard to overall corridors, MaineDOT determined the following:

- It would be difficult to obtain permits for new location highway corridors if they did not show substantial transportation and economic benefits over upgrades to existing corridors. However, concerns persist about the feasibility of upgrading Route 1 to four lanes due to impacts on residential, commercial, and farm property, particularly between Houlton and Caribou.

- The DEIS found that Corridor Hm best satisfied the Study’s Purpose and Need overall; however, the majority of the transportation and economic benefits from Corridor Hm would occur south of Caribou.

MaineDOT came to the following more specific conclusions regarding the northern portion of the DEIS Corridors:
There is little to no transportation benefit from upgrading Route 1 from Caribou to Van Buren because of the good condition of the existing highway and the low demands placed upon it.

Corridors C1 and C2 do not provide improved access to potential locations for future new border crossings to Canada.

Corridor Hm, north of Caribou, principally only serves Madawaska and does not deliver any travel time benefits to Van Buren or Fort Kent, which represent approximately 60 percent of the population of the St. John Valley.

Based upon the findings from the DEIS analysis and the comments that were received, MaineDOT undertook supplemental studies that led them to make modifications to the DEIS Corridors for study in the SDEIS. The following sections describe these modifications.

2.3.1 Border Crossing Analysis and Modification of Northern Terminus

In the summer/fall of 2002, MaineDOT completed a study to identify suitable new locations for a commercial border crossing in the St. John Valley. This study was conducted to identify a suitable location for a new commercial border crossing near Madawaska to replace the existing commercial border crossing on Bridge Street in Madawaska. Because of its downtown location, the existing Bridge Street crossing is congested and difficult for trucks to maneuver through. The Study also considered the potential terminus of the ACTS corridors in relation to the location of a potential new commercial border crossing.

The study examined potential locations along the U.S.-Canada border between Frenchville and Van Buren, but found no suitable locations west of downtown Madawaska. Potential sites were found in Madawaska and Grand Isle east of downtown Madawaska as well as in Van Buren.

Based upon this study, Corridor Hm and Composite Corridors 1 and 2 were modified slightly to terminate on Route 1 near the potential border crossing east of downtown Madawaska rather than in Frenchville. Corridor Hm and Composite Corridors 1 and 2 remained essentially unchanged.

2 August 5, 2002 memorandum to Raymond Faucher, P.E. from Vanasse Hangen Brustlin, Inc. Aroostook County Transportation Study Team, Northern Border Crossing & Route 11 Connector Highway.
2.3.2 Route 1 Corridor Management Plan

Concurrent with the change to the northern terminus, it was determined that given Route 1’s overall good condition and functionality, an upgrade of Route 1 from Caribou to Van Buren to four lanes would not be warranted for the foreseeable future. MaineDOT recognizes, however, the importance of this corridor as a connection to Canada and its potential to become more important should a commercial border crossing ever be established in Van Buren. Therefore, rather than an upgrade, a Corridor Management Plan (CMP) is proposed for this portion of Composite Corridors C1m and C2m to preserve and control access along Route 1.

2.3.3 Route 161 Upgrade Reduced from Four Lanes to Two Lanes

In the fall of 2002, as work on the SDEIS progressed, controversy arose over the potential upgrade of Route 161 to a 4-lane cross section and the potential impact on cultural resources in the Swedish Colony in New Sweden and other surrounding communities. Therefore, based upon the forecasted traffic demands north of Caribou, MaineDOT determined that a 4-lane upgrade would not be necessary on Route 161 for the foreseeable future. As a result, a 2-lane upgrade was evaluated in the SDEIS. The 2-lane cross section would, however, include strategically placed climbing lanes to increase the corridor’s mobility and safety, which would provide a 3-lane cross section in some areas.

2.4 Description of SDEIS Corridors

As described in Section 2.2.4 (page 2-6), DEIS Corridor Km was dismissed from further consideration in the SDEIS. As described in Section 2.3 (page 2-7), the remaining 3 DEIS Corridors (C1, C2, and Hm) were modified for further study. A fourth corridor, referred to as Corridor 3 (C3) was also added. These corridors were evaluated in the SDEIS and have been incorporated unchanged in this FEIS. These 4 corridors, originally presented in the SDEIS, are described in this section and shown on Figure 2-2 as the FEIS Corridors. The No-Action Alternative, which serves as a baseline for comparison, is also described.

The proposed highway cross sections for the corridors vary by location. Upgrade and new 2-lane highways would have a cross-section consisting of two 12-foot travel lanes and 8-foot shoulders. Horizontal deficiencies would be corrected and truck climbing lanes added in areas of vertical deficiencies.

Upgrade and new location 4-lane highways would have a cross section consisting of 10-foot wide outside shoulders, two 12-foot travel lanes in each direction, a 4-foot inside shoulder, and a minimal 22-foot wide median (Figure 2-3). No additional truck
climbing lanes would be provided. The highway, based on this conceptual cross-
section, would provide consistent freeway-type operations, and would be designed
to meet state truck-weight standards.

2.4.1 No-Action Alternative

The No-Action Alternative serves as a baseline to which other alternatives can be
compared. The No-Action Alternative 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 potential projects
planned for construction during that period. It includes both highway reconstruction
and highway bridge maintenance projects.

The Six-Year Plan includes several highway projects along or adjacent to portions of
Routes 1, 10, 161, and 163 that are within the corridors under study. In addition, several
bridge projects in the Six-Year Plan fall within the FEIS Corridors. Table 2-1 (page 2-11)
lists these projects. In addition to these projects, relevant recent projects in Segment 4
include MaineDOT’s 2006 construction of a roundabout in Caribou at the intersection of
Route 1, North Main Street, and the Cary Medical Center driveway.

The General Services Administration (GSA) has identified a site for the proposed
upgrade of the existing Madawaska Border Station that will be located
approximately ¼ mile southeast of the present Madawaska Border Station in
downtown Madawaska. A Feasibility Study evaluating the need for a new
International Commercial Border Crossing Facility in the Madawaska/Van Buren
region is currently underway.

Projects in the Six-Year Plan are generally not as extensive as those envisioned in this
FEIS. The Six-Year Plan does not include any new highways in the Study Area, and the
reconstruction projects are generally limited to highway rehabilitation/reconstruction of
highways as they currently exist. Although the scope of improvements for each location
in the Six-Year Plan has not been developed, they generally do not include such features
as widening or adding shoulders, or adding truck climbing lanes. The goal of this FEIS
process is to assist decision makers in identifying a corridor or corridors for much more
substantial improvements, including a new location highway and/or major upgrades to
existing highways.

3 This program of potential improvements would be carried out regardless of whether or not a separate construction project
arises from this FEIS. 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 which
case the Six-Year Plan project would likely be subsumed by the project stemming from this study.
The No-Action Alternative would not satisfy the Study Purpose and Need, as it would not improve mobility and north-south access to activity centers; would not provide travel time savings; would not improve safety; and would not improve functional conflicts in town centers.

### Table 2-1
**No-Action Alternative: Six-Year Plan Projects within FEIS Corridors**

<table>
<thead>
<tr>
<th>Highway &amp; Municipality</th>
<th>Location</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Route 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Houlton</td>
<td>Intersection Improvements with Signal: Relocate two driveways across from existing signal at the Aroostook Mall and consolidate into one driveway that serves a potato field and two existing strip malls and close existing driveways to increase safety.</td>
<td></td>
</tr>
<tr>
<td>Presque Isle</td>
<td>Highway Improvements: Beginning at Rice Street and extending 1.14 miles to Blake Street.</td>
<td>1.14</td>
</tr>
<tr>
<td><strong>Route 10</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presque Isle</td>
<td>Bridge Replacement: Phair Crossing Bridge (#3259) over the Bangor and Aroostook Railroad, located 0.83 of a mile northerly of the Easton town line.</td>
<td>0.02</td>
</tr>
<tr>
<td><strong>Route 161</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caribou</td>
<td>Bridge Deck Replacement: Aroostook River Bridge (#5572) over the Aroostook River, located 0.11 of a mile northerly of Route 205.</td>
<td>0.17</td>
</tr>
<tr>
<td>Caribou</td>
<td>Highway Reconstruction: Beginning 0.81 of a mile northerly of the Fort Fairfield town line and extending northwesterly 4.08 miles to the easterly abutment of the Aroostook River Bridge.</td>
<td>4.08</td>
</tr>
<tr>
<td>Caribou</td>
<td>Highway Reconstruction: Beginning at Route 161 and extending easterly 0.44 of a mile to Route 1.</td>
<td>0.44</td>
</tr>
<tr>
<td><strong>Route 163</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presque Isle</td>
<td>Bridge Replacement: Hanson Bridge (#2353) over Hanson Brook, located 0.21 of a mile northerly of the Mapleton town line.</td>
<td>0.003</td>
</tr>
</tbody>
</table>

*Source: MaineDOT Multimodal Six-Year Capital Improvement Plan 2010-2015*
2.4.2 Composite Corridor C1 Modified (C1m)

Composite Corridor 1 from the DEIS was retained for further study and modified in the SDEIS as Corridor C1 modified (C1m). Corridor C1m consists of the following:

- A 35.1-mile, 4-lane upgrade of Route 1 and new highway bypasses beginning at I-95, Exit 302, in Houlton and extending north to the Westfield/Presque Isle town line. New 4-lane highways would bypass the town centers of Monticello (2.7 miles), Bridgewater (2.5 miles) and Mars Hill (5.2 miles). The Mars Hill Bypass would include an approximately 1.0-mile long, 4-lane new connector between the bypass and Route 1A. It would be located approximately one mile north of the Route 1/1A intersection in Mars Hill village center.

- A 10.0-mile segment of new 4-lane highway leaving Route 1 in Presque Isle, extending north, bypassing downtown Presque Isle to the east, and reconnecting with Route 1 approximately 1.5 miles north of the Aroostook River in Presque Isle.

- A 9.4-mile, 4-lane upgrade of Route 1 beginning in Presque Isle approximately 1.5 miles north of the Aroostook River and extending north to the Route 1/Bennett Drive/Route 89 intersection north of downtown Caribou.

- A new 5.5-mile segment of 4-lane, east-west highway beginning at the Route 1/Bennett Drive/Route 89 intersection and extending north around (i.e., northeast of) the Cary Medical Center, crossing Route 1 near Ouellette Road, and then extending east to intersect with Route 161 near Ogren Road.

- An approximately 25.9-mile 2-lane upgrade (with climbing lanes) of Route 161 between Caribou and Cross Lake Township.

- A new 14.5-mile, 2-lane (with climbing lanes), or 4-lane highway, connecting Route 161 in Cross Lake Township with Route 1 in Madawaska, at the Route 1/Fournier Road intersection (approximately 3.2 miles east of the International Bridge in downtown Madawaska).

The total length of Corridor C1m would be approximately 100.4 miles (40.4 miles of new location highway and 60 miles of upgrade).

Corridor C1m would satisfy the Study Purpose and Need by improving mobility and north-south access to activity centers in the Study Area, providing travel time savings, improving safety, and improving functional conflicts in town centers.

2.4.3 Composite Corridor C2 Modified (C2m)

Composite Corridor 2 from the DEIS was retained for further study and modified in the SDEIS as Corridor C2 modified (C2m). C2m consists of the following:
The total length of Corridor C2m would be approximately 104.4 miles (69.1 miles of new location highway and 35.3 miles of upgrade).

Corridor C2m would satisfy the Study Purpose and Need by improving mobility and north-south access to activity centers in the Study Area, providing travel time savings, improving safety, and improving functional conflicts in town centers.

2.4.4 Corridor Hm

Corridor Hm from the DEIS was retained for further study and modified only slightly in the SDEIS and remains unchanged in this FEIS. Corridor Hm consists of the following:

- A 39.1-mile segment of new 4-lane highway between I-95, Exit 286 in Oakfield and Route 1 in Presque Isle, immediately north of the Westfield town line.
- A 10.0-mile segment of new 4-lane highway leaving Route 1 in Presque Isle, extending north, bypassing downtown Presque Isle to the east, and reconnecting with Route 1 approximately 1.5 miles north of the Aroostook River in Presque Isle.
- A 9.4-mile, 4-lane upgrade of Route 1 beginning in Presque Isle approximately 1.5 miles north of the Aroostook River and extending north to the Route 1/Bennett Drive/Route 89 intersection north of downtown Caribou.
- A new 5.5-mile segment of 4-lane, east-west highway beginning at the Route 1/Bennett Drive/Route 89 intersection and extending north around (i.e., northeast of) the Cary Medical Center, crossing Route 1 near Ouellette Road, and then extending east to intersect with Route 161 near Ogren Road.
- An approximately 25.9-mile, 2-lane upgrade (with climbing lanes) of Route 161 between Caribou and Cross Lake Township.
- A new 14.5-mile, 2-lane (with climbing lanes) or 4-lane highway connecting Route 161 in Cross Lake Township with Route 1 in Madawaska, at the Route 1/Fournier Road intersection (approximately 3.2 miles east of the International Bridge in downtown Madawaska).
A new 5.5-mile segment of 4-lane, east-west highway beginning at the Route 1/Bennett Drive/Route 89 intersection and extending north around (i.e., northeast of) the Cary Medical Center, crossing Route 1 near Ouellette Road, and then extending east to intersect with Route 161 near Ogren Road.

A 33.5-mile segment of new 2-lane (with climbing lanes), or 4-lane highway from the Route 1/161 Connector to Route 1 east of Madawaska.

The total length of Corridor Hm is approximately 97.5 miles (88.1 miles of new location highway and 9.4 miles of upgrade).

Corridor Hm would satisfy the Study Purpose and Need by improving mobility and north-south access to activity centers in the Study Area, providing travel time savings, improving safety, and improving functional conflicts in town centers.

2.4.5 Corridor C3

This new corridor consists of segments of the other three corridors in a new combination. Corridor C3 comprises the southern portion of Corridor C1m between I-95 and Caribou, and the northern portion of Corridor Hm between Caribou and Madawaska. More specifically, it consists of the following:

- A 35.1-mile, 4-lane upgrade of Route 1 and new highway bypasses beginning at I-95, Exit 302 in Houlton and extending north to the Westfield/Presque Isle town line. New 4-lane highways would bypass the town centers of Monticello (2.7 miles), Bridgewater (2.5 miles) and Mars Hill (5.2 miles). The Mars Hill Bypass would include an approximately 1.0-mile long, 4-lane, new connector between the bypass and Route 1A. It would be located approximately one mile north of the Route 1/1A intersection in Mars Hill village center.

- A 10.0-mile segment of new 4-lane highway leaving Route 1 in Presque Isle, extending north, bypassing downtown Presque Isle to the east, and reconnecting with Route 1 approximately 1.5 miles north of the Aroostook River in Presque Isle.

- A 9.4-mile, 4-lane upgrade of Route 1 beginning in Presque Isle approximately 1.5 miles north of the Aroostook River and extending to the Route 1/Bennett Drive/Route 89 intersection north of downtown Caribou.

- A new 5.5-mile segment of 4-lane, east-west highway beginning at the Route 1/Bennett Drive/Route 89 intersection and extending north around (i.e., northeast of) the Cary Medical Center, crossing Route 1 near Ouellette Road, and then extending east to intersect with Route 161 near Ogren Road.

- A 33.5-mile segment of new 2-lane (with climbing lanes) or 4-lane highway from the Route 1/161 Connector to Route 1 east of Madawaska.
The total length of Corridor C3 would be approximately 93.5 miles (49 miles of new location highway and 44.5 miles of upgrade).

Corridor C3 would satisfy the Study Purpose and Need by improving mobility and north-south access to activity centers in the Study Area, providing travel time savings, improving safety, and improving functional conflicts in town centers.

2.5 FEIS Corridor Segments

As discussed in Section 1.3.1 (page 1-7), the SDEIS Corridors (C1m, C2m, Hm, and C3) were divided into 11 segments that represent potential Tier 2 projects. The SDEIS Corridors have been accepted unchanged in this FEIS. The segments have been identified such that they could be advanced to construction within reasonable timeframes as funding becomes available. The segments have also been developed so that they will be in conformance with FHWA’s NEPA Regulations concerning the segmentation of projects (23 CFR 771.111(f)). These criteria are intended to ensure that transportation improvement alternatives are given meaningful evaluation and to avoid commitments being made to them before they have been fully evaluated. Each segment has logical termini, independent utility, and would not restrict consideration of alternatives for other future alternatives.

This FEIS recognizes that in order to construct the overall corridors, MaineDOT must be able to fund construction within a reasonable time frame. Cost estimates to construct the corridors (based on 2008 dollars) are in the range of approximately $712 million for Corridor C1m to $728 million for Corridor Hm (not including ROW costs). For perspective, MaineDOT’s Statewide Improvement Program, Fiscal Years 2009-2010-2011 entire statewide highway and bridge budget is $989 million. Because it would not be practicable for MaineDOT to undertake construction of an entire corridor at one time, MaineDOT has divided the corridors into practicably sized segments that could be funded within reasonable timeframes.

2.5.1 Segment Descriptions

The following paragraphs describe the 11 segments that, in various combinations, comprise the 4 FEIS Corridors.

Table 2-2 (page 2-17) lists the segments from north to south, and provides brief descriptions of them. Table 2-3 (page 2-18) lists in matrix format which segments are

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4 2004 cost estimates presented in the SDEIS have been updated for the FEIS using an annual 6 percent increase in construction costs.
5 Maine Department of Transportation. December 2008. Multimodal Six Year Transportation Capital Improvement Plan, Fiscal Years 2009-2010-2011.
part of each of the 4 FEIS Corridors. These corridors and segments have been identified as the FEIS Corridors and Segments. These FEIS Corridors and Segments are shown on Figure 2-4.

As part of the analysis for the SDEIS, MaineDOT studied various alignment options for each of the 11 SDEIS Corridor Segments to determine their engineering feasibility and environmental impacts. Alignment options for upgrades to Route 1 (Segments 5, 6, 8, 10, and 11) included symmetrical widening (widening equally on both sides) and combination widening (widening strategically to one side or the other to avoid sensitive resources) as shown on Figure 2-5. Alignment options for new highway segments consisted of shifts in the route of the proposed new highway to avoid sensitive resources. The descriptions of the segments given in the following sections describe a “typical” alignment option for each segment. For example, the distances provided are approximate, as different alignment options vary by small amounts depending on their end-points. The analysis of the alignment options is presented in detail in the August 2005 SDEIS Environmental Technical Report (SDEIS EVTR). Since the SDEIS EVTR was completed, MaineDOT modified the end point of Segments 4 and 5. A 1.9-mile portion of Segment 5 consisting of existing 4-lane Route 1 was added to the southern end of Segment 4.

Also, since the August 2005 SDEIS EVTR, more substantial changes to the alignment options under consideration for Segment 4 and Segment 7 occurred during the USACE Section 404 Highway Methodology process. At the urging of the USACE and other federal and state environmental regulatory agencies, several new alignment options were developed for both Segment 4 and 7 that reduce impact to aquatic resources, farmland, and other environmental resources.
## Table 2-2
### Description of FEIS Corridor Segments

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

**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-feet wide) to allow for the expansion of these Segments to 4-lane facilities, if future conditions warrant.
2.5.1.1 Segment 1

Segment 1 (Figure 2-4) is part of Corridors C1m and C2m. Segment 1 is a 14.5-mile new location highway that would connect Route 161 in Cross Lake Township with Route 1, east of downtown Madawaska. It is envisioned as being a 2-lane facility with truck-climbing lanes where needed. It has an estimated construction cost of $55 million. As discussed in detail in the SDEIS EVTR, MaineDOT has analyzed 4 different alignment options for Segment 1, designed to avoid constraints such as farmland and steep topography.

Segment 1 has logical termini and independent utility. Segment 1 would partially satisfy the Purpose and Need by improving mobility and north-south access, providing travel time savings, and improving safety. It would connect two major routes and provide a shorter connection between Route 161 and Madawaska. It would eliminate the need to drive approximately an additional 12 miles along Route 161 to Fort Kent to reach Route 1 and another approximately 18 miles on Route 1 from Fort Kent to downtown Madawaska. Construction of Segment 1 would not preclude construction of any of the other segments being considered.

Action on Segment 1 is being deferred. It is not part of the Proposed Action. When funding becomes available for this segment, a Tier 2 NEPA evaluation will be required.

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6 All construction costs presented in Section 2.5.1 are in year 2003 dollars. They do not include costs associated with ROW, engineering and design, or mitigation. All costs are subject to change.
2.5.1.2 Segment 2

Segment 2 is part of Corridors C1m and C2m. It consists of an approximately 25.9-mile upgrade of Route 161 beginning in Caribou and ending in Cross Lake Township where Segment 1 would begin. Climbing lanes are proposed in 7 locations, 4 in the northbound direction and 3 southbound (see Figure 2-3). There would be no overlap of climbing lanes, so the widest cross section would be 3 lanes. The estimated cost of Segment 2 is $60 million. As discussed in Section 2.3.3 (page 2-9), MaineDOT is proposing only a 2-lane upgrade of Route 161 along Segment 2. A 4-lane upgrade was initially considered but dismissed from further consideration because of concerns about potential impacts to cultural resources.

Segment 2 would have logical termini and independent utility. Segment 2 would partially satisfy the Purpose and Need by providing travel time savings and by improving safety and mobility. Construction of Segment 2 would improve one of the poorest condition roads in the Study Area. Improvements to the highway are warranted regardless of what other segments are built. It would improve safety by eliminating geometric deficiencies and providing wider paved shoulders.

Segment 2’s southern terminus would be in the more heavily developed area of Caribou and its northern terminus would be where Segment 1 would begin.

Segment 2 is shown on Figure 2-4. The proposed cross section for Segment 2 is shown on Figure 2-3. Although Segment 2 was evaluated in the SDEIS as a portion of the current Proposed Action, action on Segment 2 is being deferred. It is not part of the Proposed Action. When funding becomes available for this segment, a Tier 2 NEPA evaluation will be required.

2.5.1.3 Segment 3

Segment 3 (Figure 2-4) is part of Corridor Hm and C3. It is a 33.5-mile new location highway that would connect Routes 1 and 161 (via Segment 4 described in the following section) in Caribou with Route 1, east of downtown Madawaska. It is envisioned as being a 4-lane facility, but could potentially be built as a 2-lane highway initially, with truck-climbing lanes where needed. It has an estimated construction cost of $130 million. As discussed in detail in the SDEIS EVTR, MaineDOT has analyzed 2 different alignment options for Segment 3, designed to avoid constraints such as farmlands and wetlands.

Segment 3 would have logical termini and independent utility. Segment 3 would partially satisfy the Purpose and Need by providing travel time savings and by improving mobility and north-south access. It would connect major routes and provide a shorter connection between Routes 1 and 161 in Caribou and Madawaska. Segment 3’s southern terminus would tie into Segment 4. Therefore, construction of Segment 3 would likely necessitate the construction of at least the eastern portion...
Segment 4 connecting to Route 1 in Caribou; however Segment 4 would not require construction of Segment 3. Construction of Segment 3 would not preclude any of the alternative alignment options that were studied for Segment 4.

Action on Segment 3 is being deferred. It is not part of the Proposed Action. When funding becomes available for this segment, a Tier 2 NEPA evaluation will be required.

### 2.5.1.4 Segment 4

Segment 4 (Figure 2-4) is common to all 4 FEIS Corridors. Segment 4 is approximately 4.3 miles long, consisting of a 3.7-mile new location east-west highway that would connect the Route 1/High Street intersection with Route 161 in Caribou and 0.58 miles of upgrade on Route 1 between Route 89 and High Street. Segment 4 would partially satisfy the ACTS Purpose and Need by providing travel time savings, improving mobility, improving safety, and improving functional conflicts in the Caribou City Center. It would connect two major routes and would provide a bypass of downtown Caribou for motorists traveling between Route 161 in the north to Route 1 in the south.

MaineDOT analyzed 6 different alignment options and a Route 1 Upgrade/TSM Alternative for Segment 4, providing different connections to Route 1 (Figure 2-6).

MaineDOT has selected Segment 4 as one element of the Proposed Action because it has logical termini, independent utility and provides substantial transportation benefits. Segment 4 partially satisfies the overall 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;
- Improved safety by reducing traffic volumes at four high crash locations (HCL); and

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7 The approximately 1.9-mile section of Segment 4 between the Route 1/Route 89 intersection and Route 1 north of the Cary Medical Center was originally included as part of Segment 5 in the SDEIS Transportation, Environmental, and Economic Technical Reports. MaineDOT determined that this link has merit and that it is more appropriate to include it as part of the Segment 4 bypass than with the upgrade of Route 1 that composes Segment 5. Therefore, this former section of Segment 5 has been included in the Proposed Action as a part of Segment 4.
2.5.1.5 Segment 5

Segment 5 (Figure 2-4) is common to all 4 FEIS Corridors. It consists of an approximately 3.2-mile upgrade of Route 1 in Caribou. The upgrade of Route 1 would begin just north of the intersection of Route 1 and 164 south of downtown Caribou and extend north to the intersection with Route 89. It has an estimated cost of $54 million, including $20 million for grade-separated interchanges. As discussed in detail in the SDEIS EVTR, MaineDOT analyzed a total of 8 different alignment options for Segment 5 consisting of 4 different routes, each at 2 different ROW widths.

Segment 5 would have logical termini and independent utility. Segment 5 would partially satisfy the Purpose and Need by improving mobility and improving functional conflicts in the Caribou City Center. It would provide a continuous 4-lane bypass around the developed area of Caribou. Construction of Segment 5 would not necessitate any additional investments nor would it preclude consideration of alignment options for either Segments 4 or 6, which would connect with it.

Action on Segment 5 is being deferred. It is not part of the Proposed Action. When funding becomes available for this segment, a Tier 2 NEPA evaluation will be required. Segment 5 is, however, included in the area covered by the proposed CMP (see Section 2.5.1.12 on page 2-25). The CMP is available for review on the MaineDOT web page (http://www.vhb.com/aroostook).

2.5.1.6 Segment 6

Segment 6 (Figure 2-4) is common to all 4 FEIS Corridors. It consists of an approximately 6.2-mile upgrade of Route 1 between Presque Isle and Caribou. It would begin in Presque Isle at the point where Segment 7 intersects with Route 1. It would extend north to the intersection of Route 1 and 164 south of Caribou. Segment 6 is envisioned as a 4-lane upgrade. It has an estimated cost of $32.5 million. As discussed in detail in the SDEIS EVTR, MaineDOT has analyzed a total of 6 different alignment options for Segment 6 consisting of 3 different routes, each at 2 different ROW widths.

Segment 6 would have logical termini and independent utility. Segment 6 would partially satisfy the Purpose and Need. It would reduce travel times and enhance north-south access between activity centers. It would upgrade the most heavily traveled route.
traveled section of highway in the Study Area and improve the connection between the 2 biggest communities within the Study Area. At its northern end, it would tie into the existing Route 1 bypass of Caribou. At its southern end, it would connect to the proposed bypass of Presque Isle (Segment 7). Alternatively, if Segment 7 were not constructed, Segment 6 could be extended south to the Aroostook River Bridge, and the existing 4-lane cross section of Route 1 in Presque Isle, beginning just south of the bridge.

Action on Segment 6 is being deferred. It is not part of the Proposed Action. When funding becomes available for this segment, a Tier 2 NEPA evaluation will be required. Segment 6 is, however, included in the area covered by the proposed CMP (see Section 2.5.1.12 on page 2-25). The CMP is available for review on the MaineDOT web page (http://www.vhb.com/aroostook).

### 2.5.1.7 Segment 7

Segment 7 (Figure 2-4) is common to all 4 FEIS Corridors. It is a proposed new highway that would bypass downtown Presque Isle. It would begin at Route 1 near the Presque Isle/Westfield town line and extend north, east of downtown Presque Isle, approximately 10 miles to rejoin Route 1 in the vicinity of Route 210. Segment 7 is envisioned as being a 4-lane facility; however, it would likely be initially built as 2 lanes. The estimated cost of Segment 7 constructed as a 4-lane highway is $121 million, including $40 million for interchanges and $22.5 million for bridges. A 2-lane highway would cost approximately $72.6 million.

Over the course of the ACTS, MaineDOT analyzed 10 different alignment options and a Route 1 Upgrade/TSM Alternative for Segment 7, designed to avoid constraints such as wetlands, farms, and historic structures. The 8 alignment options considered during the SDEIS review for Segment 7 are shown on Figure 2-8. The SDEIS alignment options (except the two dismissed western alignment options) and the 3 additional alignment options developed during the USACE Section 404 Highway Methodology process are shown on Figures 2-9a – 2-9b.

Segment 7 as a 2-lane highway would have a cross-section consisting of two 12-foot travel lanes and 8-foot shoulders. As a 4-lane highway, it would have a cross section consisting of 10-foot wide outside shoulders, two 12-foot travel lanes in each direction, a 4-foot inside shoulder, and a minimal 22-foot wide median (Figure 2-3). The highway, based on this conceptual cross-section, would provide consistent freeway-type operations, and would be designed to accommodate state truck-weight standards.

MaineDOT has selected Segment 7 as one element of the Proposed Action because it has logical termini and independent utility. Segment 7 would reduce travel times, improving mobility and reducing functional conflicts in the center of Presque Isle. It
would provide a bypass of the congested downtown area of Presque Isle, thereby reducing travel times for north-south motorists. It would also help to alleviate the number of trucks traveling through the downtown, particularly those traveling to and from the Easton Industrial Area from points north and west of Presque Isle. Construction of Segment 7 would not necessitate any further construction, nor would it preclude consideration of any alternatives for other segments. Segment 7 partially satisfies the overall ACTS Purpose and Need by providing:

- Improved mobility to and around Presque Isle;
- Better access/service to identified growth nodes in Presque Isle;
- Enhanced traffic flow in an existing activity center by removing trucks from downtown Presque Isle;
- Improved safety by reducing traffic volumes at five high crash locations (HCL); and
- Reduced travel time of over 540 vehicle-hours per day.

A LEDPA has yet to be identified for Segment 7. Coordination with the USACE and other environmental regulatory agencies to identify a LEDPA for Segment 7 is on-going. MaineDOT intends to prepare a Tier 2 FEIS for Segment 7 when a LEDPA is identified.

### 2.5.1.8 Segment 8

Segment 8 (Figure 2-4) is part of Corridors C1m and C3. It consists of 4.5 miles of upgrade to Route 1 north and south of Blaine, and a 5.2-mile section of new highway that would bypass downtown Mars Hill to the west. It is envisioned as a 4-lane highway and has an estimated construction cost of $48.5 million. Segment 8 also includes an optional connection that would connect the bypass portion of the segment on the west side of Route 1 with Route 1A north of downtown Mars Hill and east of Route 1 and Prestile Stream at a cost of an additional $16.5 million.

As discussed in detail in the SDEIS EVTR, MaineDOT has analyzed a total of 8 different alignment options for Segment 8 consisting of 4 different routes, each at 2 different ROW widths. In addition, 4 different alignment options were analyzed for the connection to Route 1A.

Segment 8 would have logical termini and independent utility. Segment 8 would partially satisfy the Purpose and Need by reducing travel times and improving functional conflicts in Mars Hill. It would bypass the developed portion of Route 1 in the village center of Mars Hill, thereby reducing travel times for north-south motorists. It would also help to alleviate the mix of through truck traffic with local
traffic. Construction of Segment 8 would not necessitate any further construction, nor would it preclude consideration of any alternatives for other segments.

Action on Segment 8 is being deferred. It is not part of the Proposed Action. When funding becomes available for this segment, a Tier 2 NEPA evaluation will be required.

2.5.1.9 Segment 9

Segment 9 (Figure 2-4) is part of Corridors C2m and Hm. It is a 39.1-mile new location highway that would connect I-95 in the vicinity of Exit 286 in Oakfield with Route 1 in Presque Isle. It is envisioned as being a 4-lane facility, but could potentially be initially built as a 2-lane highway. At four lanes, it has an estimated construction cost of $249 million. As discussed in detail in the SDEIS EVTR, MaineDOT has analyzed 2 different alignment options for Segment 9.

Segment 9 has logical termini and independent utility. Segment 9 partially satisfies the Purpose and Need by reducing travel times, reducing functional conflicts in town centers south of Presque Isle, and improving safety on Route 1. It would connect 2 major routes and would substantially reduce travel times between Presque Isle and areas on I-95 south of Oakfield. Construction of Segment 9 would not necessitate construction of any other segments.

Action on Segment 9 is being deferred. It is not part of the Proposed Action. When funding becomes available for this segment, a Tier 2 NEPA evaluation will be required.

2.5.1.10 Segment 10

Segment 10 (Figure 2-4) is part of Corridors C1m and C3. It consists of a 4-lane upgrade of approximately 19.4 miles of Route 1 from I-95 in Houlton to Blaine. It would also include 2 new highway bypasses around the village centers of Monticello and Bridgewater. Both bypasses would be west of Route 1. The Monticello bypass would be approximately 2.7 miles long, and the Bridgewater bypass would be 2.5 miles long. The portion of Route 1 that would be bypassed would not be upgraded and would remain a 2-lane cross section. Segment 10 has an estimated cost of $139 million.

As discussed in detail in the SDEIS EVTR, MaineDOT analyzed Segment 10 in 2 sections, a northern section and a southern section. A total of 8 different alignment options for the northern section were studied, consisting of 4 different routes, each at 2 different ROW widths. A total of 6 different alignment options for the southern
section were studied, consisting of 3 different alignment options, each at 2 different ROW widths.

Segment 10 has logical termini and independent utility. Segment 10 partially satisfies the Purpose and Need. It would improve capacity, mobility, and safety along Route 1 and would reduce conflicts between through- and local-traffic in the village centers of Monticello and Bridgewater. It would terminate at Segment 11, just north of I-95 in the south and would tie into Segment 8 south of the village of Mars Hill where traffic diverges onto Route 1 toward Presque Isle and Route 1A toward Fort Fairfield.

Action on Segment 10 is being deferred. It is not part of the Proposed Action. When funding becomes available for this segment, a Tier 2 NEPA evaluation will be required.

2.5.1.11 Segment 11

Segment 11 (Figure 2-4) is part of Corridors C1m and C3. It consists of a 4-lane upgrade of Route 1 in Houlton, improvements to the I-95 Interchange, and access management improvements through the consolidation of driveways along approximately 0.8 miles of Route 1 immediately north of the I-95/Route 1 Interchange. The estimated cost of Segment 11 is $6 million.

As discussed in detail in the SDEIS EVTR, MaineDOT has analyzed a total of 8 different alignment options for Segment 11 consisting of various options for new roads, upgrades, access management improvements, and improvements to the I-95 interchange.

Segment 11 has logical termini and independent utility. Segment 11 would partially satisfy the Purpose and Need by improving traffic flow along the heavily developed commercial portion of Route 1 north of the I-95 Interchange.

Action on Segment 11 is being deferred. It is not part of the Proposed Action. When funding becomes available for this segment, a Tier 2 NEPA evaluation will be required.

2.5.1.12 Corridor Management Plans

As reported in the SDEIS, MaineDOT developed CMPs for two sections of Route 1 (Figure 2-4):

- from the intersection of Route 164 in Presque Isle north approximately 12 miles to Route 89 in Caribou (comprising all of Segment 6 and Segment 5); and
from Route 89 in Caribou to Route 1A in Van Buren, a distance of 21 miles.

As discussed in Section 2.3.2 (page 2-9), MaineDOT has dismissed the 4-lane upgrade of Route 1 from Caribou to Van Buren that was studied in the DEIS and is proposing to implement the CMP instead of that upgrade. The CMPs\(^8\) are available for viewing at MaineDOT upon request or at [www.vhb.com/aroostook](http://www.vhb.com/aroostook).

CMPs partially satisfy the Purpose and Need by improving mobility and safety. Implementation of the CMPs will help to ensure that the Route 1 corridor will continue to adequately serve existing and future needs. They include recommendations designed to preserve the existing capacity of the highway and enable it to be widened in the future with minimal disruption to adjacent uses. Examples of the recommendations in the CMPs include:

- Intersection improvements;
- Safety upgrades;
- Access management;
- Truck climbing lanes;
- Signage plans;
- Highway Corridor Overlay Districts;
- Changes in allowed uses, density or setbacks; and
- ROW or development rights acquisitions.

While the CMPs are included as part of the Proposed Action, they are not discussed in detail in this FEIS. These CMPs are planning documents. No funding is currently anticipated to be available for any actions included in the CMPs. Future NEPA evaluation could be required prior to implementing either CMP if these actions constitute a federal action.

### 2.5.2 Comparison of FEIS Corridors

Although MaineDOT is not identifying an overall preferred corridor at this time, this section presents Tier 1 summary impact information for the four FEIS corridors. The impacts of the overall corridors are based on the Tier 1 Preferred Alignment Option for each of the 11 segments as discussed in the SDEIS EVTR. The identification of Tier 1 Preferred Alignment Options was based upon an analysis that balanced

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\(^8\) Vanasse Hangen Brustlin, Inc. August 2005. *Corridor Management Plan, United States Route 1, Aroostook County, Presque Isle to Caribou*, prepared for the Maine Department of Transportation and Vanasse Hangen Brustlin, Inc. August 2005. *Corridor Management Plan, United States Route 1, Aroostook County, Caribou to Van Buren*, prepared for the Maine Department of Transportation.
consideration of impacts to the natural and built environments, transportation and economic impacts, engineering considerations, and costs. Engineering constraints, such as topography, and impacts to structures (particularly historic structures), Section 4(f) properties, farms, and wetlands were given the most consideration when evaluating the various alignment options.

Identifying a Preferred Alignment Option for each FEIS Corridor Segment allows MaineDOT to make a reasonable estimate of the potential level and types of impacts associated with future phases. However, given that conditions are likely to change over time, particularly in terms of the built environment, it should be assumed that the alignment identified in a future Tier 2 study may vary from that identified in Tier 1. Among the factors that could influence selection of a preferred alignment in the future will be changes in traffic demand, changes in regulatory permitting requirements, and changes in the built and natural environment (e.g., additional historic buildings could be identified, wetland areas could expand or contract due to changes in hydrology).

Tables 2-4 through 2-8 (pages 2-28 through 2-30) present a summary from the SDEIS EVTR on the impacts of the four overall FEIS Corridors on various resources. The impacts related to each of these corridors are evaluated as a 4-lane highway with a 300-foot right-of-way width. For details on how these impacts were calculated and the sources of information that were relied on, refer to the SDEIS EVTR.

Corridor C1m would have the least amount of new location highway, and would primarily use existing highway alignments except for Segment 1, from Route 161 to Madawaska. Corridor C1m would have the greatest impacts to the built environment, including the highest impacts to active farmland and historic properties, and the second highest impact to buildings. Corridor Hm would have the largest amount to new location highway, and would incorporate Segment 3 from Caribou to Madawaska, as well as Segment 9 from I-95 to Presque Isle. Corridor Hm would have the greatest impact to land and forest, and the second highest impact to wetlands, and wildlife habitat. Corridors C1m and C2 would have comparable impacts and would be intermediate between Corridor C1m and Corridor Hm.
### Table 2-4
**Potential Impacts to Land Use and Structures by Corridor**

<table>
<thead>
<tr>
<th>FEIS Corridor</th>
<th>C1m</th>
<th>C2m</th>
<th>Hm</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Use Types (acres)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td>128</td>
<td>119</td>
<td>114</td>
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<td>Community</td>
<td>14</td>
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<td>13</td>
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<td>Residential</td>
<td>373</td>
<td>209</td>
<td>111</td>
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<td>Agricultural</td>
<td>929</td>
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</tr>
<tr>
<td>Undeveloped</td>
<td>459</td>
<td>1,791</td>
<td>2,065</td>
<td>733</td>
</tr>
<tr>
<td>Total ROW</td>
<td>1,922</td>
<td>2,776</td>
<td>2,903</td>
<td>2,049</td>
</tr>
<tr>
<td><strong>Tribal Lands (acres)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micmac</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Maliseet</td>
<td>1.0</td>
<td>0</td>
<td>0</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Snowmobile Trails (Number of Crossings)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interconnecting Trail System</td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Connector Trails</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Maintained Club Trails</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td><strong>Potential Section 4(f) Trail Crossings (number)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Houlton to Phair Valley Trail</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Aroostook Valley Trail/Bangor-Aroostook Trail</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Structures (number)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td>44</td>
<td>28</td>
<td>27</td>
<td>43</td>
</tr>
<tr>
<td>Community</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural</td>
<td>7</td>
<td>3</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Residential</td>
<td>183</td>
<td>110</td>
<td>113</td>
<td>186</td>
</tr>
</tbody>
</table>

1 Impact calculations based on 4-lane highway constructed within a 300-foot right-of-way

### Table 2-5
**Potential Impacts to Agricultural Lands**

<table>
<thead>
<tr>
<th>FEIS Corridor</th>
<th>C1m</th>
<th>C2m</th>
<th>Hm</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agricultural Land (acres)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Farmland</td>
<td>756</td>
<td>469</td>
<td>387</td>
<td>674</td>
</tr>
<tr>
<td>Prime Farmland Soils</td>
<td>576</td>
<td>447</td>
<td>353</td>
<td>482</td>
</tr>
<tr>
<td>Farmland of Statewide Importance</td>
<td>508</td>
<td>637</td>
<td>649</td>
<td>520</td>
</tr>
</tbody>
</table>

1 Impact calculations based on 4-lane highway constructed within a 300-foot right-of-way
### Table 2-6
Potential Impacts to Cultural Resources

<table>
<thead>
<tr>
<th>FEIS Corridor</th>
<th>C1m</th>
<th>C2m</th>
<th>Hm</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resource</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section 106 Adverse Effects</td>
<td>16</td>
<td>11</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Section 4(f) Impacts to Historic Properties</td>
<td>35</td>
<td>23</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Known Archaeological Sites</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Archaeologically Sensitive Areas (acres)²</td>
<td>874</td>
<td>697</td>
<td>447</td>
<td>624</td>
</tr>
<tr>
<td>Traditional Cultural Properties (acres)³</td>
<td>99</td>
<td>12</td>
<td>12</td>
<td>99</td>
</tr>
</tbody>
</table>

1. Impact calculations based on 4-lane highway constructed within a 300-foot right-of-way.
2. Archeologically Sensitive Areas, as determined by MHPC, include areas surrounding most navigable waterways. Further coordination with MNHP would need to occur to determine if archeological resources actually exist in these areas.
3. Traditional Cultural Properties, as determined by the Houlton Band of Maliseet Indians and the Aroostook Band of Micmac Indians, include areas associated with cultural practices or beliefs of a living community. TCP are delineated with 0.6-mile square grids. The TCP is within this area. Further coordination with the Tribal Historic Preservation Officers of these tribes would occur when a corridor or segment is advanced to a Tier 2 FEIS.

### Table 2-7
Potential Impacts to Aquatic Resources and Wetlands

<table>
<thead>
<tr>
<th>FEIS Corridor</th>
<th>C1m</th>
<th>C2m</th>
<th>Hm</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forests (acres)</td>
<td>692</td>
<td>1,914</td>
<td>2,284</td>
<td>1,062</td>
</tr>
<tr>
<td>Wellhead Protection Areas Intersected (number)</td>
<td>12</td>
<td>10</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Crossings of At-Risk Watersheds (number)</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Impacts to Ponds, Open Water Wetlands, and Lakes (acres)</td>
<td>2.7</td>
<td>2.2</td>
<td>3.4</td>
<td>3.9</td>
</tr>
<tr>
<td>Perennial Stream Crossings (number)</td>
<td>32</td>
<td>30</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>Floodplain Impacts (acres)</td>
<td>42</td>
<td>39</td>
<td>42</td>
<td>45</td>
</tr>
<tr>
<td>Wetlands (acres)</td>
<td>192</td>
<td>278</td>
<td>266</td>
<td>180</td>
</tr>
</tbody>
</table>

1. Impact calculations based on 4-lane highway constructed within a 300-foot right-of-way.
Table 2-8
Potential Impacts to Significant Wildlife Habitat (SWH), or Species Habitat of Endangered, Threatened, and Other Protected Species

<table>
<thead>
<tr>
<th>FEIS Corridor</th>
<th>C1m</th>
<th>C2m</th>
<th>Hm</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWH Deer Wintering Areas (acres)</td>
<td>7.5</td>
<td>29.5</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>SWH Inland Wading Bird and Waterfowl Habitat (acres)</td>
<td>22</td>
<td>13</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>Critical Habitat and DPS for Atlantic Salmon (acres)</td>
<td>0</td>
<td>325</td>
<td>325</td>
<td>0</td>
</tr>
<tr>
<td>Critical Habitat for the Federally Threatened Lynx (acres)</td>
<td>166</td>
<td>1,551</td>
<td>1,387</td>
<td>2</td>
</tr>
<tr>
<td>Proposed Habitat for the State-Listed Pygmy Snaketail Dragonfly (acres)</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Essential Fish Habitat (acres)</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

1 Impact calculations based on 4-lane highway constructed within a 300-foot right-of-way. The Extra-Striped Snaketail Dragonfly, previously listed in the 2006 SDEIS as a protected species, has since been delisted.

2 Critical Habitat for Lynx in Maine designated by the U.S. Fish and Wildlife Service in February 2009. Lynx Critical Habitat is within ACTS Segments 2, 8, and 9.

2.6 Summary

This section provides a summary of the Tier 1 FEIS for the ACTS, provides a summary of the major comments received on the SDEIS, and provides responses to the issues presented in these comments. The remainder of this FEIS presents a Tier 2 analysis for Segment 4, the Caribou Route 1-161 Connector (see Chapters 3, 4, and 5). MaineDOT anticipates filing a separate Tier 2 FEIS for Segment 7, the Presque Isle Bypass, in the near future.

2.6.1 Summary of Tier 1 FEIS

This Tier 1 FEIS presents information on 4 complete north-south corridors that would satisfy the ACTS Purpose and Need, and would connect I-95 with the St. John Valley in Madawaska. These 4 corridors have been divided into 11 segments that represent potential second phase or Tier 2 projects.

At this time, FHWA and MaineDOT have deferred the selection of an overall preferred north-south corridor. MaineDOT is deferring the selection of an overall preferred corridor for the following reasons. The economic and transportation analyses done on the overall corridors found very little difference among them. They 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 corridor (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 funding for construction is available. Given the level of uncertainty inherent over such a long planning horizon, MaineDOT believes it is prudent to identify potential corridors, but to defer the decision on the individual segments that compose them until such time as they are in a position to advance the segments within a reasonably foreseeable time frame. Decision making with regard to deferred segments will require additional Tier 2 NEPA review and documentation when funding becomes available in the future.

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.

- Segment 2 – an approximately 25.9-mile, 2-lane upgrade of Route 161 between Caribou and Cross Lake Township;
- Segment 4 – an approximately 4.3-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.

Since the publication of the SDEIS, MaineDOT has deferred action on Segment 2. It is not part of the Proposed Action. When funding becomes available for this segment, a Tier 2 NEPA evaluation will be required. The Proposed Action evaluated in this FEIS consists of Segment 4 only.

### 2.6.2 Summary of SDEIS Comments and Responses

The ACTS SDEIS was published in June 2006. Public hearings were held on the SDEIS in August 2006 in Frenchville, Caribou, and Houlton. The verbal comments received during the public hearings and the written comments received during the public comment period, which ended on August 31, 2006, represented a range of opinions in support or opposition of the project. Appendix B includes copies of all comment letters received on the SDEIS and transcripts from the three SDEIS public hearings. Generally, the overall concept of a north-south corridor was supported and many commenters were concerned that MaineDOT and FHWA were deferring selecting a preferred corridor. Numerous residents and elected officials expressed support for the project in the hope that it would benefit the economy of Aroostook County, particularly in the areas of agriculture, forestry, and tourism. Concerns were raised about the financial cost versus the economic growth benefit.

Many comments expressed concern for the project’s potential adverse impacts to the social, natural, and economic environment. Specifically, agency and public comment often expressed concern about the effect of the project on:
Wetlands;

- Water quality (particularly from stormwater);

- Water supply;

- Wildlife;

- Farmland; and

- Local businesses (particularly in communities proposed to be bypassed including Presque Isle, Caribou, Mars Hill, Bridgewater, and Monticello).

Responses to the majority of the comments reference updated material in this FEIS. Chapter 6 provides responses to comments on Segment 4 and the overall FEIS corridor. Responses to comments specific to Segment 7 will be addressed in the Tier 2 FEIS to be prepared in the near future.

The DEIS and SDEIS process has allowed MaineDOT to work closely with representatives from Aroostook County, including elected officials, members of the Public Advisory Committee (PAC), and county residents. This close coordination has enabled MaineDOT to become more acutely aware of the specific desires and concerns of the Aroostook County stakeholders. If and when MaineDOT decides to advance any of the ACTS segments that have been deferred, MaineDOT will work with these stakeholders to avoid and, if necessary, minimize impacts on the social, natural, and economic environment of Aroostook County.